

LED



Through-hole LED series



Super Flux LED series



SMD LED series



High Power LED series

Patron
Passive Elektronik



Patron
Passive Elektronik

Edition 17

LED Catalogue

LED & Electronics Application Technologies

About Patron

We are a Hong Kong based LED manufacturer with our headquarter in Hong Kong and wholly owned factory located in Shenzhen of China. Owing the advance automatic machines and professional engineers. We strive to serve our worldwide customers with the full range of LED models at the most reasonable price vs. the highest brightness and the best quality and customer service.



LED Plasma Cleaner

Main Products:

- Through-Hole LED
- SMD LED
- Super Flux LED
- High Power LED
- LED Light Strip
- Digit Display & Dot Matrix
- OEM (original equipment manufacturing) Product
- ODM (original design manufacturing) Product

Achievement:

- Renewed our website with new style in 2016
- Launched more new products into product line regularly during 2012-2016
- Introduced more technology and increased new equipments in 2011
- Increased two new super flux LED production lines and power LED production line in 2010
- Added two more SMD production lines in 2010
- Added assembly production line in 2009
- Added Plasma Cleaner for strengthening product quality in 2009
- Added a new SMD production line in 2009
- Got ISO9001: 2008 certification and ISO14001: 2004 certification in 2008
- Got REACH and SVHC certification in 2008
- Moved Hong Kong office to Fo Tan in 2006
- Got RoHS certification in 2005
- Expanded LED lamp production capacity to 2KK per day since 2004
- Expanded manufacturing floor space to 5,000 square meters in 2004
- Moved production plant to Longgang in 2004
- Obtained ISO9001: 2000 certification in 2003
- Founded in 2001 in Hong Kong

Manufactory Technology

Through continuous research and development, Patron pioneer applications for LEDs that create new value for our customers. The Group's dedicated R&D team is committed to developing innovative new applications for LED components. As Patron engineers explore the immense untapped potential of LED technology, one of the Group's top priorities is to create new applications to make our customers' dreams become reality.

To achieve its goals, our R & D team focuses on three directions, namely materials, process and optics innovation. We strive to improve LED performance by deploying non-imaging optics technique, including ray tracing and LED lightsource optical modeling.

From deploying vertical integration to ensuring flexibility and speed, Patron manufacturing facilities are engineered to meet the diverse needs of our customers and OEM partners worldwide.



LED Lamp Assembly

We have been improving our production processes and environment continuously. Our own in-house production lines are fully automated, key machines include wire and die bonding, auto encapsulation, auto Bin classification and tape & reel packaging which are imported from overseas. We undertake all the production processes in class 10K clean room with temperature, humidity and ESD control.

Quality Control

Patron's devotion to quality control is never-ending. In addition to attaining ISO9001:2000 quality accreditation, Patron has established its own independent Quality Engineering Centre, which comprises three individual laboratories:

- Reliability Test Lab
- Photometric Lab
- Failure Analysis Lab

These laboratories conduct a wide array of reliability tests-including tests for shock resistance, life span and thermal shock-to ensure that only the highest quality Patron products are delivered to our valuable customers. Patron's quality assurance experts are devoted to achieving:

- Precision emission patterns
- High degree of color consistency
- High durability
- High reliability to withstand the temperature, humidity and ultraviolet
- Conditions of real outdoor environments



LED Lamp Bond Machine



Top View SMD Bin Sorter



LED Application Production Line

We continue to focus on the development of related LED products application in order to extend the company's production line. We have been improving our production processes and environment continuously. Our own In-house production lines are fully automated key machines, include Lead-Free N2 /AIR Reflow Soldering Machine and Automatic Lead-Free Dual Ware Soldering Machine.

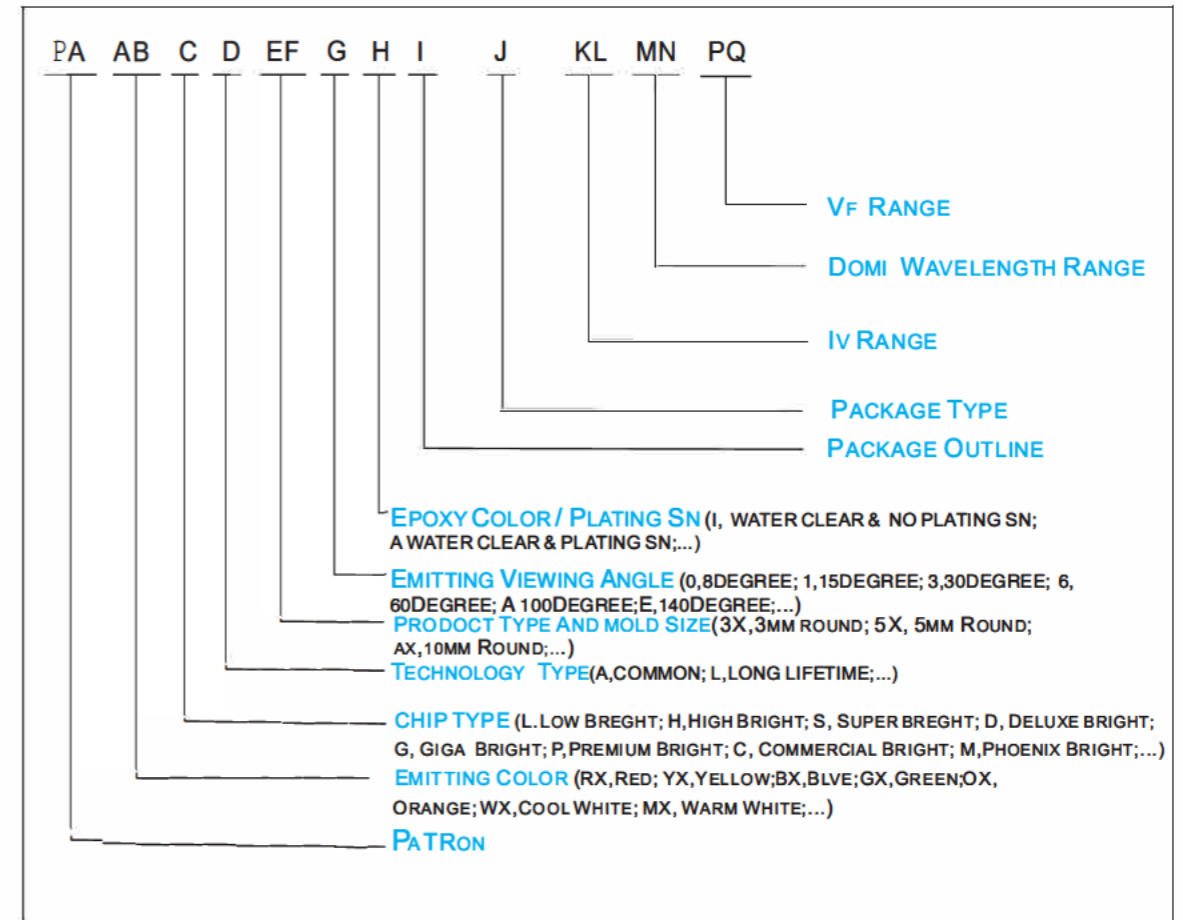
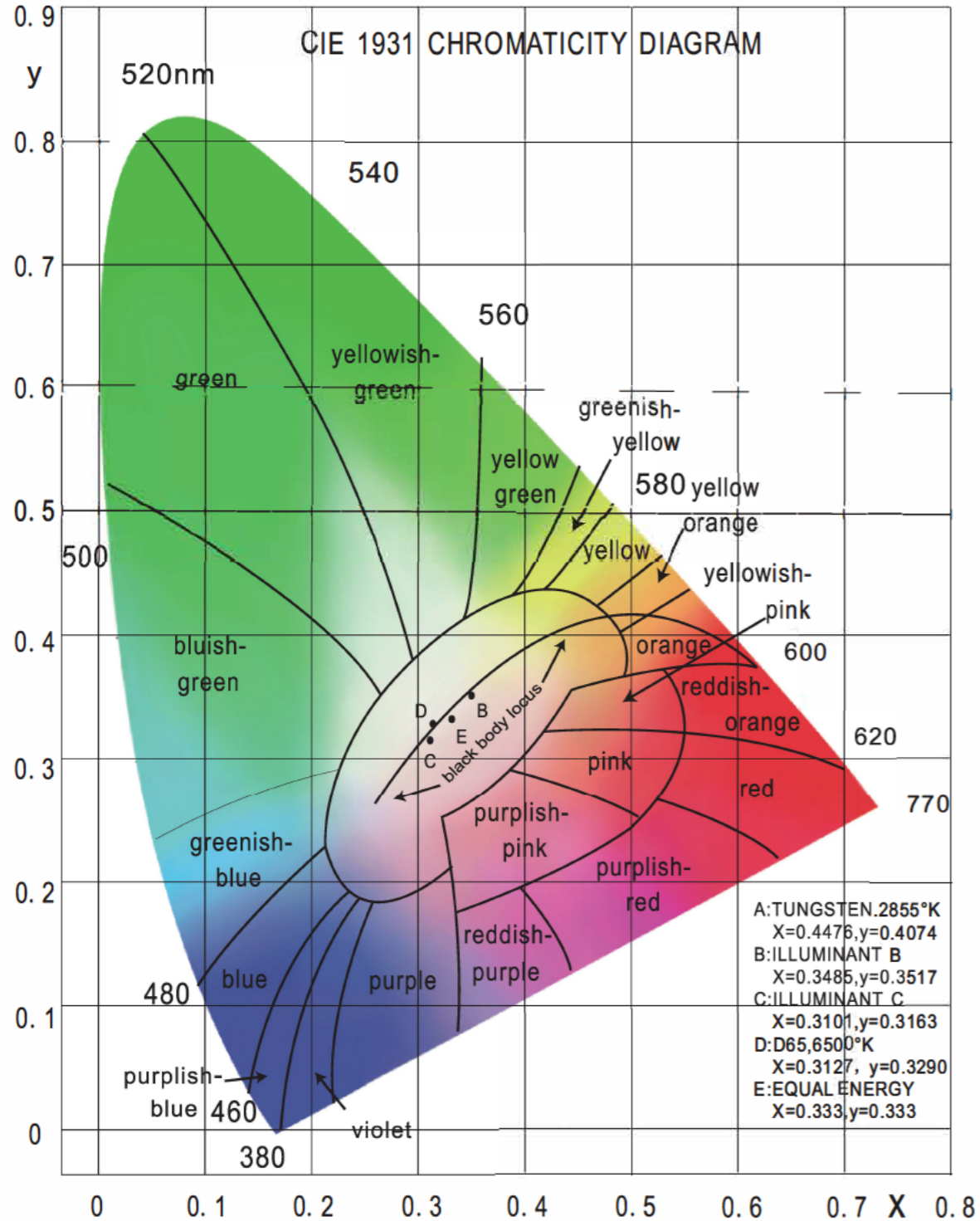
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This data shows typical values.



Intensity Standard

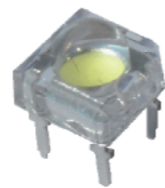
| Bin | Range (mcd) | Bin | Range (mcd) | Bin | Range (mcd) | Bin | Range (mcd) |
|-----|-------------|-----|-------------|-----|-------------|-----|--------------|
| A | 1 20 | I | 330 500 | Q | 5800 7000 | Z | 25000 30000 |
| B | 20 30 | J | 500 700 | R | 7000 8400 | 3 | 30000 36000 |
| C | 30 45 | K | 750 1120 | S | 8400 10000 | 4 | 36000 43000 |
| D | 45 68 | L | 1120 1560 | T | 10000 12000 | 5 | 43000 50000 |
| E | 68 100 | M | 1560 2180 | U | 12000 14400 | 6 | 50000 60000 |
| F | 100 150 | N | 2180 3000 | V | 14400 18000 | 7 | 60000 72000 |
| G | 150 220 | O | 3000 4200 | W | 18000 22000 | 8 | 72000 85000 |
| H | 220 330 | P | 4200 5800 | Y | 22000 25000 | 9 | 85000 100000 |

Forward Voltage

| Bin | Range (V) | Bin | Range (V) | Bin | Range (V) | Bin | Range (V) |
|-----|-----------|-----|-----------|-----|-----------|-----|-----------|
| 11 | <1.6 | 66 | 2.4-2.6 | BB | 3.4-3.6 | GG | 4.4-4.6 |
| 22 | 1.6-1.8 | 77 | 2.6-2.8 | CC | 3.6-3.8 | HH | 4.6-4.8 |
| 33 | 1.8-2.0 | 88 | 2.8-3.0 | DD | 3.8-4.0 | II | 4.8-5.0 |
| 44 | 2.0-2.2 | 99 | 3.0-3.2 | EE | 4.0-4.2 | JJ | 5.0-5.2 |
| 55 | 2.2-2.4 | AA | 3.2-3.4 | FF | 4.2-4.4 | KK | 5.2-5.4 |



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High Power LED series

| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Chromaticity Coordinates | | | | | | |
|---|---------------------|----------------|--------------|------------------------|-----|--------------------------|------|--------|------|------|------|------|
| | | | | x | | | y | | | | | |
| | | | | Typ | Max | Min | Typ | Max | Min | Typ | Max | |
| Φ5 Round Type | | | | | | | | | | | | |
|  | PAW5DK5A31A-CRLED18 | ● | Cool White | Water Clear | 5.5 | 20 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 |
| | PAM5DK5A31A-CRLED18 | ● | Warm White | Water Clear | 5.5 | 20 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 |
| Φ8 Round Type | | | | | | | | | | | | |
|  | PAW5DK8B31B-CRLED18 | ● | Cool White | Water Clear | 5.5 | 20 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 |
| | PAM5DK8B31B-CRLED18 | ● | Warm White | Water Clear | 5.5 | 20 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 |
| Φ10 Round Type | | | | | | | | | | | | |
|  | PAW5DKA131A-CRLED18 | ● | Cool White | Water Clear | 5.5 | 20 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 |
| | PAM5DKA131A-CRLED18 | ● | Warm White | Water Clear | 5.5 | 20 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 |
| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Dominant Wavelength | | wd(nm) | | | | |
| | | | | Min | | Max | | | | | | |
| | | | | Typ | Max | Min | Max | | | | | |
| Φ5 Round Type | | | | | | | | | | | | |
|  | PAB5SA5A31A-CRLED18 | ● | Blue | Water Clear | 5.5 | 20 | 465 | 470 | 475 | | | |
| | PAG5DA5A31A-CRLED18 | ● | Pure Green | Water Clear | 5.5 | 20 | 520 | 525 | 530 | | | |
| | PAG8NU5A31A-CRLED18 | ● | Yellow Green | Water Clear | 5 | 20 | 565 | 570 | 575 | | | |
| | PAY5JA5A31A-CRLED18 | ● | Yellow | Water Clear | 5 | 20 | 585 | 590 | 595 | | | |
| | PAY5MA5A31A-CRLED18 | ● | Yellow | Water Clear | 5 | 20 | 585 | 590 | 595 | | | |
| | PAO5JA5A31A-CRLED18 | ● | Orange | Water Clear | 5 | 20 | 600 | 605 | 610 | | | |
| | PAR5JA5A31A-CRLED18 | ● | Red | Water Clear | 5 | 20 | 620 | 625 | 630 | | | |
| | PAR5MA5A31A-CRLED18 | ● | Red | Water Clear | 5 | 20 | 620 | 625 | 630 | | | |
| Φ8 Round Type | | | | | | | | | | | | |
|  | PAB5SA8B31B-CRLED18 | ● | Blue | Water Clear | 5.5 | 20 | 465 | 470 | 475 | | | |
| | PAG5DA8B31B-CRLED18 | ● | Pure Green | Water Clear | 5.5 | 20 | 520 | 525 | 530 | | | |
| | PAG8NU8B31B-CRLED18 | ● | Yellow Green | Water Clear | 5 | 20 | 565 | 570 | 575 | | | |
| | PAY5JA8B31B-CRLED18 | ● | Yellow | Water Clear | 5 | 20 | 585 | 590 | 595 | | | |
| | PAY5MA8B31B-CRLED18 | ● | Yellow | Water Clear | 5 | 20 | 585 | 590 | 595 | | | |
| | PAO5JA8B31B-CRLED18 | ● | Orange | Water Clear | 5 | 20 | 600 | 605 | 610 | | | |
| | PAR5JA8B31B-CRLED18 | ● | Red | Water Clear | 5 | 20 | 620 | 625 | 630 | | | |
| | PAR5MA8B31B-CRLED18 | ● | Red | Water Clear | 5 | 20 | 620 | 625 | 630 | | | |
| Φ10 Round Type | | | | | | | | | | | | |
|  | PAB5SAA131A-CRLED18 | ● | Blue | Water Clear | 5.5 | 20 | 465 | 470 | 475 | | | |
| | PAG5DAA131A-CRLED18 | ● | Pure Green | Water Clear | 5.5 | 20 | 520 | 525 | 530 | | | |
| | PAG8NUA131A-CRLED18 | ● | Yellow Green | Water Clear | 5 | 20 | 565 | 570 | 575 | | | |
| | PAY5JAA131A-CRLED18 | ● | Yellow | Water Clear | 5 | 20 | 585 | 590 | 595 | | | |
| | PAY5MAA131A-CRLED18 | ● | Yellow | Water Clear | 5 | 20 | 585 | 590 | 595 | | | |
| | PAO5JAA131A-CRLED18 | ● | Orange | Water Clear | 5 | 20 | 600 | 605 | 610 | | | |
| | PAR5JAA131A-CRLED18 | ● | Red | Water Clear | 5 | 20 | 620 | 625 | 630 | | | |
| | PAR5MAA131A-CRLED18 | ● | Red | Water Clear | 5 | 20 | 620 | 625 | 630 | | | |

| Luminous Intensity (mcd) | Directivity 2θ1/2 (degree) | IF (mA) | | | Reverse Current I _R Max. (uA) | V _R (V) | Absolute Maximum Rating (Ta=25°C) | | | | Mounting |
|--------------------------|----------------------------|---------------------|-----|------|--|--------------------|-----------------------------------|---------------------|-----------------------|-----------------------|----------------|
| | | V _F =12V | | | | | V _F (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | |
| | | Min. | Typ | Max. | | | | | | | |
| 12000 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | Wave Soldering |
| 8000 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 12000 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | Wave Soldering |
| 8000 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 12000 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | Wave Soldering |
| 8000 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| Luminous Intensity (mcd) | Directivity 2θ1/2 (degree) | IF (mA) | | | Reverse Current I _R Max. (uA) | V _R (V) | Absolute Maximum Rating (Ta=25°C) | | | | Mounting |
| | | V _F =12V | | | | | V _F (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | |
| | | Min. | Typ | Max. | | | | | | | |
| 6500 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | Wave Soldering |
| 12000 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 750 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 1800 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 7500 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 1800 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 1800 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 1800 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 7500 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 7500 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 6500 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | Wave Soldering |
| 12000 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 750 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 1800 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 7500 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 1800 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 1800 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 1800 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 7500 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |
| 7500 | 30 | - | 18 | - | 10 | 8 | 20 | 350 | -30~+85 | -40~+100 | |

| Package | Part Number | Lens Type | Constant Current(I _H) | | | | Turn-on Voltage(V _k) | | | |
|--|---|----------------------|-----------------------------------|----------------|---------------------|-------------|----------------------------------|----------------------------|------|-----|
| | | | I _H | | | Voltage (V) | V _k (V) | | | |
| | | | Min. | Typ. | Max. | | | | | |
| <i>Current Regulative Diode(T092)</i> | | | | | | | | | | |
|  | PACRDT218-A | Light Green Diffused | 15 | - | 19 | 10 | ≤3.5 | | | |
| | PACRDT218-C | Light Blue Diffused | 15 | - | 19 | 10 | ≤3.5 | | | |
| <i>Current Regulative Diode(SMD2835)</i> | | | | | | | | | | |
|  | PACRD2835-18 | Water Clear Type | 15 | - | 19 | 10 | ≤3.5 | | | |
| Package | Part Number | Emitting Color | | Lens Type | Forward Voltage (V) | | | Dominant Wavelength wd(nm) | | |
| | | Lower | Normal | | Min. | Typ. | Max. | Min. | Typ. | |
| | | | | | | | | | | |
| <i>Φ5 Voltage Detector LED</i> | | | | | | | | | | |
|  | PAD127R55A1 | ■ | - | Water Clear | 2.55 | 2.7 | 2.85 | 620 | 625 | |
| | PAD127R55A2 | ■ | - | White Diffused | 2.55 | 2.7 | 2.85 | 620 | 625 | |
| | PAD129R55A1 | ■ | - | Water Clear | 2.75 | 2.9 | 3.05 | 620 | 625 | |
| | PAD129R55A2 | ■ | - | White Diffused | 2.75 | 2.9 | 3.05 | 620 | 625 | |
| | PAD133R55A1 | ■ | - | Water Clear | 3.15 | 3.3 | 3.45 | 620 | 625 | |
| | PAD133R55A2 | ■ | - | White Diffused | 3.15 | 3.3 | 3.45 | 620 | 625 | |
| | PAD136R55A1 | ■ | - | Water Clear | 3.45 | 3.6 | 3.75 | 620 | 625 | |
| | PAD136R55A2 | ■ | - | White Diffused | 3.45 | 3.6 | 3.75 | 620 | 625 | |
| | PAD139R55A1 | ■ | - | Water Clear | 3.75 | 3.9 | 4.05 | 620 | 625 | |
| | PAD139R55A2 | ■ | - | White Diffused | 3.75 | 3.9 | 4.05 | 620 | 625 | |
| | PAD142R55A1 | ■ | - | Water Clear | 4.05 | 4.2 | 4.35 | 620 | 625 | |
| | PAD142R55A2 | ■ | - | White Diffused | 4.05 | 4.2 | 4.35 | 620 | 625 | |
| |  | PAD233RP5A1 | ■ | - | Water Clear | 3.15 | 3.3 | 3.45 | 620 | 625 |
| | | | - | ■ | | | | | 520 | 525 |
| PAD233RP5A2 | | ■ | - | White Diffused | 3.15 | 3.3 | 3.45 | 620 | 625 | |
| | | - | ■ | | | | | 520 | 525 | |
| PAD236RP5A1 | | ■ | - | Water Clear | 3.45 | 3.6 | 3.75 | 620 | 625 | |
| | | - | ■ | | | | | 520 | 525 | |
| PAD236RP5A2 | | ■ | - | White Diffused | 3.45 | 3.6 | 3.75 | 620 | 625 | |
| | | - | ■ | | | | | 520 | 525 | |
| PAD239RP5A1 | | ■ | - | Water Clear | 3.75 | 3.9 | 4.05 | 620 | 625 | |
| | | - | ■ | | | | | 520 | 525 | |
| PAD239RP5A2 | | ■ | - | White Diffused | 3.75 | 3.9 | 4.05 | 620 | 625 | |
| | | - | ■ | | | | | 520 | 525 | |
| PAD242RP5A1 | ■ | - | Water Clear | 4.05 | 4.2 | 4.35 | 620 | 625 | | |
| | - | ■ | | | | | 520 | 525 | | |
| PAD242RP5A2 | ■ | - | White Diffused | 4.05 | 4.2 | 4.35 | 620 | 625 | | |
| | - | ■ | | | | | 520 | 525 | | |

| Turn-on Voltage(V _k) | Limiting Ratio(Kc) | Withstand Voltage (V) | Absolute Maximum Rating (Ta=25°C) | | | Mounting | | | | | |
|----------------------------------|------------------------------------|-----------------------|-----------------------------------|-----------------------|-----------------------------------|-----------------------------------|--------------------|---------------------|-----------------------|----------|-----------------------|
| | | | T _j (°C) | T _{stg} (°C) | P _c (W) | | | | | | |
| I _k (mA) | I _{30v} /I _{10v} | | | | | | | | | | |
| ≤0.8I _H | ≤1.1 | >70 | 125 | -40~+125 | 0.75*2 | Wave Soldering | | | | | |
| ≤0.8I _H | ≤1.1 | >70 | 125 | -40~+125 | 0.75*2 | | | | | | |
| ≤0.8I _H | ≤1.1 | >70 | 125 | -40~+125 | 0.75 | Reflow | | | | | |
| Max. | Luminous Intensity | | Directivity 2θ1/2 (degree) | IF (mA) | Absolute Maximum Rating (Ta=25°C) | | | | | Mounting | |
| | Min. | Typ. | | | V _{cc} (V) | I _{FP} ¹ (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | | T _{stg} (°C) |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | Wave Soldering |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |
| 630 | - | - | 30 | - | -0.3~+15 | - | - | 100 | -30~+75 | -40~+100 | |

| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Dominant Wavelength wd(nm) | | | Lumen Flux (lm) | | | | |
|------------------------------------|-----------------|----------------|-------------|-------------------------|------|----------------------------|------|------|--------------------------|------|------|--------------------------|------|
| | | | | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | | | |
| Φ4.8 3-Chip Straw Type | | | | | | | | | | | | | |
| | PAB56E56F1A | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | 475 | 9 | 12 | | | |
| | PAG58E56F1A | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 | 530 | 25 | 30 | | | |
| | PAS5KE56F1A | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 | 12 | 15 | | | |
| | PASRKE56F1A | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 | 12 | 15 | | | |
| Package | Part Number | Emitting Color | Lens Type | Forward Current IF (mA) | | Chromaticity Coordinates | | | | | | Luminous Intensity (mcd) | |
| | | | | Typ. | Max. | x | | | y | | | Min. | Typ. |
| Φ5 Round 5V Resistor Type | | | | | | | | | | | | | |
| | PAW5DKA31A-5V | Cool White | Water Clear | 12 | 20 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 | 3000 | 4200 |
| | PAM5DKA31A-5V | Warm White | Water Clear | 12 | 20 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 | 2180 | 3000 |
| | PAK5DKA31A-5V | Pink | Water Clear | 12 | 20 | 0.41 | 0.45 | 0.49 | 0.13 | 0.17 | 0.21 | 1120 | 1560 |
| Φ5 Round 12V Resistor Type | | | | | | | | | | | | | |
| | PAW5DKA31A-12V | Cool White | Water Clear | 10 | 15 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 | 3000 | 4200 |
| | PAM5DKA31A-12V | Warm White | Water Clear | 10 | 15 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 | 2180 | 3000 |
| | PAK5DKA31A-12V | Pink | Water Clear | 10 | 15 | 0.41 | 0.45 | 0.49 | 0.13 | 0.17 | 0.21 | 1120 | 1560 |
| Package | Part Number | Emitting Color | Lens Type | Forward Current IF (mA) | | Dominant Wavelength wd(nm) | | | Luminous Intensity (mcd) | | | | |
| | | | | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | | | |
| Φ5 Round 5V Resistor Type | | | | | | | | | | | | | |
| | PAB5A5A31A-5V | Blue | Water Clear | 12 | 20 | 465 | 470 | 475 | 1560 | 2180 | | | |
| | PAG5DA5A31A-5V | Pure Green | Water Clear | 12 | 20 | 520 | 525 | 530 | 3000 | 4200 | | | |
| | PAG8HA5A31A-5V | Yellow Green | Water Clear | 12 | 20 | 565 | 570 | 575 | 500 | 750 | | | |
| | PAY5RU5A31A-5V | Yellow | Water Clear | 12 | 20 | 585 | 590 | 595 | 1120 | 1560 | | | |
| | PAO5JA5A31A-5V | Orange | Water Clear | 12 | 20 | 600 | 605 | 610 | 1120 | 1560 | | | |
| | PAR5RU5A31A-5V | Red | Water Clear | 12 | 20 | 620 | 625 | 630 | 1120 | 1560 | | | |
| Φ5 Round 12V Resistor Type | | | | | | | | | | | | | |
| | PAB5A5A31A-12V | Blue | Water Clear | 10 | 15 | 465 | 470 | 475 | 1560 | 2180 | | | |
| | PAG5DA5A31A-12V | Pure Green | Water Clear | 10 | 15 | 520 | 525 | 530 | 3000 | 4200 | | | |
| | PAG8HA5A31A-12V | Yellow Green | Water Clear | 10 | 15 | 565 | 570 | 575 | 500 | 750 | | | |
| | PAY5RU5A31A-12V | Yellow | Water Clear | 10 | 15 | 585 | 590 | 595 | 1120 | 1560 | | | |
| | PAO5JA5A31A-12V | Orange | Water Clear | 10 | 15 | 600 | 605 | 610 | 1120 | 1560 | | | |
| | PAR5RU5A31A-12V | Red | Water Clear | 10 | 15 | 620 | 625 | 630 | 1120 | 1560 | | | |
| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Chromaticity Coordinates | | | | | | | |
| | | | | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. | | |
| Φ8 3-Chip Premium Power LED | | | | | | | | | | | | | |
| | PA4WM387E1U | Pure White | Water Clear | 9.3 | 10.8 | 0.27 | 0.31 | 0.35 | 0.29 | 0.33 | 0.37 | | |
| | PA5WM387E1U | Cool White | Water Clear | 9.3 | 10.8 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 | | |
| | PA5MM387E1U | Warm White | Water Clear | 9.3 | 10.8 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 | | |
| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Dominant Wavelength wd(nm) | | | Lumen Flux (lm) | | | | |
| | | | | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | | | |
| Φ8 3-Chip Premium Power LED | | | | | | | | | | | | | |
| | PA4BM387E1U | Blue | Water Clear | 9.3 | 10.8 | 455 | 460 | 465 | 45 | 55 | | | |
| | PAG58387E1U | Pure Green | Water Clear | 9.3 | 10.8 | 520 | 525 | 530 | 40 | 50 | | | |
| | PAS5E387E1U | Yellow | Water Clear | 6.6 | 7.8 | 585 | 590 | 595 | 40 | 50 | | | |
| | PASOG387E1U | Orange | Water Clear | 6.6 | 7.8 | 600 | 605 | 610 | 40 | 50 | | | |
| | PASRE387E1U | Red | Water Clear | 6.6 | 7.8 | 620 | 625 | 630 | 40 | 50 | | | |

| Directivity 201/2 (degree) | IF (mA) | Reverse Current IR Max. (uA) | V _k (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting | | |
|----------------------------|---------|------------------------------|--------------------|-----------------------------------|----------------------|-----------------------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------|
| | | | | I _p (mA) | I _{pp} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | | | |
| 150 | 90 | 30 | 5 | 90 | 150 | 5 | 324 | -30~+85 | -40~+100 | Wave Soldering | | |
| 150 | 90 | 30 | 5 | 90 | 150 | 5 | 324 | -30~+85 | -40~+100 | | | |
| 150 | 90 | 30 | 5 | 100 | 150 | 5 | 260 | -30~+85 | -40~+100 | | | |
| 150 | 90 | 30 | 5 | 100 | 150 | 5 | 260 | -30~+85 | -40~+100 | | | |
| Directivity 201/2 (degree) | VF (V) | Reverse Current IR Max. (uA) | V _k (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting | | |
| | | | | V _p (V) | I _{pp} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | | | |
| 30 | 5 | - | 5 | 7.5 | - | 5 | 150 | -30~+85 | -40~+100 | Wave Soldering | | |
| 30 | 5 | - | 5 | 7.5 | - | 5 | 150 | -30~+85 | -40~+100 | | | |
| 30 | 5 | - | 5 | 7.5 | - | 5 | 150 | -30~+85 | -40~+100 | | | |
| 30 | 12 | - | 5 | 15 | - | 5 | 225 | -30~+85 | -40~+100 | Wave Soldering | | |
| 30 | 12 | - | 5 | 15 | - | 5 | 225 | -30~+85 | -40~+100 | | | |
| 30 | 12 | - | 5 | 15 | - | 5 | 225 | -30~+85 | -40~+100 | | | |
| Directivity 201/2 (degree) | VF (V) | Reverse Current IR Max. (uA) | V _k (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting | | |
| | | | | V _p (V) | I _{pp} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | | | |
| 30 | 5 | - | 5 | 7.5 | - | 5 | 150 | -30~+85 | -40~+100 | Wave Soldering | | |
| 30 | 5 | - | 5 | 7.5 | - | 5 | 150 | -30~+85 | -40~+100 | | | |
| 30 | 5 | - | 5 | 7.5 | - | 5 | 150 | -30~+85 | -40~+100 | | | |
| 30 | 5 | - | 5 | 7.5 | - | 5 | 150 | -30~+85 | -40~+100 | | | |
| 30 | 5 | - | 5 | 7.5 | - | 5 | 150 | -30~+85 | -40~+100 | | | |
| 30 | 5 | - | 5 | 7.5 | - | 5 | 150 | -30~+85 | -40~+100 | | | |
| 30 | 12 | - | 5 | 15 | - | 5 | 225 | -30~+85 | -40~+100 | Wave Soldering | | |
| 30 | 12 | - | 5 | 15 | - | 5 | 225 | -30~+85 | -40~+100 | | | |
| 30 | 12 | - | 5 | 15 | - | 5 | 225 | -30~+85 | -40~+100 | | | |
| 30 | 12 | - | 5 | 15 | - | 5 | 225 | -30~+85 | -40~+100 | | | |
| 30 | 12 | - | 5 | 15 | - | 5 | 225 | -30~+85 | -40~+100 | | | |
| 30 | 12 | - | 5 | 15 | - | 5 | 225 | -30~+85 | -40~+100 | | | |
| Lumen Flux (lm) | | Directivity 201/2 (degree) | IF (mA) | Reverse Current IR Max. (uA) | V _k (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting |
| Min. | Typ. | | | | | I _p (mA) | I _{pp} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | |
| 45 | 55 | 140 | 40 | 10 | 15 | 45 | 80 | 15 | 486 | -30~+85 | -40~+100 | Wave Soldering |
| 40 | 50 | 140 | 40 | 10 | 15 | 45 | 80 | 15 | 486 | -30~+85 | -40~+100 | |
| 40 | 50 | 140 | 40 | 10 | 15 | 45 | 80 | 15 | 486 | -30~+85 | -40~+100 | |
| Lumen Flux (lm) | | Directivity 201/2 (degree) | IF (mA) | Reverse Current IR Max. (uA) | V _k (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting |
| Min. | Typ. | | | | | I _p (mA) | I _{pp} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | |
| 8 | 12 | 140 | 40 | 10 | 15 | 45 | 80 | 15 | 486 | -30~+85 | -40~+100 | Wave Soldering |
| 28 | 35 | 140 | 40 | 10 | 15 | 45 | 80 | 15 | 486 | -30~+85 | -40~+100 | |
| 15 | 20 | 140 | 50 | 10 | 15 | 50 | 90 | 15 | 390 | -30~+85 | -40~+100 | |
| 28 | 35 | 140 | 50 | 10 | 15 | 50 | 90 | 15 | 390 | -30~+85 | -40~+100 | |
| 15 | 20 | 140 | 50 | 10 | 15 | 50 | 90 | 15 | 390 | -30~+85 | -40~+100 | |





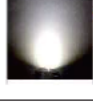




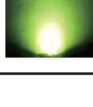
Special Color LED Series

| Picture | Part Number | Emitting Color | Package | Lens Type | Forward Voltage VF (V) | | Chromaticity Coordinates | | | Lumen Flux (lm) | | Directivity 2θ1/2 (degree) |
|------------------|-------------|----------------|------------|-----------------|------------------------|------|----------------------------|-------|------|--------------------------|-------|----------------------------|
| | | | | | Typ. | Max. | x | y | Min. | Typ. | | |
| | | | | | | | | | | | Typ. | |
| | PAC24L5111A | Sky | 5mm | Water Clear | 3.1 | 3.6 | 0.19 | 0.15 | 4.0 | 4.5 | 15 | |
| | PAC24LZ281P | Sky | Super Flux | Water Clear | 3.1 | 3.6 | 0.19 | 0.15 | 5.5 | 6.5 | 80 | |
| | PAC24LS1C1A | Sky | 3528 | Green Diffused | 3.1 | 3.6 | 0.19 | 0.15 | 4.0 | 4.5 | 120 | |
| | PAC24TS4C1A | Sky | 5050 | Green Diffused | 3.2 | 3.6 | 0.19 | 0.15 | 12 | 13.5 | 120 | |
| | PAC34L5111A | Cyan | 5mm | Water Clear | 3.1 | 3.6 | 0.208 | 0.256 | 6 | 6.7 | 15 | |
| | PAC34LZ281P | Cyan | Super Flux | Water Clear | 3.1 | 3.6 | 0.208 | 0.256 | 8.5 | 9.5 | 80 | |
| | PAC34LS1C1A | Cyan | 3528 | Green Diffused | 3.1 | 3.6 | 0.208 | 0.256 | 6 | 6.7 | 120 | |
| | PAC34TS4C1A | Cyan | 5050 | Green Diffused | 3.2 | 3.6 | 0.208 | 0.256 | 18 | 20 | 120 | |
| | PAC44L5111A | Aqua | 5mm | Water Clear | 3.1 | 3.6 | 0.25 | 0.37 | 8 | 8.6 | 15 | |
| | PAC44LZ281P | Aqua | Super Flux | Water Clear | 3.1 | 3.6 | 0.25 | 0.37 | 10 | 12 | 80 | |
| | PAC44LS1C1A | Aqua | 3528 | Green Diffused | 3.1 | 3.6 | 0.25 | 0.37 | 8 | 8.6 | 120 | |
| | PAC44TS4C1A | Aqua | 5050 | Green Diffused | 3.2 | 3.6 | 0.25 | 0.37 | 24 | 26 | 120 | |
| | PAC54L5111A | Mint | 5mm | Water Clear | 3.1 | 3.6 | 0.29 | 0.49 | 8.5 | 9.2 | 15 | |
| | PAC54LZ281P | Mint | Super Flux | Water Clear | 3.1 | 3.6 | 0.29 | 0.49 | 11 | 13 | 80 | |
| | PAC54LS1C1A | Mint | 3528 | Green Diffused | 3.1 | 3.6 | 0.29 | 0.49 | 8.5 | 9.2 | 120 | |
| | PAC54TS4C1A | Mint | 5050 | Green Diffused | 3.2 | 3.6 | 0.29 | 0.49 | 25 | 27.5 | 120 | |
| | PAC64L5111A | Lime | 5mm | Water Clear | 3.1 | 3.6 | 0.32 | 0.53 | 8.5 | 9.2 | 15 | |
| | PAC64LZ281P | Lime | Super Flux | Water Clear | 3.1 | 3.6 | 0.32 | 0.53 | 11 | 13 | 80 | |
| | PAC64LS1C1A | Lime | 3528 | Green Diffused | 3.1 | 3.6 | 0.32 | 0.53 | 8.5 | 9.2 | 120 | |
| | PAC64TS4C1A | Lime | 5050 | Green Diffused | 3.2 | 3.6 | 0.32 | 0.53 | 25 | 27.5 | 120 | |
| | PAC74L5111A | Leaf | 5mm | Water Clear | 3.1 | 3.6 | 0.27 | 0.55 | 8.6 | 9.3 | 15 | |
| | PAC74LZ281P | Leaf | Super Flux | Water Clear | 3.1 | 3.6 | 0.27 | 0.55 | 11 | 13 | 80 | |
| | PAC74LS1C1A | Leaf | 3528 | Green Diffused | 3.1 | 3.6 | 0.27 | 0.55 | 8.6 | 9.3 | 120 | |
| | PAC74TS4C1A | Leaf | 5050 | Green Diffused | 3.2 | 3.6 | 0.27 | 0.55 | 25.5 | 28 | 120 | |
| | PAC84L5111A | Baby Pink | 5mm | Water Clear | 3.1 | 3.6 | 0.356 | 0.208 | 3.5 | 4.1 | 15 | |
| | PAC84LZ281P | Baby Pink | Super Flux | Water Clear | 3.1 | 3.6 | 0.356 | 0.208 | 5 | 5.7 | 80 | |
| | PAC84LS1C1A | Baby Pink | 3528 | Red Diffused | 3.1 | 3.6 | 0.356 | 0.208 | 3.5 | 4.1 | 120 | |
| | PAC84TS4C1A | Baby Pink | 5050 | Red Diffused | 3.2 | 3.6 | 0.356 | 0.208 | 10 | 12 | 120 | |
| | PACA4L5111A | Magenta | 5mm | Water Clear | 3.1 | 3.6 | 0.45 | 0.25 | 3.3 | 3.8 | 15 | |
| | PACA4LZ281P | Magenta | Super Flux | Water Clear | 3.1 | 3.6 | 0.45 | 0.25 | 5 | 5.5 | 80 | |
| | PACA4LS1C1A | Magenta | 3528 | Red Diffused | 3.1 | 3.6 | 0.45 | 0.25 | 3.3 | 3.8 | 120 | |
| | PACA4TS4C1A | Magenta | 5050 | Red Diffused | 3.2 | 3.6 | 0.45 | 0.25 | 9.5 | 11.5 | 120 | |
| | PACB4L5111A | Rose | 5mm | Water Clear | 3.1 | 3.6 | 0.51 | 0.285 | 1.8 | 2.2 | 15 | |
| | PACB4LZ281P | Rose | Super Flux | Water Clear | 3.1 | 3.6 | 0.51 | 0.285 | 2.5 | 3 | 80 | |
| | PACB4LS1C1A | Rose | 3528 | Red Diffused | 3.1 | 3.6 | 0.51 | 0.285 | 1.8 | 2.2 | 120 | |
| | PACB4TS4C1A | Rose | 5050 | Red Diffused | 3.2 | 3.6 | 0.51 | 0.285 | 5.5 | 6.5 | 120 | |
| | PACC4L5111A | Tomato | 5mm | Water Clear | 3.1 | 3.6 | 0.59 | 0.315 | 1.5 | 1.8 | 15 | |
| | PACC4LZ281P | Tomato | Super Flux | Water Clear | 3.1 | 3.6 | 0.59 | 0.315 | 2 | 2.5 | 80 | |
| | PACC4LS1C1A | Tomato | 3528 | Red Diffused | 3.1 | 3.6 | 0.59 | 0.315 | 1.5 | 1.8 | 120 | |
| | PACC4TS4C1A | Tomato | 5050 | Red Diffused | 3.2 | 3.6 | 0.59 | 0.315 | 4.5 | 5.5 | 120 | |
| | PACD4L5111A | Lavender | 5mm | Water Clear | 3.1 | 3.6 | 0.29 | 0.23 | 5 | 5.4 | 15 | |
| | PACD4LZ281P | Lavender | Super Flux | Water Clear | 3.1 | 3.6 | 0.29 | 0.23 | 6.5 | 7.5 | 80 | |
| | PACD4LS1C1A | Lavender | 3528 | Yellow Diffused | 3.1 | 3.6 | 0.29 | 0.23 | 5 | 5.4 | 120 | |
| | PACD4TS4C1A | Lavender | 5050 | Yellow Diffused | 3.2 | 3.6 | 0.29 | 0.23 | 15 | 16.5 | 120 | |
| | PACE4L5111A | Peach | 5mm | Water Clear | 3.1 | 3.6 | 0.386 | 0.275 | 4.5 | 4.9 | 15 | |
| | PACE4LZ281P | Peach | Super Flux | Water Clear | 3.1 | 3.6 | 0.386 | 0.275 | 6 | 7 | 80 | |
| | PACE4LS1C1A | Peach | 3528 | Yellow Diffused | 3.1 | 3.6 | 0.386 | 0.275 | 4.5 | 4.9 | 120 | |
| | PACE4TS4C1A | Peach | 5050 | Yellow Diffused | 3.2 | 3.6 | 0.386 | 0.275 | 13.5 | 15 | 120 | |
| Picture | Part Number | Emitting Color | Package | Lens Type | Forward Voltage VF (V) | | Dominant Wavelength wd(nm) | | | Luminous Intensity (mcd) | | Directivity 2θ1/2 (degree) |
| | | | | | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | |
| Golden Color LED | | | | | | | | | | | | |
| | PAY6CA3131P | Golden | 3mm | Water Clear | 2.4 | 2.8 | 590 | 594 | 597 | 22000 | 25000 | 30 |
| | PAY6CA5111P | Golden | 5mm | Water Clear | 2.4 | 2.8 | 590 | 594 | 597 | 40000 | 55000 | 15 |
| | PAY6PA3131A | Golden | 3mm | Water Clear | 2.1 | 2.6 | 590 | 594 | 597 | 4200 | 5800 | 30 |
| | PAY6PA5111A | Golden | 5mm | Water Clear | 2.1 | 2.6 | 590 | 594 | 597 | 14400 | 18000 | 15 |

Special Color LED Series

| IF (mA) | Reverse Current I _R Max. (uA) | V _R (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting |
|---------|--|--------------------|-----------------------------------|----------------------|--------------------|---------------------|-----------------------|-----------------------|----------------|
| | | | I _F (mA) | I _{FP} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 60 | 30 | 5 | 80 | 120 | 5 | 288 | -30~+85 | -40~+100 | Reflow |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 60 | 30 | 5 | 80 | 120 | 5 | 288 | -30~+85 | -40~+100 | Reflow |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 60 | 30 | 5 | 80 | 120 | 5 | 288 | -30~+85 | -40~+100 | Reflow |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 60 | 30 | 5 | 80 | 120 | 5 | 288 | -30~+85 | -40~+100 | Reflow |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 60 | 30 | 5 | 80 | 120 | 5 | 288 | -30~+85 | -40~+100 | Reflow |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 60 | 30 | 5 | 80 | 120 | 5 | 288 | -30~+85 | -40~+100 | Reflow |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 60 | 30 | 5 | 80 | 120 | 5 | 288 | -30~+85 | -40~+100 | Reflow |
| IF (mA) | Reverse Current I _R Max. (uA) | V _R (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting |
| | | | I _F (mA) | I _{FP} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | |
| 70 | 10 | 5 | 70 | 120 | 5 | 196 | -30~+85 | -40~+100 | Wave Soldering |
| 70 | 10 | 5 | 70 | 120 | 5 | 196 | -30~+85 | -40~+100 | |
| 20 | 10 | 5 | 50 | 120 | 5 | 130 | -40~+85 | -40~+100 | |
| 20 | 10 | 5 | 50 | 120 | 5 | 130 | -40~+85 | -40~+100 | |

Special Color LED Series

| Picture | Part Number | Emitting Color | Package | Lens Type | Forward Voltage VF (V) | | Chromaticity Coordinates | | Lumen Flux (Lm) | | Directivity 2θ1/2 (degree) |
|--|-------------|-------------------|------------|-----------------|------------------------|------|--------------------------|-------|-----------------|------|----------------------------|
| | | | | | Typ. | Max. | x | y | Min. | Typ. | |
| | | | | | Typ. | Max. | Typ. | Typ. | Min. | Typ. | |
|  | PACF4L5111A | Cherry | 5mm | Water Clear | 3.1 | 3.6 | 0.44 | 0.30 | 4.2 | 4.7 | 15 |
| | PACF4LZ281P | Cherry | Super Flux | Water Clear | 3.1 | 3.6 | 0.44 | 0.3 | 6.0 | 6.5 | 80 |
| | PACF4LS1C1A | Cherry | 3528 | Yellow Diffused | 3.1 | 3.6 | 0.44 | 0.30 | 4.2 | 4.7 | 120 |
| | PACF4TS4C1A | Cherry | 5050 | Yellow Diffused | 3.2 | 3.6 | 0.44 | 0.30 | 12.5 | 14.0 | 120 |
|  | PACG4L5111A | Orange Peach | 5mm | Water Clear | 3.1 | 3.6 | 0.55 | 0.36 | 4.0 | 4.4 | 15 |
| | PACG4LZ281P | Orange Peach | Super Flux | Water Clear | 3.1 | 3.6 | 0.55 | 0.36 | 5.7 | 6.2 | 80 |
| | PACG4LS1C1A | Orange Peach | 3528 | Yellow Diffused | 3.1 | 3.6 | 0.55 | 0.36 | 4.0 | 4.4 | 120 |
| | PACG4TS4C1A | Orange Peach | 5050 | Yellow Diffused | 3.2 | 3.6 | 0.55 | 0.36 | 12.0 | 13.5 | 120 |
|  | PACH4L5111A | Cream | 5mm | Water Clear | 3.1 | 3.6 | 0.41 | 0.35 | 5.5 | 6.1 | 15 |
| | PACH4LZ281P | Cream | Super Flux | Water Clear | 3.1 | 3.6 | 0.41 | 0.35 | 7.5 | 8.5 | 80 |
| | PACH4LS1C1A | Cream | 3528 | Yellow Diffused | 3.1 | 3.6 | 0.41 | 0.35 | 5.5 | 6.1 | 120 |
| | PACH4TS4C1A | Cream | 5050 | Yellow Diffused | 3.2 | 3.6 | 0.41 | 0.35 | 16.5 | 18.5 | 120 |
|  | PACJ4L5111A | Sand | 5mm | Water Clear | 3.1 | 3.6 | 0.47 | 0.36 | 4.9 | 5.3 | 15 |
| | PACJ4LZ281P | Sand | Super Flux | Water Clear | 3.1 | 3.6 | 0.47 | 0.36 | 7.0 | 7.5 | 80 |
| | PACJ4LS1C1A | Sand | 3528 | Yellow Diffused | 3.1 | 3.6 | 0.47 | 0.36 | 4.9 | 5.3 | 120 |
| | PACJ4TS4C1A | Sand | 5050 | Yellow Diffused | 3.2 | 3.6 | 0.47 | 0.36 | 14.5 | 16 | 120 |
|  | PACK4L5111A | Sunshine | 5mm | Water Clear | 3.1 | 3.6 | 0.34 | 0.37 | 7.0 | 7.5 | 15 |
| | PACK4LZ281P | Sunshine | Super Flux | Water Clear | 3.1 | 3.6 | 0.34 | 0.37 | 9.0 | 10.5 | 80 |
| | PACK4LS1C1A | Sunshine | 3528 | Yellow Diffused | 3.1 | 3.6 | 0.34 | 0.37 | 7.0 | 7.5 | 120 |
| | PACK4TS4C1A | Sunshine | 5050 | Yellow Diffused | 3.2 | 3.6 | 0.34 | 0.37 | 20 | 22.5 | 120 |
|  | PACL4L5111A | Lemon | 5mm | Water Clear | 3.1 | 3.6 | 0.395 | 0.455 | 8.0 | 8.5 | 15 |
| | PACL4LZ281P | Lemon | Super Flux | Water Clear | 3.1 | 3.6 | 0.395 | 0.455 | 10 | 12 | 80 |
| | PACL4LS1C1A | Lemon | 3528 | Yellow Diffused | 3.1 | 3.6 | 0.395 | 0.455 | 8.0 | 8.5 | 120 |
| | PACL4TS4C1A | Lemon | 5050 | Yellow Diffused | 3.2 | 3.6 | 0.395 | 0.455 | 23 | 25.5 | 120 |
|  | PACM4L5111A | Yolk | 5mm | Water Clear | 3.1 | 3.6 | 0.45 | 0.47 | 7.7 | 8.2 | 15 |
| | PACM4LZ281P | Yolk | Super Flux | Water Clear | 3.1 | 3.6 | 0.45 | 0.47 | 9.5 | 11.5 | 80 |
| | PACM4LS1C1A | Yolk | 3528 | Yellow Diffused | 3.1 | 3.6 | 0.45 | 0.47 | 7.7 | 8.2 | 120 |
| | PACM4TS4C1A | Yolk | 5050 | Yellow Diffused | 3.1 | 3.6 | 0.45 | 0.47 | 22 | 24.5 | 120 |
|  | PAC64L5111A | Sakura | 5mm | Water Clear | 3.1 | 3.6 | 0.25 | 0.14 | 2.5 | 3.5 | 15 |
| | PAC64LZ281P | Sakura | Super Flux | Water Clear | 3.1 | 3.6 | 0.25 | 0.14 | 4.0 | 5.0 | 80 |
| | PACF4LS1C1A | Sakura | 3528 | Yellow Diffused | 3.1 | 3.6 | 0.25 | 0.14 | 2.5 | 3.5 | 120 |
| | PAC64TS4C1A | Sakura | 5050 | Yellow Diffused | 3.1 | 3.6 | 0.25 | 0.14 | 9.0 | 11 | 120 |
|  | PAC64L5111A | Ice Blue | 5mm | Water Clear | 3.1 | 3.6 | 0.19 | 0.29 | 6.2 | 7.0 | 15 |
| | PAC64LZ281P | Ice Blue | Super Flux | Water Clear | 3.1 | 3.6 | 0.19 | 0.29 | 8.0 | 10 | 80 |
| | PAC64LS1C1A | Ice Blue | 3528 | Green Diffused | 3.1 | 3.6 | 0.19 | 0.29 | 6.2 | 7.0 | 120 |
| | PAC64TS4C1A | Ice Blue | 5050 | Green Diffused | 3.2 | 3.6 | 0.19 | 0.29 | 18 | 21 | 120 |
|  | PAC74L5111A | Fluorescent Green | 5mm | Water Clear | 3.1 | 3.6 | 0.35 | 0.50 | 6.5 | 7.5 | 15 |
| | PAC74LZ281P | Fluorescent Green | Super Flux | Water Clear | 3.1 | 3.6 | 0.35 | 0.50 | 9.0 | 10.5 | 80 |
| | PAC74LS1C1A | Fluorescent Green | 3528 | Green Diffused | 3.1 | 3.6 | 0.35 | 0.50 | 6.5 | 7.5 | 120 |
| | PAC74TS4C1A | Fluorescent Green | 5050 | Green Diffused | 3.1 | 3.6 | 0.35 | 0.50 | 18 | 21 | 120 |

Special Color LED Series

| IF (mA) | Reverse Current I _R Max. (uA) | V _R (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting |
|---------|--|--------------------|-----------------------------------|----------------------|--------------------|---------------------|----------------------|-----------------------|----------------|
| | | | I _F (mA) | I _{FP} (mA) | V _R (V) | P _D (mW) | T _{op} (°C) | T _{stg} (°C) | |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 60 | 30 | 5 | 80 | 120 | 5 | 288 | -30~+85 | -40~+100 | Reflow |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 60 | 30 | 5 | 80 | 120 | 5 | 288 | -30~+85 | -40~+100 | Reflow |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 60 | 30 | 5 | 80 | 120 | 5 | 288 | -30~+85 | -40~+100 | Reflow |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 60 | 30 | 5 | 80 | 120 | 5 | 288 | -30~+85 | -40~+100 | Reflow |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 60 | 30 | 5 | 80 | 120 | 5 | 288 | -30~+85 | -40~+100 | Reflow |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 60 | 30 | 5 | 80 | 120 | 5 | 288 | -30~+85 | -40~+100 | Reflow |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 60 | 30 | 5 | 80 | 120 | 5 | 288 | -30~+85 | -40~+100 | Reflow |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 60 | 30 | 5 | 80 | 120 | 5 | 288 | -30~+85 | -40~+100 | Reflow |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 60 | 30 | 5 | 80 | 120 | 5 | 288 | -30~+85 | -40~+100 | Reflow |

| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Chromacity Coordinetes | | | | | | Lumen Flux (Lm) | | Directivity 2θ1/2 (degree) |
|---|-------------|----------------|-------------------|------------------------|------|------------------------|------|------|-------|-------|-------|-----------------|------|----------------------------|
| | | | | Typ. | Max. | x | | | y | | | Min. | Typ. | |
| | | | | | | Min. | Typ. | Max. | Min. | Typ. | Max. | | | |
| <i>Φ 4.8 Straw 9V LED</i> | | | | | | | | | | | | | | |
| | PA5MPL56D1A | Warm White | Water Clear | 8.9 | 10.2 | 0.30 | 0.44 | 0.48 | 0.37 | 0.41 | 0.45 | 20 | 22 | 130 |
| | PA4WPL56D1A | Pure White | Water Clear | 8.9 | 10.2 | 0.30 | 0.44 | 0.48 | 0.37 | 0.41 | 0.45 | 20 | 22 | 130 |
| <i>Φ 5 Violet Round Type</i> | | | | | | | | | | | | | | |
| | PAV5DL5111A | Violet | Water Clear | 3.1 | 3.6 | 400 | 405 | 410 | 12 | 14 | 15 | | | |
| | PAV4DL5111A | Violet | Water Clear | 3.2 | 3.8 | 390 | 395 | 400 | 12 | 14 | 15 | | | |
| <i>Φ 5 Violet Bullet Type</i> | | | | | | | | | | | | | | |
| | PAV5DL5201A | Violet | Water Clear | 3.1 | 3.6 | 400 | 405 | 410 | 12 | 14 | 8 | | | |
| | PAV4DL5201A | Violet | Water Clear | 3.2 | 3.8 | 390 | 395 | 400 | 12 | 14 | 8 | | | |
| <i>Violet Oval Type</i> | | | | | | | | | | | | | | |
| | PAV5DL5471D | Violet | Water Clear | 3.1 | 3.6 | 400 | 405 | 410 | 12 | 14 | 70/40 | | | |
| | PAV4DL5471D | Violet | Water Clear | 3.2 | 3.8 | 390 | 395 | 400 | 12 | 14 | 70/40 | | | |
| <i>Violet SMD 3528 Type</i> | | | | | | | | | | | | | | |
| | PAV5DLS1C1A | Violet | Water Clear | 3.1 | 3.6 | 400 | 405 | 410 | 12 | 14 | 120 | | | |
| | PAV4DLS1C1A | Violet | Water Clear | 3.2 | 3.8 | 390 | 395 | 400 | 12 | 14 | 120 | | | |
| <i>Φ 5 Infrared Emitting Round Type</i> | | | | | | | | | | | | | | |
| | PA3CAS111A | Infrared | Water Clear | 1.6 | 1.8 | ~ | 850 | ~ | 30 | 45 | 15 | | | |
| | PA5CAS113A | Infrared | Color Transparent | 1.6 | 1.8 | ~ | 940 | ~ | 30 | 45 | 15 | | | |
| <i>Φ 5 Infrared Emitting Bullet Type</i> | | | | | | | | | | | | | | |
| | PA3CAS201A | Infrared | Water Clear | 1.6 | 1.8 | ~ | 850 | ~ | 65 | 100 | 8 | | | |
| | PA5LAS203A | Infrared | Color Transparent | 1.6 | 1.8 | ~ | 940 | ~ | 45 | 60 | 8 | | | |
| <i>Infrared Emitting Oval Type</i> | | | | | | | | | | | | | | |
| | PA3CAS453B | Infrared | Water Clear | 1.6 | 1.8 | ~ | 850 | ~ | 30 | 45 | 70/40 | | | |
| | PA5LAS453B | Infrared | Color Transparent | 1.6 | 1.8 | ~ | 940 | ~ | 25 | 35 | 70/40 | | | |
| <i>Infrared Emitting SMD 3528 / Xeon Power Type</i> | | | | | | | | | | | | | | |
| | PA3CAS1C1A | Infrared | Water Clear | 1.6 | 1.8 | ~ | 850 | ~ | 15 | 20 | 120 | | | |
| | PA5LAS1C1A | Infrared | Water Clear | 1.6 | 1.8 | ~ | 940 | ~ | 10 | 20 | 120 | | | |
| | PA5CNE3C1E | Infrared | Water Clear | 1.8 | 2.6 | ~ | 940 | ~ | 280mW | 300mW | 120 | | | |
| <i>Φ 5 Plant Growing LED</i> | | | | | | | | | | | | | | |
| | PA7CAS111A | Red | Water Clear | 2.1 | 2.6 | 650 | 660 | 670 | 12000 | 14400 | 15 | | | |
| <i>Φ 4.8 Plant Growing LED</i> | | | | | | | | | | | | | | |
| | PAR7CA56A1A | Red | Water Clear | 2.1 | 2.6 | 650 | 660 | 670 | 1120 | 1560 | 100 | | | |
| <i>3528 Plant Growing LED</i> | | | | | | | | | | | | | | |
| | PAR7CAS1C1A | Red | Water Clear | 2.1 | 2.6 | 650 | 660 | 670 | 500 | 700 | 120 | | | |
| <i>Plant Growing Xeon Power LED</i> | | | | | | | | | | | | | | |
| | PAR7XNE3C1E | Red | Water Clear | 2.8 | 3.5 | 650 | 660 | 670 | 450 | 480 | 120 | | | |
| | PAR9XNE3C1E | Red | Water Clear | 2.8 | 3.5 | 720 | 730 | 740 | 280 | 300 | 120 | | | |

| IF (mA) | Reverse Current I _R Max.(uA) | V _R (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting |
|--|---|--------------------|-----------------------------------|----------------------|--------------------|---------------------|-----------------------|-----------------------|----------------|
| | | | I _F (mA) | I _{FP} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | |
| | | | | | | | | | |
| 20 | 10 | 15 | 25 | 120 | 15 | 255 | -30~+85 | -40~+100 | Wave Soldering |
| 20 | 10 | 15 | 25 | 120 | 15 | 255 | -30~+85 | -40~+100 | |
| <i>Φ 5 Violet Round Type</i> | | | | | | | | | |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 20 | 10 | 5 | 30 | 100 | 5 | 114 | -30~+85 | -40~+100 | |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 20 | 10 | 5 | 30 | 100 | 5 | 114 | -30~+85 | -40~+100 | |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 20 | 10 | 5 | 30 | 100 | 5 | 114 | -30~+85 | -40~+100 | |
| <i>Φ 5 Violet Bullet Type</i> | | | | | | | | | |
| 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 20 | 10 | 5 | 30 | 100 | 5 | 114 | -30~+85 | -40~+100 | |
| <i>Φ 5 Infrared Emitting Round Type</i> | | | | | | | | | |
| 50 | 10 | 5 | 70 | 700 | 5 | 126 | -30~+85 | -40~+100 | Wave Soldering |
| 100 | 10 | 5 | 100 | 1000 | 5 | 180 | -30~+85 | -40~+100 | |
| 100 | 10 | 5 | 100 | 1000 | 5 | 180 | -30~+85 | -40~+100 | |
| 100 | 10 | 5 | 100 | 1000 | 5 | 180 | -30~+85 | -40~+100 | |
| 100 | 10 | 5 | 100 | 1000 | 5 | 180 | -30~+85 | -40~+100 | |
| 100 | 10 | 5 | 100 | 1000 | 5 | 180 | -30~+85 | -40~+100 | |
| <i>Φ 5 Infrared Emitting Bullet Type</i> | | | | | | | | | |
| 50 | 10 | 5 | 70 | 700 | 5 | 126 | -30~+85 | -40~+100 | Reflow |
| 100 | 10 | 5 | 100 | 1000 | 5 | 180 | -30~+85 | -40~+100 | |
| 700 | 10 | 5 | 1000 | 2000 | 5 | 2600 | -30~+85 | -40~+100 | |
| <i>Φ 5 Plant Growing LED</i> | | | | | | | | | |
| 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | Wave Soldering |
| <i>Φ 4.8 Plant Growing LED</i> | | | | | | | | | |
| 20 | 10 | 5 | 70 | 120 | 5 | 182 | -30~+85 | -40~+100 | Wave Soldering |
| <i>3528 Plant Growing LED</i> | | | | | | | | | |
| 20 | 10 | 5 | 70 | 120 | 5 | 182 | -30~+85 | -40~+100 | Reflow |
| <i>Plant Growing Xeon Power LED</i> | | | | | | | | | |
| 700 | 10 | 5 | 700 | 1000 | 5 | 2450 | -30~+85 | -40~+100 | Reflow |
| 700 | 10 | 5 | 700 | 1000 | 5 | 2450 | -30~+85 | -40~+100 | |

Special LED Series

| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Chromaticity Coordinates | | | | | | CRI | |
|--|-----------------------------------|----------------|------------|------------------------|------|----------------------------|------|------|------|------|------|------|----|
| | | | | Typ. | Max. | x | | | y | | | | |
| | | | | | | Min. | Typ. | Max. | Min. | Typ. | Max. | | |
| High CRI Φ 4.8 Straw LED | | | | | | | | | | | | | |
| | PAS5MFL56C1A-HCRI | ● | Warm White | Water Clear | 3.1 | 3.6 | 0.39 | 0.42 | 0.45 | 0.34 | 0.37 | 0.40 | 90 |
| | PAM54E56C1A-HCRI | ● | Warm White | Water Clear | 3.1 | 3.6 | 0.39 | 0.42 | 0.45 | 0.34 | 0.37 | 0.40 | 90 |
| | PAAWFL56C1A-HCRI | ● | Pure White | Water Clear | 3.1 | 3.6 | 0.28 | 0.31 | 0.34 | 0.27 | 0.30 | 0.33 | 85 |
| | PAWA4E56C1A-HCRI | ● | Pure White | Water Clear | 3.1 | 3.6 | 0.28 | 0.31 | 0.34 | 0.27 | 0.30 | 0.33 | 85 |
| | PAWR4556D1A | ● | Pure White | Water Clear | 8.5 | 9.6 | 0.28 | 0.32 | 0.36 | 0.27 | 0.31 | 0.35 | 92 |
| | PAMR4665D1A | ● | Warm White | Water Clear | 8.5 | 9.6 | 0.40 | 0.44 | 0.48 | 0.34 | 0.38 | 0.42 | 90 |
| High CRI Φ 5 Super Flux LED | | | | | | | | | | | | | |
| | PAS5MFL22C1P-HCRI | ● | Warm White | Water Clear | 3.1 | 3.6 | 0.39 | 0.42 | 0.45 | 0.34 | 0.37 | 0.40 | 90 |
| | PAM54E22C1P-HC | ● | Warm White | Water Clear | 3.1 | 3.6 | 0.39 | 0.42 | 0.45 | 0.34 | 0.37 | 0.40 | 90 |
| | PAAWFL22C1P-HCRI | ● | Pure White | Water Clear | 3.1 | 3.6 | 0.28 | 0.31 | 0.34 | 0.27 | 0.30 | 0.33 | 85 |
| | PAWA4E22C1P-HCRI | ● | Pure White | Water Clear | 3.1 | 3.6 | 0.28 | 0.31 | 0.34 | 0.27 | 0.30 | 0.33 | 85 |
| | PAWR4322C1P | ● | Pure White | Water Clear | 8.5 | 9.6 | 0.28 | 0.32 | 0.36 | 0.27 | 0.31 | 0.35 | 90 |
| | PAMR4322C1P | ● | Warm White | Water Clear | 8.5 | 9.6 | 0.40 | 0.44 | 0.48 | 0.34 | 0.38 | 0.42 | 90 |
| 4-chip DC12V LED | | | | | | | | | | | | | |
| | PAW4G456F1A | ● | Pure White | Water Clear | 12.0 | 13.6 | 0.27 | 0.31 | 0.35 | 0.29 | 0.33 | 0.37 | 75 |
| | PAW4G4Z2C1P | ● | Pure White | Water Clear | 12.0 | 13.6 | 0.27 | 0.31 | 0.35 | 0.29 | 0.33 | 0.37 | 75 |
| DC 20V LED | | | | | | | | | | | | | |
| | PA4WNL22C1P | ● | Pure White | Water Clear | 17.5 | 20 | 0.27 | 0.31 | 0.35 | 0.29 | 0.33 | 0.37 | 75 |
| | PA4WNL56F1A | ● | Pure White | Water Clear | 17.5 | 20 | 0.27 | 0.31 | 0.35 | 0.29 | 0.33 | 0.37 | 75 |
| | PA4WNNE1E1E | ● | Pure White | Water Clear | 20.0 | 22 | 0.27 | 0.31 | 0.35 | 0.29 | 0.33 | 0.37 | 75 |
| Package | Part Number | Emitting Color | Lens Type | Voltage VF (V) | | Chromaticity Coordinates | | | | | | | |
| | | | | Typ. | Max. | x | | | y | | | | |
| | | | | | | Min. | Typ. | Max. | Min. | Typ. | Max. | | |
| Φ 3 AC LED | | | | | | | | | | | | | |
| | PAWWY23131E | ● | Cool White | Water Clear | 3.1 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 | |
| | PAMMY23131E | ● | Warm White | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 | |
| Φ 5 AC LED | | | | | | | | | | | | | |
| | PAMMY25111E | ● | Cool White | Water Clear | 3.1 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 | |
| | PAMMY25111E | ● | Warm White | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 | |
| Package | Part Number | Emitting Color | Lens Type | Voltage VF (V) | | Dominant Wavelength wd(nm) | | | | | | | |
| | | | | Typ. | Max. | Min. | Typ. | Max. | | | | | |
| | | | | | | | | | | | | | |
| Φ 3 AC LED | | | | | | | | | | | | | |
| | | ● | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | 475 | | | | |
| | PAGGD23131E | ● | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 | 530 | | | | |
| | PARRJ23131A | ● | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 | | | | |
| | PAYYJ23131A | ● | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 | | | | |
| | PAOOJ23131A | ● | Orange | Water Clear | 2.1 | 2.6 | 600 | 605 | 610 | | | | |
| | Φ 5 AC LED | | | | | | | | | | | | |
| | PABBY23111E | ● | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | 475 | | | | |
| | PAGGD25111E | ● | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 | 530 | | | | |
| | PARRJ25111A | ● | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 | | | | |
| | PAYYJ25111A | ● | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 | | | | |
| | PAOOJ25111A | ● | Orange | Water Clear | 2.1 | 2.6 | 600 | 605 | 610 | | | | |

Special LED Series

| Luminous Flux (lm) | Directivity γ 2 θ 1/2 (degree) | IF (mA) | Reverse Current I_R Max.(uA) | V_R (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting | |
|--------------------------|--|---------|--------------------------------|-----------|-----------------------------------|---------------|---------------|------------|----------------|----------------|----------|----------------|
| | | | | | I_F (mA) | I_{FP} (mA) | V_R (V) | P_D (mW) | T_{opr} (°C) | T_{sig} (°C) | | |
| | | | | | Min. | Typ. | Min. | Typ. | Min. | Typ. | | |
| 16 | 18 | 120 | 50 | 10 | 5 | 60 | 120 | 5 | 216 | -30~+85 | -40~+100 | Wave Soldering |
| 14 | 16 | 120 | 60 | 30 | 5 | 75 | 120 | 5 | 270 | -30~+85 | -40~+100 | |
| 18 | 20 | 120 | 50 | 10 | 5 | 60 | 120 | 5 | 216 | -30~+85 | -40~+100 | |
| 15 | 17 | 120 | 60 | 30 | 5 | 75 | 120 | 5 | 270 | -30~+85 | -40~+100 | |
| 14 | 16 | 130 | 20 | 10 | 15 | 25 | 50 | 15 | 240 | -30~+85 | -40~+100 | |
| 10 | 12 | 130 | 20 | 10 | 15 | 25 | 50 | 15 | 240 | -30~+85 | -40~+100 | |
| 16 | 18 | 120 | 50 | 10 | 5 | 60 | 120 | 5 | 216 | -30~+85 | -40~+100 | Wave Soldering |
| 22 | 24 | 120 | 90 | 30 | 5 | 90 | 120 | 5 | 324 | -30~+85 | -40~+100 | |
| 18 | 20 | 120 | 50 | 10 | 5 | 60 | 120 | 5 | 216 | -30~+85 | -40~+100 | |
| 25 | 27 | 120 | 90 | 30 | 5 | 90 | 120 | 5 | 324 | -30~+85 | -40~+100 | |
| 14 | 16 | 120 | 20 | 10 | 15 | 30 | 50 | 15 | 288 | -30~+85 | -40~+100 | |
| 10 | 12 | 120 | 20 | 10 | 15 | 30 | 50 | 15 | 288 | -30~+85 | -40~+100 | |
| 28 | 30 | 150 | 20 | 10 | 15 | 20 | 40 | 15 | 272 | -30~+85 | 40~+100 | Wave Soldering |
| 28 | 30 | 120 | 20 | 10 | 15 | 20 | 40 | 15 | 272 | -30~+85 | 40~+100 | |
| 25 | 30 | 150 | 10 | 10 | 25 | 10 | 40 | 25 | 200 | -30~+85 | 40~+100 | Wave Soldering |
| 25 | 30 | 120 | 10 | 10 | 25 | 12 | 40 | 25 | 240 | -30~+85 | 40~+100 | |
| 60 | 75 | 140 | 30 | 10 | 25 | 30 | 50 | 25 | 660 | -30~+85 | 40~+100 | |
| Luminous Intensity (mcd) | Directivity γ 2 θ 1/2 (degree) | IF (mA) | Reverse Current I_R Max.(uA) | V_R (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting | |
| Min. | | | | | Typ. | I_F (mA) | I_{FP} (mA) | V_R (V) | P_D (mW) | T_{opr} (°C) | | T_{sig} (°C) |
| 2560 | 3000 | 30 | 20 | - | - | 30 | 100 | - | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 1800 | 2560 | 30 | 20 | - | - | 30 | 100 | - | 108 | -30~+85 | -40~+100 | |
| 8000 | 10000 | 15 | 20 | - | - | 30 | 100 | - | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 6500 | 8000 | 15 | 20 | - | - | 30 | 100 | - | 108 | -30~+85 | -40~+100 | |
| Luminous Intensity (mcd) | Directivity γ 2 θ 1/2 (degree) | IF (mA) | Reverse Current I_R Max.(uA) | V_R (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting | |
| Min. | | | | | Typ. | I_F (mA) | I_{FP} (mA) | V_R (V) | P_D (mW) | T_{opr} (°C) | | T_{sig} (°C) |
| 2180 | 3000 | 30 | 20 | - | - | 30 | 100 | - | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 8400 | 10000 | 30 | 20 | - | - | 30 | 100 | - | 108 | -30~+85 | -40~+100 | |
| 1120 | 1560 | 30 | 20 | - | - | 30 | 100 | - | 78 | -30~+85 | -40~+100 | |
| 1120 | 1560 | 30 | 20 | - | - | 30 | 100 | - | 78 | -30~+85 | -40~+100 | |
| 1120 | 1560 | 30 | 20 | - | - | 30 | 100 | - | 78 | -30~+85 | -40~+100 | |
| 1120 | 1560 | 30 | 20 | - | - | 30 | 100 | - | 78 | -30~+85 | -40~+100 | |
| 4200 | 5800 | 15 | 20 | - | - | 30 | 100 | - | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 18000 | 22000 | 15 | 20 | - | - | 30 | 100 | - | 108 | -30~+85 | -40~+100 | |
| 4200 | 5800 | 15 | 20 | - | - | 30 | 100 | - | 78 | -30~+85 | -40~+100 | |
| 4200 | 5800 | 15 | 20 | - | - | 30 | 100 | - | 78 | -30~+85 | -40~+100 | |
| 4200 | 5800 | 15 | 20 | - | - | 30 | 100 | - | 78 | -30~+85 | -40~+100 | |
| 4200 | 5800 | 15 | 20 | - | - | 30 | 100 | - | 78 | -30~+85 | -40~+100 | |

| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Chromaticity Coordinates | | | | |
|---|-------------|----------------|------------|------------------------|------|--------------------------|------|------|------|------|
| | | | | Typ. | Max. | x | | y | | Min. |
| | | | | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. |
| <i>φ4.8 3-Chip Straw Type</i> | | | | | | | | | | |
| | PAW44356F1A | ● | Pure White | Water Clear | 9.3 | 10.8 | 0.27 | 0.31 | 0.35 | 0.29 |
| | PAW54356F1A | ● | Cool White | Water Clear | 9.3 | 10.8 | 0.23 | 0.27 | 0.31 | 0.24 |
| | PAM54356F1A | ● | Warm White | Water Clear | 9.3 | 10.8 | 0.41 | 0.45 | 0.49 | 0.37 |
| | PAW44E56F1A | ● | Pure White | Water Clear | 3.1 | 3.6 | 0.27 | 0.31 | 0.35 | 0.29 |
| | PAW54E56F1A | ● | Cool White | Water Clear | 3.1 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 |
| | PAM54E56F1A | ● | Warm White | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 |
| <i>φ5 Deluxe Power Round Type</i> | | | | | | | | | | |
| | PAW54L511P | ● | Cool White | Water Clear | 3.3 | 3.8 | 0.23 | 0.27 | 0.31 | 0.24 |
| | PAM54L511P | ● | Warm White | Water Clear | 3.3 | 3.8 | 0.41 | 0.45 | 0.49 | 0.37 |
| | PAK54L511P | ● | Pink | Water Clear | 3.3 | 3.8 | 0.41 | 0.45 | 0.49 | 0.13 |
| <i>φ3 Round Low Decay Type</i> | | | | | | | | | | |
| | PAW54K3131E | ● | Cool White | Water Clear | 3.1 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 |
| | PAM54K3131E | ● | Warm White | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 |
| | PAK54K3131E | ● | Pink | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.13 |
| <i>φ5 Round Low Decay Type</i> | | | | | | | | | | |
| | PAW54K5111E | ● | Cool White | Water Clear | 3.1 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 |
| | PAM54K5111E | ● | Warm White | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 |
| | PAK54K5111E | ● | Pink | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.13 |
| <i>φ5 Bullet Low Decay Type</i> | | | | | | | | | | |
| | PAW5DK5201E | ● | Cool White | Water Clear | 3.1 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 |
| | PAM5DK5201E | ● | Warm White | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 |
| | PAK5DK5201E | ● | Pink | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.13 |
| <i>φ4.8 Straw Low Decay Type</i> | | | | | | | | | | |
| | PAW54K56A1E | ● | Cool White | Water Clear | 3.1 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 |
| | PAM54K56A1E | ● | Warm White | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 |
| | PAK54K56A1E | ● | Pink | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.13 |
| <i>φ10 Round Low Decay Type</i> | | | | | | | | | | |
| | PAW54KA131A | ● | Cool White | Water Clear | 3.1 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 |
| | PAM54KA131A | ● | Warm White | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 |
| | PAK54KA131A | ● | Pink | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.13 |
| <i>2x3x4 mm Rectangular Low Decay Type</i> | | | | | | | | | | |
| | PAW54K7BA1F | ● | Cool White | Water Clear | 3.1 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 |
| | PAM54K7BA1F | ● | Warm White | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 |
| | PAK54K7BA1F | ● | Pink | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.13 |
| <i>2x5x7 mm Rectangular Low Decay Type</i> | | | | | | | | | | |
| | PAW54K71A1F | ● | Cool White | Water Clear | 3.1 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 |
| | PAM54K71A1F | ● | Warm White | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 |
| | PAK54K71A1F | ● | Pink | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.13 |








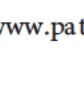
| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Dominant Wavelength wd(nm) | | | |
|--|-------------|----------------|-------------|------------------------|------|----------------------------|------|------|-----|
| | | | | Typ. | Max. | Min. | Typ. | Max. | |
| <i>φ5 Deluxe Power Round Type</i> | | | | | | | | | |
| | PAB56L5111P | ● | Blue | Water Clear | 3.3 | 3.8 | 465 | 470 | 475 |
| | PAG38A5111P | ● | Buish Green | Water Clear | 3.3 | 3.8 | 500 | 505 | 510 |
| | PAG58A5111P | ● | Pure Green | Water Clear | 3.3 | 3.8 | 520 | 525 | 530 |
| | PAR5CA5111P | ● | Red | Water Clear | 2.2 | 2.6 | 620 | 625 | 630 |
| | PAY5CA5111P | ● | Yellow | Water Clear | 2.2 | 2.6 | 585 | 590 | 595 |
| | PAO5CA5111P | ● | Orange | Water Clear | 2.2 | 2.6 | 600 | 605 | 610 |
| | PA5RKA5111P | ● | Red | Water Clear | 2.5 | 2.9 | 620 | 625 | 630 |
| | PA5YKA5111P | ● | Yellow | Water Clear | 2.5 | 2.9 | 585 | 590 | 595 |

| | | Luminous Intensity (mcd) | | Directivity 201/2 (degree) | IF (mA) | Reverse Current I _R Max.(uA) | V _R (V) | Absolute Maximum Rating (Ta=25°C) | | | | | Mounting | |
|------|------|--------------------------|-------|----------------------------|---------|---|--------------------|-----------------------------------|----------------------|--------------------|---------------------|-----------------------|-----------------------|----------------|
| y | | Min. | Typ. | | | | | I _F (mA) | I _{FP} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | |
| Typ. | Max. | Min. | Typ. | | | | | | | | | | | |
| 0.33 | 0.37 | 5000 | 7000 | 150 | 20 | 10 | 15 | 25 | 50 | 15 | 270 | -30~+85 | -40~+100 | Wave Soldering |
| 0.28 | 0.32 | 6000 | 8400 | 150 | 20 | 10 | 15 | 25 | 50 | 15 | 270 | -30~+85 | -40~+100 | |
| 0.41 | 0.45 | 4000 | 5600 | 150 | 20 | 10 | 15 | 25 | 50 | 15 | 270 | -30~+85 | -40~+100 | |
| 0.33 | 0.37 | 5000 | 7000 | 150 | 60 | 30 | 5 | 75 | 120 | 5 | 270 | -30~+85 | -40~+100 | |
| 0.28 | 0.32 | 6000 | 8400 | 150 | 60 | 30 | 5 | 75 | 120 | 5 | 270 | -30~+85 | -40~+100 | |
| 0.41 | 0.45 | 4000 | 5600 | 150 | 60 | 30 | 5 | 75 | 120 | 5 | 270 | -30~+85 | -40~+100 | |
| 0.28 | 0.32 | 60000 | 75000 | 15 | 50 | 10 | 5 | 50 | 100 | 5 | 190 | -30~+85 | -40~+100 | Wave Soldering |
| 0.41 | 0.45 | 36000 | 42000 | 15 | 50 | 10 | 5 | 50 | 100 | 5 | 190 | -30~+85 | -40~+100 | |
| 0.17 | 0.21 | 10000 | 12000 | 15 | 50 | 10 | 5 | 50 | 100 | 5 | 190 | -30~+85 | -40~+100 | |
| 0.28 | 0.32 | 20000 | 22000 | 30 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 0.41 | 0.45 | 12000 | 14400 | 30 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 0.17 | 0.21 | 2180 | 3000 | 30 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 0.28 | 0.32 | 37000 | 42000 | 15 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 0.41 | 0.45 | 22000 | 25000 | 15 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 0.17 | 0.21 | 7000 | 8400 | 15 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 0.28 | 0.32 | 30000 | 40000 | 8 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 0.41 | 0.45 | 20000 | 30000 | 8 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 0.17 | 0.21 | 7000 | 8400 | 8 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 0.28 | 0.32 | 3000 | 4200 | 100 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 0.41 | 0.45 | 2180 | 3000 | 100 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 0.17 | 0.21 | 750 | 1120 | 100 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 0.28 | 0.32 | 35000 | 40000 | 30 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 0.41 | 0.45 | 18000 | 22000 | 30 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 0.17 | 0.21 | 4200 | 5800 | 30 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 0.28 | 0.32 | 1120 | 1560 | 100 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 0.41 | 0.45 | 500 | 750 | 100 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 0.17 | 0.21 | 100 | 150 | 100 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 0.28 | 0.32 | 2180 | 3000 | 100 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 0.41 | 0.45 | 1120 | 1560 | 100 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 0.17 | 0.21 | 330 | 500 | 100 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |









| Luminous Intensity (mcd) | Directivity 201/2 (degree) | IF (mA) | Reverse Current I _R Max(uA) | V _R (V) | Absolute Maximum Rating (Ta=25°C) | | | | | Mounting | | |
|--------------------------|----------------------------|---------|--|--------------------|-----------------------------------|----------------------|--------------------|---------------------|-----------------------|-----------------------|----------|----------------|
| Min. | Typ. | | | | I _F (mA) | I _{FP} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | | |
| 25000 | 30000 | 15 | 30 | 10 | 5 | 50 | 100 | 5 | 190 | -30~+85 | -40~+100 | Wave Soldering |
| 80000 | 100000 | 15 | 50 | 10 | 5 | 50 | 100 | 5 | 190 | -30~+85 | -40~+100 | |
| 80000 | 100000 | 15 | 50 | 10 | 5 | 50 | 100 | 5 | 190 | -30~+85 | -40~+100 | |
| 40000 | 55000 | 15 | 70 | 10 | 5 | 70 | 120 | 5 | 182 | -30~+85 | -40~+100 | |
| 40000 | 55000 | 15 | 70 | 10 | 5 | 70 | 120 | 5 | 182 | -30~+85 | -40~+100 | |
| 40000 | 55000 | 15 | 70 | 10 | 5 | 70 | 120 | 5 | 182 | -30~+85 | -40~+100 | |
| 80000 | 100000 | 15 | 70 | 10 | 5 | 70 | 120 | 5 | 182 | -30~+85 | -40~+100 | |
| 80000 | 100000 | 15 | 70 | 10 | 5 | 70 | 120 | 5 | 182 | -30~+85 | -40~+100 | |

| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Dominant Wavelength wd(nm) | | | |
|--|-------------|----------------|-------------|------------------------|------|----------------------------|------|------|-----|
| | | | | Typ. | Max. | Min. | Typ. | Max. | |
| Deluxe Power Φ 5mm Traffic LED Series | | | | | | | | | |
| | PAG38A5C31P | Blue | Buish Green | Water Clear | 3.1 | 3.6 | 500 | 505 | 510 |
| | PAR5CA5C31P | Red | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 |
| | PAY5CA5C31P | Yellow | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 |
| Φ5 Traffic LED Series | | | | | | | | | |
| | PAG3DA5C31C | Blue | Buish Green | Water Clear | 3.1 | 3.6 | 500 | 505 | 510 |
| | PAR5PA5C31C | Red | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 |
| | PAY5PA5C31C | Yellow | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 |
| Φ3 Round Type | | | | | | | | | |
| | PAB5SA3131E | Blue | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | 475 |
| | PAG5DA3131E | Green | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 | 530 |
| | PAR5PA3131E | Red | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 |
| | PAY5PA3131E | Yellow | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 |
| | PAO5PA3131E | Orange | Orange | Water Clear | 2.1 | 2.6 | 600 | 605 | 610 |
| | PA5RKA3131E | Red | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 |
| | PA5YKA3131E | Yellow | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 |
| Φ5 Round Type | | | | | | | | | |
| | PAB5SA5111E | Blue | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | 475 |
| | PAG5DA5111E | Green | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 | 530 |
| | PAR5PA5111E | Red | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 |
| | PAY5PA5111E | Yellow | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 |
| | PAO5PA5111E | Orange | Orange | Water Clear | 2.1 | 2.6 | 600 | 605 | 610 |
| | PA5RKA5111E | Red | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 |
| | PA5YKA5111E | Yellow | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 |
| Φ5 Bullet Type | | | | | | | | | |
| | PAB5SA5201E | Blue | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | 475 |
| | PAG5DA5201E | Green | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 | 530 |
| | PAR5PA5201E | Red | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 |
| | PAY5PA5201E | Yellow | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 |
| | PAO5PA5201E | Orange | Orange | Water Clear | 2.1 | 2.6 | 600 | 605 | 610 |
| Φ4.8 Straw Type | | | | | | | | | |
| | PAB5SA56A1E | Blue | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | 475 |
| | PAG5DA56A1E | Green | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 | 530 |
| | PAR5PA56A1E | Red | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 |
| | PAY5PA56A1E | Yellow | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 |
| | PAO5PA56A1E | Orange | Orange | Water Clear | 2.1 | 2.6 | 600 | 605 | 610 |
| Φ10 Round Type | | | | | | | | | |
| | PAB5SAA131A | Blue | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | 475 |
| | PAG5DAA131A | Green | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 | 530 |
| | PAR5PAA131A | Red | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 |
| | PAY5PAA131A | Yellow | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 |
| | PAO5PAA131A | Orange | Orange | Water Clear | 2.1 | 2.6 | 600 | 605 | 610 |
| 2x3x4 Rectangular Type | | | | | | | | | |
| | PAB5SA7BA1F | Blue | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | 475 |
| | PAG5DA7BA1F | Green | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 | 530 |
| | PAR5PA7BA1F | Red | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 |
| | PAY5PA7BA1F | Yellow | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 |
| | PAO5PA7BA1F | Orange | Orange | Water Clear | 2.1 | 2.6 | 600 | 605 | 610 |
| 2x5x7 Rectangular Type | | | | | | | | | |
| | PAB5SA71A1F | Blue | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | 475 |
| | PAG5DA71A1F | Green | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 | 530 |
| | PAR5PA71A1F | Red | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 |
| | PAY5PA71A1F | Yellow | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 |
| | PAO5PA71A1F | Orange | Orange | Water Clear | 2.1 | 2.6 | 600 | 605 | 610 |

| Luminous Intensity (mcd) | Directivity 2θ1/2 (degree) | IF (mA) | Reverse Current I _R Max (μA) | V _R (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting | |
|--------------------------|----------------------------|---------|---|--------------------|-----------------------------------|----------------------|--------------------|---------------------|-----------------------|-----------------------|----------|----------------|
| | | | | | I _F (mA) | I _{FP} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | | |
| 25000 | 30000 | 30 | 50 | 10 | 5 | 50 | 100 | 5 | 108 | -30→85 | -40→100 | Wave Soldering |
| 18000 | 22000 | 30 | 70 | 10 | 5 | 70 | 100 | 5 | 182 | -30→85 | -40→100 | |
| 18000 | 22000 | 30 | 70 | 10 | 5 | 70 | 120 | 5 | 182 | -30→85 | -40→100 | |
| 12000 | 14000 | 30 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30→85 | -40→100 | Wave Soldering |
| 4200 | 6000 | 30 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 4200 | 6000 | 30 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 4200 | 5500 | 30 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30→85 | -40→100 | Wave Soldering |
| 8400 | 10000 | 30 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30→85 | -40→100 | |
| 7000 | 8000 | 30 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 7000 | 8000 | 30 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 7000 | 8000 | 30 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 14000 | 16000 | 30 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 12000 | 14400 | 15 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30→85 | -40→100 | Wave Soldering |
| 25000 | 30000 | 15 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30→85 | -40→100 | |
| 20000 | 25000 | 15 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 20000 | 25000 | 15 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 20000 | 25000 | 15 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 50000 | 60000 | 15 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 50000 | 60000 | 15 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 8000 | 9000 | 8 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30→85 | -40→100 | Wave Soldering |
| 30000 | 35000 | 8 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30→85 | -40→100 | |
| 36000 | 40000 | 8 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 36000 | 40000 | 8 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 36000 | 40000 | 8 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 750 | 900 | 100 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30→85 | -40→100 | Wave Soldering |
| 2000 | 2500 | 100 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30→85 | -40→100 | |
| 1560 | 2000 | 100 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 1560 | 2000 | 100 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 1560 | 2000 | 100 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 4200 | 5500 | 30 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30→85 | -40→100 | Wave Soldering |
| 18000 | 21000 | 30 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30→85 | -40→100 | |
| 14400 | 17000 | 30 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 14400 | 17000 | 30 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 14400 | 17000 | 30 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 330 | 600 | 100 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30→85 | -40→100 | Wave Soldering |
| 750 | 1200 | 100 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30→85 | -40→100 | |
| 750 | 1120 | 100 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 750 | 1120 | 100 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 750 | 1120 | 100 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 500 | 750 | 100 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30→85 | -40→100 | Wave Soldering |
| 1560 | 2500 | 100 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30→85 | -40→100 | |
| 1120 | 1560 | 100 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 1120 | 1560 | 100 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |
| 1120 | 1560 | 100 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30→85 | -40→100 | |

| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Chromaticity Coordinates | | | | | | |
|---|-------------------------------|----------------|------------|------------------------|------|----------------------------|------|------|------|------|------|------|
| | | | | Typ. | Max. | x | | | y | | | |
| | | | | | | Min. | Typ | Max. | Min. | Typ | Max. | |
| <i>5.0x4.1mm Oval Low Decay Type</i> | | | | | | | | | | | | |
|  | PAW54K5471D | ● | Cool White | Water Clear | 3.1 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 |
| | PAM54K5471D | ● | Warm White | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 |
| | PAK54K5471D | ● | Pink | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.13 | 0.17 | 0.21 |
| <i>5.1x4.3mm Oval Low Decay Type</i> | | | | | | | | | | | | |
|  | PAW54K5HA1D | ● | Cool White | Water Clear | 3.1 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 |
| | PAM54K5HA1D | ● | Warm White | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 |
| | PAK54K5HA1D | ● | Pink | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.13 | 0.17 | 0.21 |
| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Dominant Wavelength wd(mm) | | | | | | |
| | | | | Typ. | Max. | Min. | Typ. | Max. | | | | |
| | | | | | | | | | | | | |
| <i>5.0x4.1mm Oval Type OSO5JA5471D</i> | | | | | | | | | | | | |
|  | PAB5SA5471D | ● | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | 475 | | | |
| | PAG5DA5471D | ● | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 | 530 | | | |
| | PAR5RU5471D | ● | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 | | | |
| | PAY5RU5471D | ● | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 | | | |
| | PAO5JA5471D | ● | Orange | Water Clear | 2.1 | 2.6 | 600 | 605 | 610 | | | |
| | PAR5PA5471D | ● | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 | | | |
| | PAY5PA5471D | ● | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 | | | |
| | PAO5PA5471D | ● | Orange | Water Clear | 2.1 | 2.6 | 600 | 605 | 610 | | | |
| | <i>5.1x4.3mm Oval Type</i> | | | | | | | | | | | |
|  | PAB5SA5HA1D | ● | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | 475 | | | |
| | PAG5DA5HA1D | ● | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 | 530 | | | |
| | PAR5RU5HA1D | ● | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 | | | |
| | PAY5RU5HA1D | ● | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 | | | |
| | PAO5JA5HA1D | ● | Orange | Water Clear | 2.1 | 2.6 | 600 | 605 | 610 | | | |
| | PAR5PA5HA1D | ● | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 | | | |
| | PAY5PA5HA1D | ● | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 | | | |
| | PAO5PA5HA1D | ● | Orange | Water Clear | 2.1 | 2.6 | 600 | 605 | 610 | | | |
| | <i>546 Oval Type (1R1G1B)</i> | | | | | | | | | | | |
|  | PAB5SA5JB4D | ● | Blue | Color Diffused | 3.1 | 3.6 | 465 | 470 | 475 | | | |
| | PAG5DA5JB4D | ● | Pure Green | Color Diffused | 3.1 | 3.6 | 520 | 525 | 530 | | | |
| | PAR5DA5JB4D | ● | Red | Color Diffused | 2.1 | 2.6 | 620 | 625 | 630 | | | |
| <i>546 Oval Type (2R1G1B)</i> | | | | | | | | | | | | |
|  | PAB5SA5JB4D | ● | Blue | Color Diffused | 3.1 | 3.6 | 465 | 470 | 475 | | | |
| | PAG5SA5JB4D | ● | Pure Green | Color Diffused | 3.1 | 3.6 | 520 | 525 | 530 | | | |
| | PAR5RU5JB4D | ● | Red | Color Diffused | 2.1 | 2.6 | 620 | 625 | 630 | | | |
| <i>546 Oval Type (1R1G1B)</i> | | | | | | | | | | | | |
|  | PAB56A5JB4D | ● | Blue | Color Diffused | 3.1 | 3.6 | 465 | 470 | 475 | | | |
| | PAG58A5JB4D | ● | Pure Green | Color Diffused | 3.1 | 3.6 | 520 | 525 | 530 | | | |
| | PAR5CA5JB4A | ● | Red | Color Diffused | 2.1 | 2.6 | 620 | 625 | 630 | | | |
| <i>546 Oval Type (2R1G1B)</i> | | | | | | | | | | | | |
|  | PAB56A5JB4D | ● | Blue | Color Diffused | 3.1 | 3.6 | 465 | 470 | 475 | | | |
| | PAG58A5JB4D | ● | Pure Green | Color Diffused | 3.1 | 3.6 | 520 | 525 | 530 | | | |
| | PAR5RU5JB4D | ● | Red | Color Diffused | 2.1 | 2.6 | 620 | 625 | 630 | | | |

| Luminous Intensity (mcd) | Directivity 2θ1/2 (degree) | IF (mA) | Reverse Current IR Max.(uA) | VR (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting | |
|--------------------------|----------------------------|---------|-----------------------------|--------|-----------------------------------|-------------|--------|---------|-----------|-----------|----------|----------------|
| | | | | | IF (mA) | IFP *1 (mA) | VR (V) | PD (mW) | Topr (°C) | Tstg (°C) | | |
| | | | | | | | | | | | | Min. |
| 30000 | 35000 | 70/40 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 25000 | 30000 | 70/40 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 3500 | 4200 | 70/40 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 40000 | 45000 | 100/40 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 35000 | 40000 | 100/40 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 5500 | 6500 | 100/40 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| Luminous Intensity (mcd) | Directivity 2θ1/2 (degree) | IF (mA) | Reverse Current IR Max.(uA) | VR (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting | |
| | | | | | IF (mA) | IFP (mA) | VR (V) | PD (mW) | Topr (°C) | Tstg (°C) | | |
| | | | | | | | | | | | | Min. |
| 2500 | 3500 | 70/40 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 12000 | 15000 | 70/40 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 2180 | 3000 | 70/40 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 2180 | 3000 | 70/40 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 2180 | 3000 | 70/40 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 4200 | 5500 | 70/40 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 4200 | 5500 | 70/40 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 4200 | 5500 | 70/40 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 4200 | 5500 | 70/40 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 4200 | 5000 | 100/40 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 18000 | 22000 | 100/40 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 3000 | 4500 | 100/40 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 3000 | 4500 | 100/40 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 3000 | 4500 | 100/40 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 7000 | 8000 | 100/40 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 7000 | 8000 | 100/40 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 7000 | 8000 | 100/40 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 7000 | 8000 | 100/40 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 330 | 450 | 110/40 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 1560 | 2180 | 110/40 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 500 | 800 | 110/40 | 20 | 10 | 5 | 50 | 100 | 5 | 130 | -30~+85 | -40~+100 | |
| 330 | 450 | 110/40 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 1560 | 2180 | 110/40 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 330 | 450 | 110/40 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 330 | 550 | 110/40 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 1560 | 2500 | 110/40 | 20 | 10 | 5 | 50 | 120 | 5 | 180 | -30~+85 | -40~+100 | |
| 750 | 1120 | 110/40 | 20 | 10 | 5 | 70 | 120 | 5 | 182 | -30~+85 | -40~+100 | |
| 330 | 550 | 110/40 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Wave Soldering |
| 1560 | 2500 | 110/40 | 20 | 10 | 5 | 50 | 120 | 5 | 180 | -30~+85 | -40~+100 | |
| 330 | 500 | 110/40 | 20 | 10 | 5 | 70 | 120 | 5 | 182 | -30~+85 | -40~+100 | |

| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Dominant Wavelength wd(nm) | | | Luminous Intensity (mcd) | | |
|---|-------------|----------------|--------------|------------------------|------|----------------------------|------|------|--------------------------|-------|-------|
| | | | | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | |
| Φ3 Round Bi-Color Type | | | | | | | | | | | |
|  | PARGHC3131A | ● Red | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 | 750 | 1120 |
| | | ● Yellow Green | Yellow Green | | 2.1 | 2.6 | 565 | 570 | 575 | 500 | 800 |
| | PARBMC3131A | ● Red | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 | 5800 | 6500 |
| | | ● Blue | Blue | | 3.1 | 3.6 | 465 | 470 | 475 | 2180 | 3000 |
| Φ5 Round Bi-Color Type | | | | | | | | | | | |
|  | PARGHC5B31A | ● Red | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 | 1120 | 1560 |
| | | ● Yellow Green | Yellow Green | | 2.1 | 2.6 | 565 | 570 | 575 | 750 | 1100 |
| | PARBMC5B31A | ● Red | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 | 7000 | 8500 |
| | | ● Blue | Blue | | 2.1 | 2.6 | 465 | 470 | 475 | 3000 | 4000 |
| Φ5 Round Full Color Type | | | | | | | | | | | |
|  | PATAMASB31A | ● Red | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 | 7000 | 8500 |
| | | ● Blue | Blue | | 3.1 | 3.6 | 465 | 470 | 475 | 3000 | 4000 |
| | | ● Pure Green | Pure Green | | 3.1 | 3.6 | 520 | 525 | 530 | 12000 | 14400 |
| | PATAMCSB32A | ● Red | Red | White Diffused | 2.1 | 2.6 | 620 | 625 | 630 | 3000 | 4200 |
| | | ● Blue | Blue | | 3.1 | 3.6 | 465 | 470 | 475 | 1560 | 2000 |
| | | ● Pure Green | Pure Green | | 3.1 | 3.6 | 520 | 525 | 530 | 5800 | 7000 |
| Φ3 Round Mono-Color Flashing Type | | | | | | | | | | | |
|  | PAB5SS131A | ● Blue | Blue | Water Clear | 3.3 | 4.5 | 465 | 470 | 475 | 1560 | 2200 |
| | PAG3DS131A | ● Bluish Green | Bluish Green | Water Clear | 3.3 | 4.5 | 500 | 505 | 510 | 5800 | 7000 |
| | PAG5DS131A | ● Pure Green | Pure Green | Water Clear | 3.3 | 4.5 | 520 | 525 | 530 | 5800 | 7000 |
| | PAR5MS131A | ● Red | Red | Water Clear | 3.3 | 4.5 | 620 | 625 | 630 | 4200 | 5000 |
| | PAY5MS131A | ● Yellow | Yellow | Water Clear | 3.3 | 4.5 | 585 | 590 | 595 | 4200 | 5000 |
| | PAO5MS131A | ● Orange | Orange | Water Clear | 3.3 | 4.5 | 600 | 605 | 610 | 4200 | 5000 |
| Φ5 Round Mono-Color Flashing Type | | | | | | | | | | | |
|  | PAB5SSA31A | ● Blue | Blue | Water Clear | 3.3 | 4.5 | 465 | 470 | 475 | 2000 | 2500 |
| | PAG3DSA31A | ● Bluish Green | Bluish Green | Water Clear | 3.3 | 4.5 | 500 | 505 | 510 | 12000 | 14400 |
| | PAG5DSA31A | ● Pure Green | Pure Green | Water Clear | 3.3 | 4.5 | 520 | 525 | 530 | 12000 | 14400 |
| | PAR5MSA31A | ● Red | Red | Water Clear | 3.3 | 4.5 | 620 | 625 | 630 | 5800 | 7000 |
| | PAY5MSA31A | ● Yellow | Yellow | Water Clear | 3.3 | 4.5 | 585 | 590 | 595 | 5800 | 7000 |
| | PAO5MSA31A | ● Orange | Orange | Water Clear | 3.3 | 4.5 | 600 | 605 | 610 | 5800 | 7000 |
| Φ5 Round Bi-Color Flashing Type | | | | | | | | | | | |
|  | PARBMSA31A | ● Red | Red | Water Clear | 3.3 | 4.5 | 620 | 625 | 630 | 5800 | 7000 |
| | | ● Blue | Blue | | | | 465 | 470 | 475 | 2000 | 2500 |
| | PARPMSA31A | ● Red | Red | Water Clear | 3.3 | 4.5 | 620 | 625 | 630 | 5800 | 7000 |
| | | ● Pure Green | Pure Green | | | | 520 | 525 | 530 | 12000 | 14400 |
| Φ5 Round Full Color Flashing Type | | | | | | | | | | | |
|  | PATIMAS31A | ● Red | Red | Water Clear | 4.5 | 5.0 | 620 | 625 | 630 | 7000 | 8400 |
| | | ● Blue | Blue | | | | 465 | 470 | 475 | 3000 | 4000 |
| | | ● Pure Green | Pure Green | | | | 520 | 525 | 530 | 12000 | 14400 |
| | PATIMAS32A | ● Red | Red | White Diffused | 4.5 | 5.0 | 620 | 625 | 630 | 3000 | 4000 |
| | | ● Blue | Blue | | | | 465 | 470 | 475 | 1560 | 2180 |
| | | ● Pure Green | Pure Green | | | | 520 | 525 | 530 | 5800 | 7000 |
| | PATIMC31A | ● Red | Red | Water Clear | 4.5 | 5.0 | 620 | 625 | 630 | 7000 | 8400 |
| | | ● Blue | Blue | | | | 465 | 470 | 475 | 3000 | 4000 |
| | | ● Pure Green | Pure Green | | | | 520 | 525 | 530 | 12000 | 14400 |
| | PATIMC32A | ● Red | Red | White Diffused | 4.5 | 5.0 | 620 | 625 | 630 | 3000 | 4000 |
| | | ● Blue | Blue | | | | 465 | 470 | 475 | 1560 | 2180 |
| | | ● Pure Green | Pure Green | | | | 520 | 525 | 530 | 5800 | 7000 |
| Φ5 Round Intelligent Control RGB LED | | | | | | | | | | | |
|  | PAT4ML5B32A | ● Red | Red | White Diffused | 4.5 | 6.0 | 620 | 625 | 630 | 350 | 450 |
| | | ● Blue | Blue | | | | 465 | 470 | 475 | 150 | 200 |
| | | ● Pure Green | Pure Green | | | | 520 | 525 | 530 | 500 | 600 |






| 30 Directivity 201/2 (degree) | IF (mA) | Reverse Current I _R Max.(uA) | V _R (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting |
|-------------------------------|----------------------|--|---------------------|-----------------------------------|-----------------------|--------------------|---------------------|-----------------------|-----------------------|----------------|
| | | | | I _F (mA) | I _{FP} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | |
| 30 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 30 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 30 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 30 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| Directivity 201/2 (degree) | IF (mA) | Blinking Cycle | Duty Cycle | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting |
| V _{dd} (V) | I _{FP} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | | | | | |
| 30 | 20 | 1.8 | 1/2 | 4.5 | - | - | - | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 20 | 1.8 | 1/2 | 4.5 | - | - | - | -30~+85 | -40~+100 | |
| 30 | 20 | 1.8 | 1/2 | 4.5 | - | - | - | -30~+85 | -40~+100 | |
| 30 | 20 | 1.8 | 1/2 | 4.5 | - | - | - | -30~+85 | -40~+100 | |
| 30 | 20 | 1.8 | 1/2 | 4.5 | - | - | - | -30~+85 | -40~+100 | |
| 30 | 20 | 1.8 | 1/2 | 4.5 | - | - | - | -30~+85 | -40~+100 | |
| 30 | 20 | 1.8 | 1/2 | 4.5 | - | - | - | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 20 | 1.8 | 1/2 | 4.5 | - | - | - | -30~+85 | -40~+100 | |
| 30 | 20 | 33 | - | 5 | - | - | - | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 20 | 33 | - | 5 | - | - | - | -30~+85 | -40~+100 | |
| 30 | 20 | 12 | - | 5 | - | - | - | -30~+85 | -40~+100 | Wave Soldering |
| 30 | 20 | 12 | - | 5 | - | - | - | -30~+85 | -40~+100 | |
| 30 | 15 | 1. Completely receive and decode data through a single wire. 2. Adjust grayscale circuit (can adjust 256 grayscale level) | | 3.5~6.0 | - | - | - | -30~+85 | -40~+100 | Wave Soldering |

| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Dominant Wavelength wd(nm) | | | Mounting |
|---|---------------------------|----------------|-------------|------------------------|------|----------------------------|------|------|----------|
| | | | | Typ. | Max. | Min. | Typ. | Max. | |
| | | | | | | | | | |
|  | 0402 SMD | | | | | | | | |
| | PAB50402C1C | Blue | Water Clear | 3.2 | 3.6 | 460 | 465 | 475 | Reflow |
| | PAG50402C1C | Ture Green | Water Clear | 3.2 | 3.6 | 517 | 525 | 530 | |
| | PAG80402C1C | Yellow Green | Water Clear | 2.0 | 2.6 | 565 | 570 | 575 | |
| | PAY50402C1C | Yellow | Water Clear | 2.0 | 2.6 | 585 | 590 | 595 | |
| | PAO50402C1C | Orange | Water Clear | 2.0 | 2.6 | 600 | 605 | 610 | |
| PAR50402C1C | Red | Water Clear | 2.0 | 2.6 | 620 | 625 | 630 | | |
|  | 0603 SMD | | | | | | | | |
| | PAB50603C1E | Blue | Water Clear | 2.8 | 3.4 | 455 | 470 | 475 | Reflow |
| | PAG50603C1E | Ture Green | Water Clear | 2.8 | 3.4 | 520 | 525 | 530 | |
| | PAG80603C1E | Yellow Green | Water Clear | 1.8 | 2.4 | 565 | 570 | 575 | |
| | PAY50603C1E | Yellow | Water Clear | 1.8 | 2.4 | 586 | 590 | 592 | |
| | PAO50603C1E | Orange | Water Clear | 1.8 | 2.4 | 600 | 605 | 610 | |
| PAR50603C1E | Red | Water Clear | 1.8 | 2.4 | 617 | 625 | 630 | | |
|  | 0603 Dome Lens | | | | | | | | |
| | PSB5060341F | Blue | Water Clear | 3.1 | 3.4 | 460 | 465 | 470 | Reflow |
| | PAG5060341F | Ture Green | Water Clear | 3.1 | 3.4 | 518 | 521 | 526 | |
| | PAG8060341F | Yellow Green | Water Clear | 2.1 | 2.4 | 565 | 570 | 575 | |
| | PAY5060341F | Yellow | Water Clear | 2.1 | 2.4 | 585 | 590 | 595 | |
| | PAO5060341F | Orange | Water Clear | 2.1 | 2.4 | 600 | 605 | 610 | |
| PAR5060341F | Red | Water Clear | 2.1 | 2.4 | 617 | 621 | 625 | | |
|  | 0805 SMD | | | | | | | | |
| | PAB50805C1E | Blue | Water Clear | 3.2 | 3.6 | 465 | 470 | 475 | Reflow |
| | PAG50805C1E | Ture Green | Water Clear | 3.2 | 3.6 | 520 | 525 | 530 | |
| | PAG80805C1E | Yellow Green | Water Clear | 2.0 | 2.6 | 565 | 570 | 575 | |
| | PAY50805C1E | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 | |
| | PAO50805C1E | Orange | Water Clear | 2.0 | 2.6 | 600 | 605 | 610 | |
| PAR50805C1E | Red | Water Clear | 2.0 | 2.6 | 620 | 625 | 630 | | |
|  | 1206 SMD | | | | | | | | |
| | PAB51206C1E | Blue | Water Clear | 3.1 | 3.6 | 460 | 465 | 475 | Reflow |
| | PAG51206C1E | Ture Green | Water Clear | 3.1 | 3.6 | 520 | 525 | 530 | |
| | PAG81206C1E | Yellow Green | Water Clear | 2.1 | 2.6 | 565 | 570 | 575 | |
| | PAY51206C1E | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 | |
| | PAO51206C1E | Orange | Water Clear | 2.0 | 2.6 | 600 | 605 | 610 | |
| PAR51206C1E | Red | Water Clear | 2.0 | 2.6 | 620 | 625 | 630 | | |
|  | 1206 Dome Lens | | | | | | | | |
| | PAB5120641E | Blue | Water Clear | 3.0 | 3.4 | 460 | 465 | 475 | Reflow |
| | PAG5120641E | Ture Green | Water Clear | 3.0 | 3.4 | 515 | 520 | 530 | |
| | PAG8120641E | Yellow Green | Water Clear | 2.0 | 2.4 | 565 | 570 | 575 | |
| | PAY5120641E | Yellow | Water Clear | 2.0 | 2.4 | 585 | 590 | 595 | |
| | PAO5120641E | Orange | Water Clear | 2.0 | 2.4 | 600 | 605 | 610 | |
| PAR5120641E | Red | Water Clear | 2.0 | 2.4 | 615 | 620 | 630 | | |
|  | 0602 Side View SMD | | | | | | | | |
| | PAB50602C1E | Blue | Water Clear | 3.0 | 3.4 | 460 | 465 | 475 | Reflow |
| | PAG50602C1E | Ture Green | Water Clear | 3.0 | 3.4 | 515 | 523 | 530 | |
| | PAG80602C1E | Yellow Green | Water Clear | 2.0 | 2.4 | 565 | 570 | 575 | |
| | PAY50602C1E | Yellow | Water Clear | 2.0 | 2.4 | 585 | 590 | 595 | |
| | PAO50602C1E | Orange | Water Clear | 2.0 | 2.4 | 600 | 605 | 610 | |
| PAR50602C1E | Red | Water Clear | 2.0 | 2.4 | 615 | 620 | 630 | | |
|  | 0802 Side View SMD | | | | | | | | |
| | PAB50802C1E | Blue | Water Clear | 3.0 | 3.4 | 460 | 465 | 475 | Reflow |
| | PAG50802C1E | Ture Green | Water Clear | 3.0 | 3.4 | 518 | 525 | 530 | |
| | PAG80802C1E | Yellow Green | Water Clear | 2.0 | 2.4 | 565 | 570 | 575 | |
| | PAY50802C1E | Yellow | Water Clear | 2.0 | 2.4 | 585 | 590 | 595 | |
| | PAO50802C1E | Orange | Water Clear | 2.0 | 2.4 | 600 | 605 | 610 | |
| PAR50802C1E | Red | Water Clear | 2.0 | 2.4 | 617 | 625 | 630 | | |
|  | 1204 Side View SMD | | | | | | | | |
| | PAB51204C1E | Blue | Water Clear | 3.0 | 3.4 | 462 | 467 | 472 | Reflow |
| | PAG51204C1E | Ture Green | Water Clear | 3.0 | 3.4 | 518 | 522 | 526 | |
| | PAG81204C1E | Yellow Green | Water Clear | 2.0 | 2.4 | 566 | 569 | 572 | |
| | PAY51204C1E | Yellow | Water Clear | 2.0 | 2.4 | 586 | 589 | 592 | |
| | PAO51204C1E | Orange | Water Clear | 2.0 | 2.4 | 600 | 605 | 610 | |
| PAR51204C1E | Red | Water Clear | 2.0 | 2.4 | 617 | 621 | 625 | | |

| Luminous Intensity (mcd) | Directivity 2θ1/2 (degree) | IF (mA) | Reverse Current IR Max.(μA) | VR (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting | |
|--------------------------|----------------------------|---------|-----------------------------|--------|-----------------------------------|----------|--------|---------|-----------|-----------|----------|--------|
| | | | | | IF (mA) | IFP (mA) | VR (V) | PD (mW) | Topr (°C) | Tstg (°C) | | |
| | | | | | | | | | | | | Min. |
| 60 | 90 | 120 | 20 | 10 | 5 | 20 | 100 | 5 | 72 | -30~+85 | -40~+100 | Reflow |
| 250 | 400 | 120 | 20 | 10 | 5 | 20 | 100 | 5 | 72 | -30~+85 | -40~+100 | |
| 20 | 30 | 120 | 20 | 10 | 5 | 20 | 100 | 5 | 52 | -30~+85 | -40~+100 | |
| 50 | 100 | 120 | 20 | 10 | 5 | 20 | 100 | 5 | 52 | -30~+85 | -40~+100 | |
| 50 | 100 | 120 | 20 | 10 | 5 | 20 | 100 | 5 | 52 | -30~+85 | -40~+100 | |
| 50 | 100 | 120 | 20 | 10 | 5 | 20 | 100 | 5 | 52 | -30~+85 | -40~+100 | |
| 14 | 25 | 120 | 5 | 10 | 5 | 20 | 100 | 5 | 68 | -40~+100 | -40~+100 | Reflow |
| 120 | 180 | 120 | 5 | 10 | 5 | 20 | 100 | 5 | 68 | -40~+100 | -40~+100 | |
| 5 | 10 | 120 | 5 | 10 | 5 | 20 | 100 | 5 | 48 | -40~+100 | -40~+100 | |
| 15 | 35 | 120 | 5 | 10 | 5 | 20 | 100 | 5 | 48 | -40~+100 | -40~+100 | |
| 15 | 35 | 120 | 5 | 10 | 5 | 20 | 100 | 5 | 48 | -40~+100 | -40~+100 | |
| 15 | 35 | 120 | 5 | 10 | 5 | 20 | 100 | 5 | 48 | -40~+100 | -40~+100 | |
| 150 | 350 | 35 | 20 | 10 | 5 | 30 | 100 | 5 | 102 | -30~+85 | -40~+100 | Reflow |
| 1300 | 2500 | 35 | 20 | 10 | 5 | 30 | 100 | 5 | 102 | -30~+85 | -40~+100 | |
| 70 | 150 | 35 | 20 | 10 | 5 | 30 | 80 | 5 | 72 | -30~+85 | -40~+100 | |
| 200 | 400 | 35 | 20 | 10 | 5 | 30 | 80 | 5 | 72 | -30~+85 | -40~+100 | |
| 200 | 400 | 35 | 20 | 10 | 5 | 30 | 80 | 5 | 72 | -30~+85 | -40~+100 | |
| 200 | 400 | 35 | 20 | 10 | 5 | 30 | 80 | 5 | 72 | -30~+85 | -40~+100 | |
| 42 | 80 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 400 | 450 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 20 | 35 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 100 | 120 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 100 | 120 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 120 | 150 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 80 | 100 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -40~+85 | -40~+85 | Reflow |
| 300 | 350 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -40~+85 | -40~+85 | |
| 20 | 45 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -40~+85 | -40~+85 | |
| 60 | 90 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -40~+85 | -40~+85 | |
| 100 | 120 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -40~+85 | -40~+85 | |
| 100 | 120 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -40~+85 | -40~+85 | |
| 650 | 850 | 35 | 20 | 10 | 5 | 30 | 100 | 5 | 102 | -30~+85 | -40~+100 | Reflow |
| 2000 | 2500 | 35 | 20 | 10 | 5 | 30 | 100 | 5 | 102 | -30~+85 | -40~+100 | |
| 100 | 150 | 35 | 20 | 10 | 5 | 30 | 100 | 5 | 72 | -30~+85 | -40~+100 | |
| 300 | 500 | 35 | 20 | 10 | 5 | 30 | 100 | 5 | 72 | -30~+85 | -40~+100 | |
| 300 | 400 | 35 | 20 | 10 | 5 | 30 | 100 | 5 | 72 | -30~+85 | -40~+100 | |
| 650 | 850 | 35 | 20 | 10 | 5 | 30 | 100 | 5 | 72 | -30~+85 | -40~+100 | |
| 120 | 210 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 102 | -30~+85 | -40~+100 | Reflow |
| 350 | 600 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 102 | -30~+85 | -40~+100 | |
| 25 | 50 | 120 | 20 | 10 | 5 | 25 | 80 | 5 | 60 | -30~+85 | -40~+100 | |
| 70 | 150 | 120 | 20 | 10 | 5 | 25 | 80 | 5 | 60 | -30~+85 | -40~+100 | |
| 70 | 150 | 120 | 20 | 10 | 5 | 25 | 80 | 5 | 60 | -30~+85 | -40~+100 | |
| 70 | 150 | 120 | 20 | 10 | 5 | 25 | 80 | 5 | 60 | -30~+85 | -40~+100 | |
| 30 | 70 | 120 | 20 | 10 | 5 | 25 | 100 | 5 | 85 | -30~+85 | -40~+100 | Reflow |
| 400 | 700 | 120 | 20 | 10 | 5 | 25 | 100 | 5 | 85 | -30~+85 | -40~+100 | |
| 25 | 50 | 120 | 20 | 10 | 5 | 25 | 100 | 5 | 65 | -30~+85 | -40~+100 | |
| 70 | 150 | 120 | 20 | 10 | 5 | 25 | 100 | 5 | 65 | -30~+85 | -40~+100 | |
| 70 | 150 | 120 | 20 | 10 | 5 | 25 | 100 | 5 | 65 | -30~+85 | -40~+100 | |
| 70 | 150 | 120 | 20 | 10 | 5 | 25 | 100 | 5 | 65 | -30~+85 | -40~+100 | |
| 120 | 250 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 102 | -30~+85 | -40~+100 | Reflow |
| 350 | 600 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 102 | -30~+85 | -40~+100 | |
| 25 | 50 | 120 | 20 | 10 | 5 | 25 | 80 | 5 | 60 | -30~+85 | -40~+100 | |
| 70 | 150 | 120 | 20 | 10 | 5 | 25 | 80 | 5 | 60 | -30~+85 | -40~+100 | |
| 70 | 150 | 120 | 20 | 10 | 5 | 25 | 80 | 5 | 60 | -30~+85 | -40~+100 | |
| 70 | 150 | 120 | 20 | 10 | 5 | 25 | 80 | 5 | 60 | -30~+85 | -40~+100 | |

| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Dominant Wavelength wd(nm) | | |
|---|-----------------------|----------------|-------------|------------------------|------|----------------------------|------|------|
| | | | | Typ. | Max. | Min. | Typ. | Max. |
| 3224 SMD | | | | | | | | |
|  | PAB5322441E | Blue | Water Clear | 3.0 | 3.4 | 464 | 468 | 472 |
| | PAG5322441E | Pure Green | Water Clear | 3.0 | 3.4 | 518 | 522 | 526 |
| | PAG8322441E | Yellow Green | Water Clear | 2.0 | 2.4 | 566 | 569 | 572 |
| | PAY5322441E | Yellow | Water Clear | 2.0 | 2.4 | 586 | 590 | 592 |
| | PAO5322441E | Orange | Water Clear | 2.0 | 2.4 | 600 | 605 | 610 |
| | PAR5322441E | Red | Water Clear | 2.0 | 2.4 | 617 | 621 | 625 |
| 2016 SMD | | | | | | | | |
|  | PAB42016C1A-60MA | Blue | Water Clear | 3.2 | 3.8 | 455 | 460 | 465 |
| | PAG52016C1A-60MA | Pure Green | Water Clear | 3.2 | 3.8 | 520 | 525 | 530 |
| | PAY52016C1A-60MA | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 |
| | PAR52016C1A-60MA | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 |
| 2835 SMD | | | | | | | | |
|  | PAB42835C1H-60MA | Blue | Water Clear | 3.0 | 3.4 | 455 | 460 | 470 |
| | PAG52835C1H-60MA | Pure Green | Water Clear | 3.0 | 3.4 | 520 | 525 | 530 |
| | PAY52835C1H-60MA | Yellow | Water Clear | 2.0 | 2.4 | 585 | 590 | 595 |
| | PAR52835C1H-60MA | Red | Water Clear | 2.0 | 2.4 | 620 | 625 | 630 |
| 3014 SMD | | | | | | | | |
|  | PAB43014C1A-30MA | Blue | Water Clear | 3.1 | 3.6 | 455 | 460 | 465 |
| | PAG53014C1A-30MA | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 | 530 |
| | PAY53014C1A-30MA | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 |
| | PAR53014C1A-30MA | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 |
| 3020 SMD | | | | | | | | |
|  | PAB53020C1C | Blue | Water Clear | 3.2 | 3.6 | 465 | 470 | 475 |
| | PAG53020C1C | Pure Green | Water Clear | 3.0 | 3.6 | 520 | 525 | 530 |
| | PAY53020C1C | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 |
| | PAR53020C1C | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 |
| 5630 SMD | | | | | | | | |
|  | PAB55630C1D | Blue | Water Clear | 3.1 | 3.6 | 455 | 465 | 470 |
| | PAG55630C1D | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 | 530 |
| | PAY55630C1D | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 |
| | PAR55630C1D | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 |
| 3528 3-Chip PLCC4 Power Top | | | | | | | | |
|  | PAB56353C1A | Blue | Water Clear | 9.3 | 10.8 | 465 | 470 | 475 |
| | PAG58353C1A | Pure Green | Water Clear | 9.3 | 10.8 | 520 | 525 | 530 |
| | PAR5M353C1A | Red | Water Clear | 6.3 | 7.8 | 620 | 625 | 630 |
| | PAY5M353C1A | Yellow | Water Clear | 6.3 | 7.8 | 585 | 590 | 595 |
| | PAO5M353C1A | Orange | Water Clear | 6.3 | 7.8 | 600 | 605 | 610 |
| | 3528 Power Top | | | | | | | |
|  | PAB56LS3C1A | Blue | Water Clear | 3.3 | 3.8 | 465 | 470 | 475 |
| | PAG38AS3C1A | Bluish Green | Water Clear | 3.3 | 3.8 | 500 | 505 | 510 |
| | PAG58AS3C1A | Pure Green | Water Clear | 3.3 | 3.8 | 520 | 525 | 530 |
| | PAR5CAS3C1A | Red | Water Clear | 2.2 | 2.6 | 620 | 625 | 630 |
| | PAY5CAS3C1A | Yellow | Water Clear | 2.2 | 2.6 | 585 | 590 | 595 |
| | PAO5CAS3C1A | Orange | Water Clear | 2.2 | 2.6 | 600 | 605 | 610 |

| Luminous Intensity (mcd) | Directivity 2θ1/2 (degree) | IF (mA) | Reverse Current Ir Max. (µA) | VR (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting | |
|--------------------------|----------------------------|---------|------------------------------|--------|-----------------------------------|----------|--------|---------|-----------|-----------|----------|--------|
| | | | | | IF (mA) | IFP (mA) | VR (V) | PD (mW) | Topr (°C) | Tstg (°C) | | |
| 800 | 1500 | 35 | 20 | 10 | 5 | 30 | 100 | 5 | 102 | -40~+85 | -40~+85 | Reflow |
| 2000 | 3500 | 35 | 20 | 10 | 5 | 30 | 100 | 5 | 102 | -40~+85 | -40~+85 | |
| 100 | 150 | 35 | 20 | 10 | 5 | 30 | 100 | 5 | 72 | -40~+85 | -40~+85 | |
| 600 | 1000 | 35 | 20 | 10 | 5 | 30 | 100 | 5 | 72 | -40~+85 | -40~+85 | |
| 600 | 1000 | 35 | 20 | 10 | 5 | 30 | 100 | 5 | 72 | -40~+85 | -40~+85 | |
| 600 | 1000 | 35 | 20 | 10 | 5 | 30 | 100 | 5 | 72 | -40~+85 | -40~+85 | |
| 500 | 750 | 120 | 60 | 10 | 5 | 60 | 100 | 5 | 228 | -30~+85 | -40~+100 | Reflow |
| 3000 | 3500 | 120 | 60 | 10 | 5 | 60 | 100 | 5 | 228 | -30~+85 | -40~+100 | |
| 1120 | 1560 | 120 | 60 | 10 | 5 | 60 | 100 | 5 | 156 | -30~+85 | -40~+100 | |
| 1120 | 1560 | 120 | 60 | 10 | 5 | 60 | 100 | 5 | 156 | -30~+85 | -40~+100 | |
| 2 lm | 2 lm | 120 | 60 | 10 | 5 | 80 | 150 | 5 | 272 | -30~+85 | -40~+100 | Reflow |
| 10 lm | 15 lm | 120 | 60 | 10 | 5 | 80 | 150 | 5 | 272 | -30~+85 | -40~+100 | |
| 4 lm | 6 lm | 120 | 60 | 10 | 5 | 80 | 150 | 5 | 192 | -30~+85 | -40~+100 | |
| 4 lm | 6 lm | 120 | 60 | 10 | 5 | 80 | 150 | 5 | 192 | -30~+85 | -40~+100 | |
| 300 | 400 | 120 | 30 | 10 | 5 | 35 | 100 | 5 | 126 | -40~+85 | -40~+85 | Reflow |
| 1600 | 2000 | 120 | 30 | 10 | 5 | 35 | 100 | 5 | 126 | -40~+85 | -40~+85 | |
| 800 | 1000 | 120 | 30 | 10 | 5 | 35 | 100 | 5 | 91 | -40~+85 | -40~+85 | |
| 800 | 1000 | 120 | 30 | 10 | 5 | 35 | 100 | 5 | 91 | -40~+85 | -40~+85 | |
| 100 | 200 | 120 | 20 | 10 | 5 | 25 | 100 | 5 | 90 | -25~+85 | -35~+85 | Reflow |
| 400 | 600 | 120 | 20 | 10 | 5 | 25 | 100 | 5 | 90 | -25~+85 | -35~+85 | |
| 100 | 200 | 120 | 20 | 10 | 5 | 25 | 100 | 5 | 65 | -25~+85 | -35~+85 | |
| 100 | 200 | 120 | 20 | 10 | 5 | 25 | 100 | 5 | 65 | -25~+85 | -35~+85 | |
| 5 lm | 8 lm | 120 | 150 | 10 | 5 | 150 | 200 | 5 | 540 | -30~+85 | -40~+100 | Reflow |
| 25 lm | 30 lm | 120 | 150 | 10 | 5 | 150 | 200 | 5 | 540 | -30~+85 | -40~+100 | |
| 10 lm | 15 lm | 120 | 150 | 10 | 5 | 150 | 200 | 5 | 390 | -30~+85 | -40~+100 | |
| 10 lm | 15 lm | 120 | 150 | 10 | 5 | 150 | 200 | 5 | 390 | -30~+85 | -40~+100 | |
| 1120 | 1560 | 120 | 20 | 10 | 15 | 30 | 50 | 15 | 324 | -30~+85 | -40~+100 | Reflow |
| 3000 | 4200 | 120 | 20 | 10 | 15 | 30 | 50 | 15 | 324 | -30~+85 | -40~+100 | |
| 2180 | 3000 | 120 | 20 | 10 | 15 | 30 | 60 | 15 | 234 | -30~+85 | -40~+100 | |
| 2180 | 3000 | 120 | 20 | 10 | 15 | 30 | 60 | 15 | 234 | -30~+85 | -40~+100 | |
| 2180 | 3000 | 120 | 20 | 10 | 15 | 30 | 60 | 15 | 234 | -30~+85 | -40~+100 | |
| 500 | 900 | 120 | 50 | 10 | 5 | 50 | 100 | 5 | 190 | -30~+85 | -40~+100 | Reflow |
| 2180 | 3300 | 120 | 50 | 10 | 5 | 50 | 100 | 5 | 190 | -30~+85 | -40~+100 | |
| 2180 | 3300 | 120 | 50 | 10 | 5 | 50 | 100 | 5 | 190 | -30~+85 | -40~+100 | |
| 2180 | 2800 | 120 | 70 | 10 | 5 | 70 | 120 | 5 | 182 | -30~+85 | -40~+100 | |
| 2180 | 2800 | 120 | 70 | 10 | 5 | 70 | 120 | 5 | 182 | -30~+85 | -40~+100 | |
| 2180 | 2800 | 120 | 70 | 10 | 5 | 70 | 120 | 5 | 182 | -30~+85 | -40~+100 | |
| 2180 | 2800 | 120 | 70 | 10 | 5 | 70 | 120 | 5 | 182 | -30~+85 | -40~+100 | |

| Package | Part Number | Emitting Color | | Lens Type | Forward Voltage VF (V) | | Color Temperature CCT(K) | | |
|---|-------------|----------------|------------|-----------------|------------------------|------|----------------------------|------|------|
| | | | | | Typ. | Max. | | | |
| <i>3528 PLCC2 Type</i> | | | | | | | | | |
|  | PAW43528C1A | ● | Pure White | Yellow Diffused | 3.1 | 3.6 | 6000-7000K | | |
| | PAM43528C1A | ● | Warm White | Yellow Diffused | 3.1 | 3.6 | 2500-2800K | | |
| | PAM53528C1A | ● | Warm White | Yellow Diffused | 3.1 | 3.6 | 2800-3200K | | |
| | PAM63528C1A | ● | Warm White | Yellow Diffused | 3.1 | 3.6 | 3800-4200K | | |
| <i>5050 PLCC6 Type</i> | | | | | | | | | |
|  | PAW45050C1A | ● | Pure White | Yellow Diffused | 3.1 | 3.6 | 6000-7000K | | |
| | PAM45050C1A | ● | Warm White | Yellow Diffused | 3.1 | 3.6 | 2500-2800K | | |
| | PAM55050C1A | ● | Warm White | Yellow Diffused | 3.1 | 3.6 | 2800-3200K | | |
| | PAM65050C1A | ● | Warm White | Yellow Diffused | 3.1 | 3.6 | 3800-4200K | | |
| Package | Part Number | Emitting Color | | Lens Type | Forward Voltage VF (V) | | Dominant Wavelength wd(nm) | | |
| | | | | | Typ. | Max. | Min. | Typ. | Max. |
| <i>3528 PLCC2 Type</i> | | | | | | | | | |
|  | PAB53528C1A | ● | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | 475 |
| | PAG53528C1A | ● | Pure Green | Water Clear | 3.1 | 3.6 | 515 | 522 | 530 |
| | PAR53528C1A | ● | Red | Water Clear | 2.1 | 2.6 | 615 | 622 | 630 |
| | PAY53528C1A | ● | Yellow | Water Clear | 2.1 | 2.6 | 580 | 588 | 595 |
| <i>5050 PLCC6 Type</i> | | | | | | | | | |
|  | PAB55050C1A | ● | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | 475 |
| | PAG55050C1A | ● | Pure Green | Water Clear | 3.1 | 3.6 | 515 | 522 | 530 |
| | PAR55050C1A | ● | Red | Water Clear | 2.1 | 2.6 | 615 | 622 | 630 |
| | PAY55050C1A | ● | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | 595 |
| <i>Full Color Type</i> | | | | | | | | | |
|  | PATC5050C1A | ● | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 | 530 |
| | | ● | Red | | 2.1 | 2.6 | 620 | 625 | 630 |
| | | ● | Blue | | 3.1 | 3.6 | 465 | 470 | 475 |
| | PATF5050C1A | ● | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | 475 |
| | | ● | Red | | 2.1 | 2.6 | 620 | 625 | 630 |
| | | ● | Pure Green | | 3.1 | 3.6 | 520 | 525 | 530 |

| Luminous Intensity (mcd) | | Directivity 2θ1/2 (degree) | IF (mA) | Reverse Current I _R Max.(uA) | V _R (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting |
|--------------------------|------|----------------------------|---------|---|--------------------|-----------------------------------|----------------------|--------------------|---------------------|-----------------------|-----------------------|----------|
| | | | | | | I _F (mA) | I _{FP} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | |
| Min | Typ | | | | | | | | | | | |
| 1560 | 2180 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 1560 | 2180 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 1560 | 2180 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 1560 | 2180 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 5800 | 7000 | 120 | 60 | 10 | 5 | 75 | 100 | 5 | 270 | -30~+85 | -40~+100 | Reflow |
| 5800 | 7000 | 120 | 60 | 10 | 5 | 75 | 100 | 5 | 270 | -30~+85 | -40~+100 | |
| 5800 | 7000 | 120 | 60 | 10 | 5 | 75 | 100 | 5 | 270 | -30~+85 | -40~+100 | |
| 5800 | 7000 | 120 | 60 | 10 | 5 | 75 | 100 | 5 | 270 | -30~+85 | -40~+100 | |
| Luminous Intensity (mcd) | | Directivity 2θ1/2 (degree) | IF (mA) | Reverse Current I _R Max.(uA) | V _R (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting |
| Min | Typ | | | | | I _F (mA) | I _{FP} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | |
| 220 | 330 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 1120 | 1560 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 500 | 750 | 120 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 500 | 750 | 120 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 750 | 1120 | 120 | 60 | 10 | 5 | 60 | 100 | 5 | 216 | -30~+85 | -40~+100 | Reflow |
| 4200 | 5800 | 120 | 60 | 10 | 5 | 60 | 100 | 5 | 216 | -30~+85 | -40~+100 | |
| 1560 | 2180 | 120 | 60 | 10 | 5 | 60 | 100 | 5 | 156 | -30~+85 | -40~+100 | |
| 1560 | 2180 | 120 | 60 | 10 | 5 | 60 | 100 | 5 | 156 | -30~+85 | -40~+100 | |
| 1800 | 2000 | 120 | 20 | 10 | 5 | 20 | 100 | 5 | 52 | -30~+85 | -40~+100 | Reflow |
| 700 | 800 | 120 | 20 | 10 | 5 | 20 | 100 | 5 | 72 | -30~+85 | -40~+100 | |
| 400 | 500 | 120 | 20 | 10 | 5 | 20 | 100 | 5 | 72 | -30~+85 | -40~+100 | |
| 400 | 500 | 120 | 20 | 10 | 5 | 20 | 100 | 5 | 72 | -30~+85 | -40~+100 | Reflow |
| 400 | 500 | 120 | 20 | 10 | 5 | 20 | 100 | 5 | 72 | -30~+85 | -40~+100 | |
| 1800 | 2000 | 120 | 20 | 10 | 5 | 20 | 100 | 5 | 52 | -30~+85 | -40~+100 | |

Surface Mount LED Series

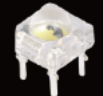
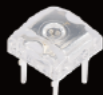


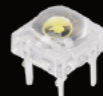
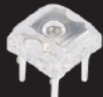


| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Dominant Wavelength | | Chromaticity Coordinates | | | | | | Mounting |
|---|-------------|----------------|-----------------|------------------------|------|---------------------|------|--------------------------|------|------|------|--------|------|----------|
| | | | | Typ. | Max. | Min. | Typ. | x | | | y | | | |
| | | | | | | | | Min. | Typ. | Max. | Min. | Typ. | Max. | |
| 3528 PLCC2 Type | | | | | | | | | | | | | | |
| | PAB5SAS1C1A | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | | | | | | | Reflow |
| | PAG5DAS1C1A | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 | | | | | | | |
| | PAR5MAS1C1A | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | | | | | | | |
| | PAY5MAS1C1A | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | | | | | | | |
| | PAO5MAS1C1A | Orange | Water Clear | 2.1 | 2.6 | 600 | 605 | | | | | | | |
| | PA5RKAS1C1A | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | | | | | | | |
| PA5YKAS1C1A | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | | | | | | | | |
| 5050 PLCC6 Type | | | | | | | | | | | | | | |
| | PAB5STS4C1A | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | | | | | | | Reflow |
| | PAG5DTS4C1A | Bluish Green | Water Clear | 3.1 | 3.6 | 500 | 505 | | | | | | | |
| | PAG5DTS4C1A | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 | | | | | | | |
| | PAR5MTS4C1A | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | | | | | | | |
| | PAY5MTS4C1A | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | | | | | | | |
| | PAO5MTS4C1A | Orange | Water Clear | 2.1 | 2.6 | 600 | 605 | | | | | | | |
| PA5RKT4C1A | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | | | | | | | | |
| PA5YKTS4C1A | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | | | | | | | | |
| 3528 PLCC4 Bi-Color Type | | | | | | | | | | | | | | |
| | PARGH4S2C1A | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | | | | | | | Reflow |
| | | Yellow Green | | 2.1 | 2.6 | 565 | 570 | | | | | | | |
| | PARBS4S2C1A | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | | | | | | | |
| | | Blue | | 3.1 | 3.6 | 465 | 470 | | | | | | | |
| | PARPS4S2C1A | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | | | | | | | |
| | | Pure Green | | 3.1 | 3.6 | 520 | 525 | | | | | | | |
| | PAYGH4S2C1A | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | | | | | | | |
| | | Yellow Green | | 2.1 | 2.6 | 565 | 570 | | | | | | | |
| | PAYBS4S2C1A | Yellow | Water Clear | 2.1 | 2.6 | 585 | 590 | | | | | | | |
| | | Blue | | 3.1 | 3.6 | 465 | 470 | | | | | | | |
| PABPS4S2C1A | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | | | | | | | | |
| | Pure Green | | 3.1 | 3.6 | 520 | 525 | | | | | | | | |
| 3528 & 5050 Full Color Type | | | | | | | | | | | | | | |
| | PATBMAS2C1A | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | | | | | | | Reflow |
| | | Pure Green | | 3.1 | 3.6 | 520 | 525 | | | | | | | |
| | PATBMAS2C2A | Red | White Diffused | 2.1 | 2.6 | 620 | 625 | | | | | | | |
| | | Pure Green | | 3.1 | 3.6 | 520 | 525 | | | | | | | |
| PATCMBS4C1A | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | | | | | | | | |
| | Pure Green | | 3.1 | 3.6 | 520 | 525 | | | | | | | | |
| | Red | | 2.1 | 2.6 | 620 | 625 | | | | | | | | |
| | PATCMBS4C2A | Blue | White Diffused | 3.1 | 3.6 | 465 | 470 | | | | | | | |
| | | Pure Green | | 3.1 | 3.6 | 520 | 525 | | | | | | | |
| | | Red | | 2.1 | 2.6 | 620 | 625 | | | | | | | |
| 3528 3-Chip PLCC4 Power Top Type | | | | | | | | | | | | | | |
| | PAW44S3C1A | Pure White | Yellow Diffused | 9.3 | 10.8 | 0.27 | 0.31 | 0.35 | 0.29 | 0.33 | 0.37 | Reflow | | |
| | PAW54S3C1A | Cool White | Yellow Diffused | 9.3 | 10.8 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 | | | |
| | PAM54S3C1A | Warm White | Yellow Diffused | 9.3 | 10.8 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 | | | |
| 3528 Power Top SMD | | | | | | | | | | | | | | |
| | PAW54LS3C1A | Cool White | Yellow Diffused | 3.3 | 3.8 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 | Reflow | | |
| | PAM54LS3C1A | Warm White | Yellow Diffused | 3.3 | 3.8 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 | | | |
| 3528 PLCC2 Type | | | | | | | | | | | | | | |
| | PAW54LS1C1A | Cool White | Yellow Diffused | 3.1 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 | Reflow | | |
| | PAM54LS1C1A | Warm White | Yellow Diffused | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 | | | |
| | PAK54LS1C1A | Pink | Red Diffused | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.13 | 0.17 | 0.21 | | | |
| 5050 PLCC6 Type | | | | | | | | | | | | | | |
| | PAW54TS4C1A | Cool White | Yellow Diffused | 3.1 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 | Reflow | | |
| | PAM54TS4C1A | Warm White | Yellow Diffused | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 | | | |
| | PAK5DTS4C1A | Pink | Red Diffused | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.13 | 0.17 | 0.21 | | | |
| | PA4WMTS4C1A | Pure White | Yellow Diffused | 3.1 | 3.6 | 0.27 | 0.31 | 0.35 | 0.29 | 0.33 | 0.37 | | | |
| | PA5MMTS4C1A | Warm White | Yellow Diffused | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 | | | |

Surface Mount LED Series

| wd(nm) | Luminous Intensity (mcd) | | Directivity 2θ1/2 (degree) | IF (mA) | Reverse Current I _R Max.(uA) | V _R (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting |
|--------------------------|--------------------------|---------------------|----------------------------|---------|---|--------------------|-----------------------------------|---------------------|----------------------|-----------------------|-----------------------|-----------------------|----------|
| | Max. | Min. | | | | | Typ. | I _F (mA) | I _{FP} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | |
| 475 | 220 | 400 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow |
| 530 | 750 | 1120 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 630 | 750 | 1000 | 120 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 595 | 750 | 1000 | 120 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 610 | 750 | 1000 | 120 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 630 | 1560 | 2180 | 120 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 595 | 1560 | 2180 | 120 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 475 | 1120 | 1560 | 120 | 60 | 10 | 5 | 75 | 100 | 5 | 270 | -30~+85 | -40~+100 | |
| 510 | 2180 | 3000 | 120 | 60 | 10 | 5 | 75 | 100 | 5 | 270 | -30~+85 | -40~+100 | |
| 530 | 2180 | 3000 | 120 | 60 | 10 | 5 | 75 | 100 | 5 | 270 | -30~+85 | -40~+100 | |
| 630 | 2180 | 3000 | 120 | 60 | 10 | 5 | 90 | 100 | 5 | 234 | -30~+85 | -40~+100 | |
| 595 | 2180 | 3000 | 120 | 60 | 10 | 5 | 90 | 100 | 5 | 234 | -30~+85 | -40~+100 | |
| 610 | 2180 | 3000 | 120 | 60 | 10 | 5 | 90 | 100 | 5 | 234 | -30~+85 | -40~+100 | |
| 630 | 4200 | 5800 | 120 | 60 | 10 | 5 | 90 | 100 | 5 | 234 | -30~+85 | -40~+100 | |
| 595 | 4200 | 5800 | 120 | 60 | 10 | 5 | 90 | 100 | 5 | 234 | -30~+85 | -40~+100 | |
| 630 | 100 | 150 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | Reflow |
| 575 | 45 | 60 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 630 | 100 | 150 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 475 | 100 | 130 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 630 | 220 | 300 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 530 | 330 | 600 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 595 | 100 | 170 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 575 | 30 | 50 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 595 | 330 | 600 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 475 | 150 | 200 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 475 | 150 | 200 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 530 | 330 | 600 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 630 | 750 | 1000 | 120 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | Reflow |
| 530 | 750 | 900 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 475 | 220 | 400 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 630 | 330 | 500 | 120 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 530 | 330 | 450 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 475 | 150 | 200 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 530 | 750 | 1120 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 630 | 750 | 1000 | 120 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 475 | 220 | 400 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 530 | 330 | 500 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 630 | 330 | 500 | 120 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 475 | 150 | 200 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| Luminous Intensity (mcd) | | | Directivity 2θ1/2 (degree) | IF (mA) | Reverse Current I _R Max.(uA) | V _R (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Reflow |
| Min. | Typ. | I _F (mA) | | | | | I _{FP} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | | |
| 7000 | 8400 | 120 | 20 | 10 | 15 | 30 | 100 | 15 | 324 | -30~+85 | -40~+100 | Reflow | |
| 7000 | 8400 | 120 | 20 | 10 | 15 | 30 | 100 | 15 | 324 | -30~+85 | -40~+100 | | |
| 6000 | 7400 | 120 | 20 | 10 | 15 | 30 | 100 | 15 | 324 | -30~+85 | -40~+100 | | |
| 3600 | 4800 | 120 | 50 | 10 | 5 | 50 | 100 | 5 | 190 | -30~+85 | -40~+100 | Reflow | |
| 2700 | 3600 | 120 | 50 | 10 | 5 | 50 | 100 | 5 | 190 | -30~+85 | -40~+100 | | |
| 2000 | 2500 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | Reflow | |
| 1560 | 2000 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | | |
| 330 | 500 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | | |
| 8400 | 10000 | 120 | 60 | 10 | 5 | 75 | 100 | 5 | 270 | -30~+85 | -40~+100 | Reflow | |
| 7000 | 8000 | 120 | 60 | 10 | 5 | 75 | 100 | 5 | 270 | -30~+85 | -40~+100 | | |
| 1560 | 1900 | 120 | 60 | 10 | 5 | 75 | 100 | 5 | 270 | -30~+85 | -40~+100 | | |
| 14400 | 18000 | 120 | 3*30 | 10 | 5 | 3*40 | 3*60 | 5 | 3*144 | -30~+85 | -40~+100 | | |
| 12000 | 14400 | 120 | 3*30 | 10 | 5 | 3*40 | 3*60 | 5 | 3*144 | -30~+85 | -40~+100 | | |
| | | | | | | | | | | | | | |


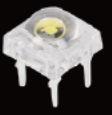

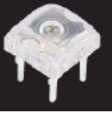



| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Chromaticity Coordinates | | | | | | |
|---------------------------|------------------|----------------|-----------------|------------------------|------|--------------------------|------|------|------|------|------|--|
| | | | | | | x | | | y | | | |
| | | | | Typ. | Max. | Min. | Typ | Max. | Min. | Typ | Max. | |
| 0402 SMD | | | | | | | | | | | | |
| | PAWA0402C1C | Pure White | Yellow Diffused | 3.2 | 3.6 | 0.19 | 0.24 | 0.27 | 0.18 | 0.23 | 0.26 | |
| | PAM50402C1C | Warm White | Yellow Diffused | 3.2 | 3.6 | 0.40 | 0.45 | 0.48 | 0.38 | 0.41 | 0.45 | |
| 0603 SMD | | | | | | | | | | | | |
| | PAW50603C1E | Cool White | Yellow Diffused | 2.8 | 3.4 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 | |
| | PAM50603C1E | Warm White | Yellow Diffused | 2.8 | 3.4 | 0.42 | 0.44 | 0.47 | 0.38 | 0.41 | 0.43 | |
| | PAK40603C1E | Pink | Pink Diffused | 2.8 | 3.4 | 0.27 | 0.31 | 0.34 | 0.16 | 0.20 | 0.23 | |
| | PAVX0603C1E | Violet | Yellow Diffused | 2.8 | 3.4 | 0.15 | 0.20 | 0.22 | 0.07 | 0.09 | 0.11 | |
| | PAB60603C1E | Ice Blue | Yellow Diffused | 2.8 | 3.4 | 0.15 | 0.18 | 0.20 | 0.23 | 0.26 | 0.28 | |
| 0805 SMD | | | | | | | | | | | | |
| | PAW50805C1E | Cool White | Yellow Diffused | 3.3 | 3.6 | 0.25 | 0.29 | 0.31 | 0.25 | 0.29 | 0.31 | |
| | PAM50805C1E | Warm White | Yellow Diffused | 3.3 | 3.6 | 0.41 | 0.44 | 0.47 | 0.38 | 0.41 | 0.44 | |
| | PAK50805C1E | Pink | Pink Diffused | 3.3 | 3.6 | 0.34 | 0.38 | 0.40 | 0.14 | 0.18 | 0.20 | |
| 1206 SMD | | | | | | | | | | | | |
| | PAW51206C1E | Cool White | Yellow Diffused | 3.3 | 3.6 | 0.25 | 0.29 | 0.33 | 0.25 | 0.29 | 0.33 | |
| | PAM51206C1E | Warm White | Yellow Diffused | 3.3 | 3.6 | 0.41 | 0.44 | 0.47 | 0.38 | 0.41 | 0.44 | |
| | PAK51206C1E | Pink | Pink Diffused | 3.3 | 3.6 | 0.34 | 0.38 | 0.40 | 0.14 | 0.18 | 0.20 | |
| 0602 Side View SMD | | | | | | | | | | | | |
| | PAWA0602C1E | Pure White | Yellow Diffused | 3.0 | 3.4 | 0.25 | 0.29 | 0.32 | 0.26 | 0.29 | 0.34 | |
| 0802 Side View SMD | | | | | | | | | | | | |
| | PAW50802C1E | Cool White | Yellow Diffused | 3.0 | 3.4 | 0.25 | 0.29 | 0.32 | 0.26 | 0.29 | 0.34 | |
| 1204 Side View SMD | | | | | | | | | | | | |
| | PAWA1204C1E | Pure White | Yellow Diffused | 3.0 | 3.4 | 0.25 | 0.27 | 0.29 | 0.26 | 0.28 | 0.30 | |
| | PAK41204C1E | Pink | Pink Diffused | 3.0 | 3.4 | 0.17 | 0.22 | 0.25 | 0.06 | 0.08 | 0.11 | |
| 3224 SMD | | | | | | | | | | | | |
| | PAW432244E | Pure White | Yellow Diffused | 3.0 | 3.4 | 0.29 | 0.31 | 0.33 | 0.32 | 0.34 | 0.36 | |
| 2016 SMD | | | | | | | | | | | | |
| | PAW42016C1A-60MA | Pure White | Yellow Diffused | 3.2 | 3.8 | 0.30 | 0.32 | 0.34 | 0.32 | 0.34 | 0.37 | |
| | PAM52016C1A-60MA | Warm White | Yellow Diffused | 3.2 | 3.8 | 0.40 | 0.44 | 0.47 | 0.37 | 0.41 | 0.43 | |
| 3014 SMD | | | | | | | | | | | | |
| | PAW43014C1A-30MA | Pure White | Yellow Diffused | 3.1 | 3.6 | 0.31 | 0.32 | 0.33 | 0.33 | 0.34 | 0.35 | |
| | PAM53014C1A-30MA | Warm White | Yellow Diffused | 3.1 | 3.6 | 0.40 | 0.44 | 0.47 | 0.36 | 0.40 | 0.44 | |
| 2835 SMD | | | | | | | | | | | | |
| | PAW42835C1H-60MA | White | Yellow Diffused | 3.0 | 3.4 | 0.30 | 0.33 | 0.36 | 0.32 | 0.34 | 0.37 | |
| | PAM52835C1H-60MA | Warm White | Yellow Diffused | 3.0 | 3.4 | 0.40 | 0.44 | 0.47 | 0.37 | 0.41 | 0.43 | |
| 3020 SMD | | | | | | | | | | | | |
| | PAW43020C1C | Pure White | Yellow Diffused | 3.2 | 3.6 | 0.30 | 0.32 | 0.34 | 0.32 | 0.34 | 0.37 | |
| | PAM53020C1C | Warm White | Yellow Diffused | 3.2 | 3.6 | 0.40 | 0.44 | 0.47 | 0.36 | 0.40 | 0.44 | |
| 5630 SMD | | | | | | | | | | | | |
| | PAW35630C1D | Pure White | Yellow Diffused | 3.1 | 3.6 | 0.32 | 0.33 | 0.35 | 0.31 | 0.34 | 0.36 | |
| | PAM55630C1D | Warm White | Yellow Diffused | 3.1 | 3.6 | 0.40 | 0.44 | 0.47 | 0.36 | 0.40 | 0.44 | |
| 7020 SMD | | | | | | | | | | | | |
| | PAW47020C1A | Pure White | Yellow Diffused | 6.0 | 7.2 | 0.32 | 0.33 | 0.35 | 0.31 | 0.34 | 0.36 | |
| | PAM57020C1A | Warm White | Yellow Diffused | 6.0 | 7.2 | 0.40 | 0.44 | 0.47 | 0.36 | 0.40 | 0.44 | |

| Luminous Intensity (mcd) | Directivity 2θ1/2 (degree) | IF (mA) | Reverse Current IR Max.(uA) | VR (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting | |
|--------------------------|----------------------------|---------|-----------------------------|--------|-----------------------------------|------|-----|------|------|---------|----------|--------|
| | | | | | IF | IFP | VR | PD | Topr | Tstg | | |
| | | | | | (mA) | (mA) | (V) | (mW) | (°C) | (°C) | | |
| 250 | 400 | 120 | 20 | 10 | 5 | 20 | 100 | 5 | 72 | -40~+85 | -40~+85 | Reflow |
| 250 | 400 | 120 | 20 | 10 | 5 | 20 | 100 | 5 | 72 | -40~+85 | -40~+85 | |
| 100 | 150 | 120 | 5 | 10 | 5 | 20 | 100 | 5 | 68 | -40~+85 | -40~+85 | Reflow |
| 60 | 120 | 120 | 5 | 10 | 5 | 20 | 100 | 5 | 68 | -40~+85 | -40~+85 | |
| 50 | 80 | 120 | 5 | 10 | 5 | 20 | 100 | 5 | 68 | -40~+85 | -40~+85 | |
| 70 | 100 | 120 | 5 | 10 | 5 | 20 | 100 | 5 | 68 | -40~+85 | -40~+85 | |
| 80 | 120 | 120 | 5 | 10 | 5 | 20 | 100 | 5 | 68 | -40~+85 | -40~+85 | |
| 350 | 450 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -40~+85 | -40~+85 | Reflow |
| 350 | 450 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -40~+85 | -40~+85 | |
| 60 | 90 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -40~+85 | -40~+85 | |
| 400 | 450 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -40~+85 | -40~+85 | Reflow |
| 400 | 450 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -40~+85 | -40~+85 | |
| 60 | 90 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -40~+85 | -40~+85 | |
| 300 | 550 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 102 | -40~+85 | -40~+85 | Reflow |
| 300 | 550 | 120 | 20 | 10 | 5 | 25 | 100 | 5 | 108 | -40~+85 | -40~+85 | Reflow |
| 300 | 450 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 102 | -40~+85 | -40~+85 | Reflow |
| 100 | 200 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 102 | -40~+85 | -40~+85 | |
| 500 | 800 | 35 | 20 | 10 | 5 | 30 | 100 | 5 | 102 | -40~+85 | -40~+85 | Reflow |
| 7000 | 8400 | 120 | 60 | 10 | 5 | 60 | 100 | 5 | 228 | -30~+85 | -40~+100 | Reflow |
| 5800 | 7000 | 120 | 60 | 10 | 5 | 60 | 100 | 5 | 228 | -30~+85 | -40~+100 | |
| 3000 | 3500 | 120 | 30 | 10 | 5 | 35 | 100 | 5 | 126 | -30~+85 | -40~+100 | Reflow |
| 3000 | 3500 | 120 | 30 | 10 | 5 | 35 | 100 | 5 | 126 | -30~+85 | -40~+100 | |
| 20 lm | 22 lm | 120 | 60 | 10 | 5 | 80 | 150 | 5 | 272 | -30~+85 | -40~+100 | Reflow |
| 18 lm | 20 lm | 120 | 60 | 10 | 5 | 80 | 150 | 5 | 272 | -30~+85 | -40~+100 | |
| 1600 | 1800 | 120 | 20 | 10 | 5 | 25 | 100 | 5 | 90 | -25~+85 | -35~+85 | Reflow |
| 1600 | 1800 | 120 | 20 | 10 | 5 | 25 | 100 | 5 | 90 | -25~+85 | -35~+85 | |
| 45lm | 50lm | 120 | 150 | 10 | 5 | 150 | 200 | 5 | 540 | -30~+85 | -40~+100 | Reflow |
| 40lm | 45lm | 120 | 150 | 10 | 5 | 150 | 200 | 5 | 540 | -30~+85 | -40~+100 | |
| 50lm | 55lm | 120 | 75 | 10 | 5 | 75 | 150 | 5 | 540 | -40~+85 | -40~+85 | Reflow |
| 45lm | 50lm | 120 | 75 | 10 | 5 | 75 | 150 | 5 | 540 | -40~+85 | -40~+85 | |

| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Chromaticity Coordinates | | | | | | |
|---|--|----------------|------------|------------------------|------|--------------------------|------|------|------|------|------|------|
| | | | | x | | | y | | | | | |
| | | | | Typ. | Max. | Min. | Typ | Max. | Min. | Typ | Max. | |
| <i>3-Chip $\Phi 5$ Type</i> | | | | | | | | | | | | |
|  | PA4WMEZ2C1P | ● | Pure White | Water Clear | 3.1 | 3.6 | 0.27 | 0.31 | 0.35 | 0.29 | 0.33 | 0.37 |
| | PA5WMEZ2C1P | ● | Cool White | Water Clear | 3.1 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 |
| | PA5MMEZ2C1P | ● | Warm White | Water Clear | 3.1 | 3.6 | 0.41 | 0.44 | 0.49 | 0.37 | 0.41 | 0.45 |
| <i>3-Chip Arc Type</i> | | | | | | | | | | | | |
|  | PA5W443Z4E1P | ● | Pure White | Water Clear | 9.3 | 10.8 | 0.27 | 0.31 | 0.35 | 0.29 | 0.33 | 0.37 |
| | PAW543Z4E1P | ● | Cool White | Water Clear | 9.3 | 10.8 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 |
| | PAM543Z4E1P | ● | Warm White | Water Clear | 9.3 | 10.8 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 |
| | PAW443EZ4E1P | ● | Pure White | Water Clear | 3.1 | 3.6 | 0.27 | 0.31 | 0.35 | 0.29 | 0.33 | 0.37 |
| | PAW54EZ4E1P | ● | Cool White | Water Clear | 3.1 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 |
| | PAM54EZ4E1P | ● | Warm White | Water Clear | 3.1 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 |
| | <i>$\Phi 5$ Deluxe Power Type</i> | | | | | | | | | | | |
|  | PAM54EZ4E1P | ● | Pure White | Water Clear | 3.2 | 3.6 | 0.27 | 0.31 | 0.35 | 0.29 | 0.33 | 0.37 |
| | PA5MFLZ2C1P | ● | Warm White | Water Clear | 3.2 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 |
| | PAW54LZ2C1P | ● | Cool White | Water Clear | 3.3 | 3.8 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 |
| | PAM4LZ2C1P | ● | Warm White | Water Clear | 3.3 | 3.8 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 |
| | PAK4LZ2C1P | ● | Pink | Water Clear | 3.3 | 3.8 | 0.41 | 0.45 | 0.49 | 0.13 | 0.17 | 0.21 |
| <i>$\Phi 3$ Type</i> | | | | | | | | | | | | |
|  | PAW54LZ161D | ● | Cool White | Water Clear | 3.2 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 |
| | PAM54LZ161D | ● | Warm White | Water Clear | 3.2 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 |
| | PAK54LZ161D | ● | Pink | Water Clear | 3.2 | 3.6 | 0.41 | 0.45 | 0.49 | 0.13 | 0.17 | 0.21 |
| <i>3-Chip $\Phi 7$ Type</i> | | | | | | | | | | | | |
|  | PA4WMEZ5D1P | ● | Pure White | Water Clear | 3.0 | 3.4 | 0.27 | 0.31 | 0.35 | 0.29 | 0.33 | 0.37 |
| | PA5WMEZ5D1P | ● | Cool White | Water Clear | 3.0 | 3.4 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 |
| | PA5MMEZ5D1P | ● | Warm White | Water Clear | 3.0 | 3.4 | 0.41 | 0.44 | 0.49 | 0.37 | 0.41 | 0.45 |
| | PA4WM3Z5D1P | ● | Pure White | Water Clear | 9.0 | 10.2 | 0.27 | 0.31 | 0.35 | 0.29 | 0.33 | 0.37 |
| | PA5WM3Z5D1P | ● | Cool White | Water Clear | 9.0 | 10.2 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 |
| | PA5MM3Z5D1P | ● | Warm White | Water Clear | 9.0 | 10.2 | 0.41 | 0.44 | 0.49 | 0.37 | 0.41 | 0.45 |
| | <i>Arc Type</i> | | | | | | | | | | | |
|  | PAW54LZE1D | ● | Cool White | Water Clear | 3.2 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 |
| | PAM54LZE1D | ● | Warm White | Water Clear | 3.2 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 |
| | PAK54LZ4E1D | ● | Pink | Water Clear | 3.2 | 3.6 | 0.41 | 0.45 | 0.49 | 0.13 | 0.17 | 0.21 |
| <i>Flat Type</i> | | | | | | | | | | | | |
|  | PAW54LZ3K1D | ● | Cool White | Water Clear | 3.2 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 |
| | PAM54LZ3K1D | ● | Warm White | Water Clear | 3.2 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 |
| | PAK54LZ3K1D | ● | Pink | Water Clear | 3.2 | 3.6 | 0.41 | 0.45 | 0.49 | 0.13 | 0.17 | 0.21 |
| <i>$\Phi 5$ Type</i> | | | | | | | | | | | | |
|  | PAW54LZ2C1D | ● | Cool White | Water Clear | 3.2 | 3.6 | 0.23 | 0.27 | 0.31 | 0.24 | 0.28 | 0.32 |
| | PAM54LZ2C1D | ● | Warm White | Water Clear | 3.2 | 3.6 | 0.41 | 0.45 | 0.49 | 0.37 | 0.41 | 0.45 |
| | PAK54LZ2C1D | ● | Pink | Water Clear | 3.2 | 3.6 | 0.41 | 0.45 | 0.49 | 0.13 | 0.17 | 0.21 |










| Luminous Intensity (mcd) | Directivity 2 θ 1/2 (degree) | IF (mA) | Reverse Current I _R Max.(μ A) | V _R (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting | |
|--------------------------|-------------------------------------|---------|---|--------------------|-----------------------------------|----------------------|--------------------|---------------------|-----------------------|-----------------------|----------|----------------|
| | | | | | I _F (mA) | I _{FP} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | T _{stg} (°C) | | |
| | | | | | Min. | Typ. | Min. | Typ. | Min. | Typ. | | Min. |
| 19000 | 21000 | 120 | 90 | 10 | 5 | 90 | 180 | 5 | 324 | -30~+85 | -40~+100 | Wave Soldering |
| 20000 | 22000 | 120 | 90 | 10 | 5 | 90 | 180 | 5 | 324 | -30~+85 | -40~+100 | |
| 16000 | 18000 | 120 | 90 | 10 | 5 | 90 | 180 | 5 | 324 | -30~+85 | -40~+100 | |
| 7500 | 10000 | 140 | 30 | 10 | 15 | 30 | 50 | 15 | 324 | -30~+85 | -40~+100 | Wave Soldering |
| 7500 | 10000 | 140 | 30 | 10 | 15 | 30 | 50 | 15 | 324 | -30~+85 | -40~+100 | |
| 6500 | 8500 | 140 | 30 | 10 | 15 | 30 | 50 | 15 | 324 | -30~+85 | -40~+100 | |
| 7500 | 10000 | 140 | 90 | 10 | 5 | 90 | 120 | 5 | 324 | -30~+85 | -40~+100 | |
| 7500 | 10000 | 140 | 90 | 10 | 5 | 90 | 120 | 5 | 324 | -30~+85 | -40~+100 | |
| 6500 | 8500 | 140 | 90 | 10 | 5 | 90 | 120 | 5 | 324 | -30~+85 | -40~+100 | |
| 10000 | 14000 | 120 | 50 | 10 | 5 | 60 | 100 | 5 | 216 | -30~+85 | -40~+100 | Wave Soldering |
| 9000 | 12000 | 120 | 50 | 10 | 5 | 60 | 100 | 5 | 216 | -30~+85 | -40~+100 | |
| 10000 | 12000 | 120 | 50 | 10 | 5 | 50 | 100 | 5 | 190 | -30~+85 | -40~+100 | |
| 6000 | 8600 | 120 | 50 | 10 | 5 | 50 | 100 | 5 | 190 | -30~+85 | -40~+100 | |
| 1100 | 1400 | 120 | 50 | 10 | 5 | 50 | 100 | 5 | 190 | -30~+85 | -40~+100 | |
| 10000 | 12000 | 60 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | Wave Soldering |
| 7000 | 8400 | 60 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | |
| 2400 | 3000 | 60 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | |
| 10000 | 12000 | 130 | 90 | 30 | 5 | 90 | 180 | 5 | 306 | -30~+85 | -40~+100 | Wave Soldering |
| 12000 | 14400 | 130 | 90 | 30 | 5 | 90 | 180 | 5 | 306 | -30~+85 | -40~+100 | |
| 8400 | 10000 | 130 | 90 | 30 | 15 | 90 | 180 | 15 | 306 | -30~+85 | -40~+100 | |
| 10000 | 12000 | 130 | 30 | 10 | 15 | 30 | 60 | 15 | 306 | -30~+85 | -40~+100 | |
| 12000 | 14400 | 130 | 30 | 10 | 15 | 30 | 60 | 15 | 306 | -30~+85 | -40~+100 | |
| 8400 | 10000 | 130 | 30 | 10 | 15 | 30 | 60 | 15 | 306 | -30~+85 | -40~+100 | |
| 1870 | 2400 | 140 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | Wave Soldering |
| 900 | 1400 | 140 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | |
| 260 | 400 | 140 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | |
| 1350 | 1900 | 180 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | Wave Soldering |
| 900 | 1200 | 180 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | |
| 260 | 360 | 180 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | |
| 5000 | 7200 | 120 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | Wave Soldering |
| 2600 | 4200 | 120 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | |
| 900 | 1200 | 120 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | |

Super Flux LED Series







| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Dominant Wavelength wd(nm) | | |
|---|----------------|----------------|-------------|------------------------|------|----------------------------|------|------|
| | | | | Typ. | Max. | Min. | Typ. | Max. |
| <i>Φ5 Deluxe Power Type</i> | | | | | | | | |
|  | PAB56LZ2C1P | Blue | Water Clear | 3.2 | 3.8 | 465 | 470 | 475 |
| | PAG58AZ2C1P | Pure Green | Water Clear | 3.2 | 3.8 | 520 | 525 | 530 |
| | PAR5PAZ2C1P | Red | Water Clear | 2.2 | 2.6 | 620 | 625 | 630 |
| | PAY5PAZ2C1P | Yellow | Water Clear | 2.2 | 2.6 | 585 | 590 | 595 |
| | PAO5PAZ2C1P | Orange | Water Clear | 2.2 | 2.6 | 600 | 605 | 610 |
| | PA5RKAZ2C1P | Red | Water Clear | 2.2 | 2.6 | 620 | 625 | 630 |
| | PA5YKAZ2C1P | Yellow | Water Clear | 2.2 | 2.6 | 585 | 590 | 595 |
| | PAO5CAZ2C1P | Orange | Water Clear | 2.2 | 2.6 | 600 | 605 | 610 |
| <i>Φ7 Deluxe Power Type</i> | | | | | | | | |
|  | PAB56LZ5D1P | Blue | Water Clear | 3.1 | 3.6 | 465 | 470 | 475 |
| | PAG58AZ5D1P | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 | 530 |
| | PARPAZ5D1P | Red | Water Clear | 2.4 | 2.8 | 619 | 624 | 629 |
| | PAY5PAZ5D1P | Yellow | Water Clear | 2.4 | 2.8 | 585 | 590 | 595 |
| | PAO5PAZ5D1P | Orange | Water Clear | 2.4 | 2.8 | 600 | 605 | 610 |
| | PA5RKAZ5D1P | Red | Water Clear | 2.4 | 2.8 | 619 | 624 | 629 |
| | PA5YKAZ5D1P | Yellow | Water Clear | 2.4 | 2.8 | 585 | 590 | 595 |
| | <i>Φ3 Type</i> | | | | | | | |
|  | PAB56LZ161D | Blue | Water Clear | 3.2 | 3.6 | 465 | 470 | 475 |
| | PAG58AZ161D | Pure Green | Water Clear | 3.2 | 3.6 | 520 | 525 | 530 |
| | PAR5PAZ161D | Red | Water Clear | 2.2 | 2.6 | 620 | 625 | 630 |
| | PAY5PAZ161D | Yellow | Water Clear | 2.2 | 2.6 | 585 | 590 | 595 |
| | PAO5PAZ161D | Orange | Water Clear | 2.2 | 2.6 | 600 | 605 | 610 |
| <i>Arc Type</i> | | | | | | | | |
|  | PAB56LZ4E1D | Blue | Water Clear | 3.2 | 3.6 | 465 | 470 | 475 |
| | PAG58AZ4E1D | Pure Green | Water Clear | 3.2 | 3.6 | 520 | 525 | 530 |
| | PAR5PAZ4E1D | Red | Water Clear | 2.2 | 2.6 | 620 | 625 | 630 |
| | PAY5PAZ4E1D | Yellow | Water Clear | 2.2 | 2.6 | 585 | 590 | 595 |
| | PAO5PAZ4E1D | Orange | Water Clear | 2.2 | 2.6 | 600 | 605 | 610 |
| <i>Flat Type</i> | | | | | | | | |
|  | PAB56LZ3K1D | Blue | Water Clear | 3.2 | 3.6 | 465 | 470 | 475 |
| | PAG58AZ3K1D | Pure Green | Water Clear | 3.2 | 3.6 | 520 | 525 | 530 |
| | PAY5PAZ3K1D | Red | Water Clear | 2.2 | 2.6 | 620 | 625 | 630 |
| | PAR5PAZ3K1D | Yellow | Water Clear | 2.2 | 2.6 | 585 | 590 | 595 |
| | PAO5PAZ3K1D | Orange | Water Clear | 2.2 | 2.6 | 600 | 605 | 610 |
| <i>Concave Deluxe Power Type</i> | | | | | | | | |
|  | PA5RKAZ1C1P | Red | Water Clear | 2.2 | 2.8 | 620 | 625 | 630 |
| | PA5YKAZ1C1P | Yellow | Water Clear | 2.2 | 2.8 | 585 | 590 | 595 |
| <i>Φ5 Type</i> | | | | | | | | |
|  | PAB56LZ2C1D | Blue | Water Clear | 3.2 | 3.6 | 465 | 470 | 475 |
| | PAG58AZ2C1D | Pure Green | Water Clear | 3.2 | 3.6 | 520 | 525 | 530 |
| | PAR5PAZ2C1D | Red | Water Clear | 2.2 | 2.6 | 620 | 625 | 630 |
| | PAY5PAZ2C1D | Yellow | Water Clear | 2.2 | 2.6 | 585 | 590 | 595 |
| | PAO5PAZ2C1D | Orange | Water Clear | 2.2 | 2.6 | 600 | 605 | 610 |
| | PATBMAZ2C1D | Red | Water Clear | 2.1 | 2.6 | 620 | 625 | 630 |
| | | Pure Green | | 3.1 | 3.6 | 520 | 525 | 530 |
| Blue | | 3.1 | | 3.6 | 465 | 470 | 475 | |

Super Flux LED Series


| Luminous Intensity (mcd) | Directivity 2θ1/2 (degree) | IF (mA) | Reverse Current IR Max.(uA) | VR (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting | |
|--------------------------|----------------------------|---------|-----------------------------|--------|-----------------------------------|----------|--------|---------|-----------|-----------|----------|----------------|
| | | | | | IF (mA) | IFP (mA) | VR (V) | PD (mW) | Topr (°C) | Tstg (°C) | | |
| Min. | Typ. | | | | | | | | | | | |
| 2600 | 3600 | 120 | 50 | 10 | 5 | 50 | 100 | 5 | 190 | -30~+85 | -40~+100 | Wave Soldering |
| 10000 | 12000 | 120 | 50 | 10 | 5 | 50 | 100 | 5 | 190 | -30~+85 | -40~+100 | |
| 3600 | 4800 | 120 | 50 | 10 | 5 | 50 | 130 | 5 | 182 | -30~+85 | -40~+100 | |
| 3600 | 4800 | 120 | 50 | 10 | 5 | 50 | 130 | 5 | 182 | -30~+85 | -40~+100 | |
| 3600 | 4800 | 120 | 50 | 10 | 5 | 50 | 130 | 5 | 182 | -30~+85 | -40~+100 | |
| 8400 | 10000 | 120 | 70 | 10 | 5 | 70 | 130 | 5 | 196 | -30~+85 | -40~+100 | |
| 8400 | 10000 | 120 | 70 | 10 | 5 | 70 | 130 | 5 | 196 | -30~+85 | -40~+100 | |
| 7000 | 8400 | 120 | 70 | 10 | 5 | 70 | 130 | 5 | 182 | -30~+85 | -40~+100 | |
| 750 | 1120 | 130 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | Wave Soldering |
| 3000 | 4200 | 130 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | |
| 1560 | 2180 | 130 | 50 | 10 | 5 | 50 | 100 | 5 | 140 | -30~+85 | -40~+100 | |
| 1560 | 2180 | 130 | 50 | 10 | 5 | 50 | 100 | 5 | 140 | -30~+85 | -40~+100 | |
| 1560 | 2180 | 130 | 50 | 10 | 5 | 50 | 100 | 5 | 140 | -30~+85 | -40~+100 | |
| 3000 | 4800 | 130 | 70 | 10 | 5 | 70 | 120 | 5 | 196 | -30~+85 | -40~+100 | |
| 3000 | 4800 | 130 | 70 | 10 | 5 | 70 | 120 | 5 | 196 | -30~+85 | -40~+100 | |
| 4000 | 5000 | 60 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | Wave Soldering |
| 12000 | 15000 | 60 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | |
| 7000 | 8400 | 60 | 50 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 7000 | 8400 | 60 | 50 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 500 | 750 | 140 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | Wave Soldering |
| 3000 | 4000 | 140 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | |
| 750 | 1200 | 140 | 50 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 750 | 1200 | 140 | 50 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 750 | 1200 | 140 | 50 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 500 | 700 | 180 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | Wave Soldering |
| 2180 | 3000 | 180 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | |
| 750 | 1000 | 180 | 50 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 750 | 1000 | 180 | 50 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 750 | 1000 | 180 | 50 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 2600 | 3000 | 120 | 70 | 10 | 5 | 70 | 120 | 5 | 196 | -30~+85 | -40~+100 | Wave Soldering |
| 2600 | 3000 | 120 | 70 | 10 | 5 | 70 | 120 | 5 | 496 | -30~+85 | -40~+100 | |
| 2180 | 3000 | 120 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | Wave Soldering |
| 8400 | 10000 | 120 | 30 | 10 | 5 | 50 | 100 | 5 | 180 | -30~+85 | -40~+100 | |
| 3000 | 4000 | 120 | 50 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 3000 | 4000 | 120 | 50 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 3000 | 4000 | 120 | 50 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 1560 | 2300 | 120 | 20 | 10 | 5 | 50 | 120 | 5 | 130 | -30~+85 | -40~+100 | |
| 3000 | 4000 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |
| 750 | 1200 | 120 | 20 | 10 | 5 | 30 | 100 | 5 | 108 | -30~+85 | -40~+100 | |


| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Color Temperature | | |
|---|-------------|----------------|------------|------------------------|------|-------------------|------|------|
| | | | | Typ. | Max. | Min. | Typ. | |
| <i>1W Tops Power Type</i> | | | | | | | | |
|  | PAW4XAT1C1E | ● | Pure White | Yellow Diffused | 3.3 | 4.0 | 6000 | 6500 |
| | PAM5XAT1C1E | ● | Warm White | Yellow Diffused | 3.3 | 4.0 | 2800 | 3000 |
| <i>3W Tops Power Type</i> | | | | | | | | |
|  | PAW4XAT3C1E | ● | Pure White | Yellow Diffused | 3.5 | 4.5 | 6000 | 6500 |
| | PAM5XAT3C1E | ● | Warm White | Yellow Diffused | 3.5 | 4.5 | 2800 | 3000 |
| <i>1W Xeon Power Type</i> | | | | | | | | |
|  | PAW4XNE1E1E | ● | Pure White | Water Clear | 3.3 | 4.0 | 6000 | 6500 |
| | PAM5XNE1E1E | ● | Warm White | Water Clear | 3.3 | 4.0 | 2800 | 3000 |
| <i>3W Xeon Power Type</i> | | | | | | | | |
|  | PAW4XNE3E1E | ● | Pure White | Water Clear | 3.5 | 4.5 | 6000 | 6500 |
| | PAM5XNE3E1E | ● | Warm White | Water Clear | 3.5 | 4.5 | 2800 | 3000 |
| <i>1W 3-chip Xeon Power Type</i> | | | | | | | | |
|  | PAW4Z3E1E1E | ● | Pure White | Water Clear | 9.6 | 11.8 | 6000 | 6500 |
| | PAM5Z3E1E1E | ● | Warm White | Water Clear | 9.6 | 11.8 | 2800 | 3000 |
| Package | Part Number | Emitting Color | Lens Type | Forward Voltage VF (V) | | Wavelength | | |
| | | | | Typ. | Max. | Min. | Typ. | |
| <i>1W Xeon Power Type</i> | | | | | | | | |
|  | PAB4XNE1E1E | ● | Blue | Water Clear | 3.3 | 4.0 | 455 | 460 |
| | PAG5XNE1E1E | ● | Pure Green | Water Clear | 3.3 | 4.0 | 520 | 525 |
| | PAR5XNE1E1E | ● | Red | Water Clear | 2.5 | 3.0 | 620 | 625 |
| | PAY5XNE1E1E | ● | Yellow | Water Clear | 2.5 | 3.0 | 585 | 590 |
| <i>3W Xeon Power Type</i> | | | | | | | | |
|  | PAB5XNE3E1E | ● | Blue | Water Clear | 3.5 | 4.5 | 455 | 460 |
| | PAG5XNE3E1E | ● | Pure Green | Water Clear | 3.5 | 4.5 | 520 | 525 |
| | PAR5XNE3E1E | ● | Red | Water Clear | 2.5 | 3.0 | 620 | 625 |
| | PAY5XNE3E1E | ● | Yellow | Water Clear | 2.5 | 3.0 | 585 | 590 |
| <i>Xeon 1 Power Full Color Type</i> | | | | | | | | |
|  | PATCXBEAE1E | ● | Pure Green | Water Clear | 3.3 | 4.0 | 520 | 525 |
| | | ● | Red | | 2.5 | 3.0 | 620 | 625 |
| | | ● | Blue | | 3.3 | 4.0 | 455 | 460 |
| <i>Tops H Power Full Color Type</i> | | | | | | | | |
|  | PATCXBTHC1E | ● | Pure Green | Water Clear | 3.1 | 3.6 | 520 | 525 |
| | | ● | Red | | 2.1 | 2.6 | 620 | 625 |
| | | ● | Blue | | 3.1 | 3.6 | 455 | 460 |





| CCT(K) | Luminous Flux (lm) | | Directivity 2θ1/2 (degree) | IF (mA) | Reverse Current IR Max.(uA) | VR (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting |
|--------|--------------------|------|----------------------------|---------|-----------------------------|--------|-----------------------------------|------------|----------|---------|-----------|-----------|----------------|
| | Max. | Min. | | | | | Typ. | IF (mA) | IFP (mA) | VR (V) | Pd (mW) | Topr (°C) | |
| 7000 | 90 | 100 | 120 | 350 | 10 | 5 | 400 | 500 | 5 | 1600 | -30~+85 | -40~+100 | Reflow |
| 3200 | 80 | 90 | 120 | 350 | 10 | 5 | 400 | 500 | 5 | 1600 | -30~+85 | -40~+100 | |
| 7000 | 180 | 200 | 120 | 700 | 10 | 5 | 800 | 1000 | 5 | 3600 | -30~+85 | -40~+100 | Reflow |
| 3200 | 160 | 180 | 120 | 700 | 10 | 5 | 800 | 1000 | 5 | 3600 | -30~+85 | -40~+100 | |
| 7000 | 110 | 120 | 140 | 350 | 10 | 5 | 400 | 500 | 5 | 1600 | -30~+85 | -40~+100 | Reflow |
| 3200 | 100 | 110 | 140 | 350 | 10 | 5 | 400 | 500 | 5 | 1600 | -30~+85 | -40~+100 | |
| 7000 | 200 | 220 | 140 | 700 | 10 | 5 | 800 | 1000 | 5 | 3600 | -30~+85 | -40~+100 | Reflow |
| 3200 | 190 | 210 | 140 | 700 | 10 | 5 | 800 | 1000 | 5 | 3600 | -30~+85 | -40~+100 | |
| 7000 | 90 | 100 | 140 | 120 | 10 | 15 | 150 | 300 | 15 | 1770 | -30~+85 | -40~+100 | Hand Soldering |
| 3200 | 80 | 90 | 140 | 120 | 10 | 15 | 150 | 300 | 15 | 1770 | -30~+85 | -40~+100 | |
| wd(nm) | Luminous Flux (lm) | | Directivity 2θ1/2 (degree) | IF (mA) | Reverse Current IR Max.(uA) | VR (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting |
| Max. | Min. | Typ. | | | | | IF (mA) | IFP+1 (mA) | VR (V) | Pd (mW) | Topr (°C) | Tjg (°C) | |
| 465 | 15 | 20 | 140 | 350 | 10 | 5 | 400 | 500 | 5 | 1600 | -30~+85 | -40~+100 | Reflow |
| 530 | 70 | 80 | 140 | 350 | 10 | 5 | 400 | 500 | 5 | 1600 | -30~+85 | -40~+100 | |
| 630 | 40 | 50 | 140 | 350 | 10 | 5 | 400 | 500 | 5 | 1200 | -30~+85 | -40~+100 | |
| 595 | 40 | 50 | 140 | 350 | 10 | 5 | 400 | 500 | 5 | 1200 | -30~+85 | -40~+100 | |
| 465 | 30 | 40 | 140 | 700 | 10 | 5 | 800 | 1000 | 5 | 3600 | -30~+85 | -40~+100 | Reflow |
| 530 | 120 | 130 | 140 | 700 | 10 | 5 | 800 | 1000 | 5 | 3600 | -30~+85 | -40~+100 | |
| 630 | 70 | 80 | 140 | 700 | 10 | 5 | 800 | 1000 | 5 | 2400 | -30~+85 | -40~+100 | |
| 595 | 70 | 80 | 140 | 700 | 10 | 5 | 800 | 1000 | 5 | 2400 | -30~+85 | -40~+100 | |
| 530 | 80 | 90 | 140 | 350 | 10 | 5 | 400 | 500 | 5 | 1600 | -30~+85 | -40~+100 | Reflow |
| 630 | 40 | 45 | 140 | 350 | 10 | 5 | 400 | 500 | 5 | 1200 | -30~+85 | -40~+100 | |
| 465 | 15 | 20 | 140 | 350 | 10 | 5 | 400 | 500 | 5 | 1600 | -30~+85 | -40~+100 | |
| 530 | 20 | 30 | 120 | 150 | 10 | 5 | 200 | 250 | 5 | 720 | -30~+85 | -40~+100 | Reflow |
| 630 | 15 | 20 | 120 | 150 | 10 | 5 | 200 | 250 | 5 | 520 | -30~+85 | -40~+100 | |
| 465 | 5 | 10 | 120 | 150 | 10 | 5 | 200 | 250 | 5 | 720 | -30~+85 | -40~+100 | |

| Package | Part Number | Emitting Color | | Lens Type | Forward Voltage VF (V) | | CCT(K) | | |
|---|------------------|----------------|------------|-----------------|------------------------|------|--------|------|------|
| | | | | | Typ. | Max. | Min. | Typ. | Max. |
| <i>3W MCPCB COB LED</i> | | | | | | | | | |
|  | PAW41313E1E-2B3C | ● | Pure White | Yellow Diffused | 10.2 | 11.4 | 5500 | 6500 | 7500 |
| | PAM51313E1E-2B3C | ● | Warm White | Yellow Diffused | 10.2 | 11.4 | 2800 | 3000 | 3200 |
|  | PAW41215E1E-2B3C | ● | Pure White | Yellow Diffused | 10.2 | 11.4 | 5500 | 6500 | 7500 |
| | PAM51215E1E-2B3C | ● | Warm White | Yellow Diffused | 10.2 | 11.4 | 2800 | 3000 | 3200 |
| <i>5W MCPCB COB LED</i> | | | | | | | | | |
|  | PAW41313E1E-2B5C | ● | Pure White | Yellow Diffused | 17 | 19 | 5500 | 6500 | 7500 |
| | PAM51313E1E-2B5C | ● | Warm White | Yellow Diffused | 17 | 19 | 2800 | 3000 | 3200 |
|  | PAW41215E1E-2B5C | ● | Pure White | Yellow Diffused | 17 | 19 | 5500 | 6500 | 7500 |
| | PAM51215E1E-2B5C | ● | Warm White | Yellow Diffused | 17 | 19 | 2800 | 3000 | 3200 |
| <i>5W High Power Type</i> | | | | | | | | | |
|  | PAW4XAH5E1E | ● | Pure White | Yellow Diffused | 10.0 | 11.4 | 6000 | 6500 | 7000 |
| | PAM5XAH5E1E | ● | Warm White | Yellow Diffused | 10.0 | 11.4 | 2800 | 3000 | 3200 |
| <i>10W High Power Type</i> | | | | | | | | | |
|  | PAW4XAHAE1E | ● | Pure White | Yellow Diffused | 11.0 | 12.6 | 6000 | 6500 | 7000 |
| | PAM5XAHAE1E | ● | Warm White | Yellow Diffused | 11.0 | 12.6 | 2800 | 3000 | 3200 |
| <i>25W High Power Type</i> | | | | | | | | | |
|  | PAW4XAHBE1E | ● | Pure White | Yellow Diffused | 34 | 38 | 6000 | 6500 | 7000 |
| | PAM5XAHBE1E | ● | Warm White | Yellow Diffused | 34 | 38 | 2800 | 3000 | 3200 |
| <i>50W High Power Type</i> | | | | | | | | | |
|  | PAW4XAHCE1E | ● | Pure White | Yellow Diffused | 34 | 38 | 6000 | 6500 | 7000 |
| | PAM5XAHCE1E | ● | Warm White | Yellow Diffused | 34 | 38 | 2800 | 3000 | 3200 |

| Lumen Flux (Lm) | | Directivity 2θ1/2 (degree) | IF (mA) | Reverse Current IR Max.(uA) | VR (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting |
|-----------------|------|----------------------------|---------|-----------------------------|--------|-----------------------------------|----------|--------|---------|-----------------------|-----------------------|----------------|
| | | | | | | IF (mA) | IFP (mA) | VR (V) | PD (mW) | T _{opr} (°C) | T _{stg} (°C) | |
| Min. | Typ. | | | | | | | | | | | |
| 260 | 300 | 140 | 300 | 20 | 15 | 400 | 600 | 15 | 4560 | -30~+85 | -40~+100 | Hand Soldering |
| 230 | 260 | 140 | 300 | 20 | 15 | 400 | 600 | 15 | 4560 | -30~+85 | -40~+100 | |
| 260 | 300 | 140 | 300 | 20 | 15 | 400 | 600 | 15 | 4560 | -30~+85 | -40~+100 | Hand Soldering |
| 230 | 260 | 140 | 300 | 20 | 15 | 400 | 600 | 15 | 4560 | -30~+85 | -40~+100 | |
| 460 | 500 | 140 | 300 | 20 | 25 | 400 | 600 | 25 | 7600 | -30~+85 | -40~+100 | Hand Soldering |
| 430 | 460 | 140 | 300 | 20 | 25 | 400 | 600 | 25 | 7600 | -30~+85 | -40~+100 | |
| 460 | 500 | 140 | 300 | 20 | 25 | 400 | 600 | 25 | 7600 | -30~+85 | -40~+100 | Hand Soldering |
| 430 | 460 | 140 | 300 | 20 | 25 | 400 | 600 | 25 | 7600 | -30~+85 | -40~+100 | |
| 350 | 410 | 140 | 500 | 30 | 15 | 600 | 1000 | 15 | 6840 | -30~+85 | -40~+100 | Hand Soldering |
| 300 | 370 | 140 | 500 | 30 | 15 | 600 | 1000 | 15 | 6840 | -30~+85 | -40~+100 | |
| 750 | 850 | 140 | 1000 | 20 | 15 | 1400 | 2000 | 15 | 17640 | -30~+85 | -40~+100 | Hand Soldering |
| 670 | 765 | 140 | 1000 | 20 | 15 | 1400 | 2000 | 15 | 17640 | -30~+85 | -40~+100 | |
| 1700 | 2000 | 140 | 750 | 50 | 50 | 1000 | 1500 | 50 | 38000 | -30~+85 | -40~+100 | Hand Soldering |
| 1500 | 1800 | 140 | 750 | 50 | 50 | 1000 | 1500 | 50 | 38000 | -30~+85 | -40~+100 | |
| 3000 | 3500 | 140 | 1500 | 100 | 50 | 2000 | 2500 | 50 | 76000 | -30~+85 | -40~+100 | Hand Soldering |
| 2000 | 2500 | 140 | 1500 | 100 | 50 | 2000 | 2500 | 50 | 76000 | -30~+85 | -40~+100 | |

| Package | Part Number | Emitting Color | Surface Color | Forward Voltage VF (V) | | | Dominant Wavelength wd(nm) | | | Luminous Intensity (mcd) | |
|---|---------------|----------------|---------------|------------------------|------|------|----------------------------|------|------|--------------------------|------|
| | | | | Min | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. |
| <i>0.2Inch Ten Digit Display</i> | | | | | | | | | | | |
|  | PAX10201-B | Blue | Black | - | 3.1 | 3.6 | - | 465 | - | - | 50 |
| | PAX10201-G | Pure Green | Black | - | 3.1 | 3.6 | - | 512 | - | - | 262 |
| | PAX10201-YG | Yellow Green | Black | - | 2.1 | 2.5 | - | 570 | - | - | 35 |
| | PAX10201-Y | Yellow | Black | - | 2.1 | 2.5 | - | 587 | - | - | 35 |
| | PAX10201-R | Red | Black | - | 2.1 | 2.5 | - | 632 | - | - | 35 |
| | PAX10201-GYR1 | Yellow Green | Black | - | 2.1 | 2.5 | - | 570 | - | - | 35 |
| | | Yellow | | - | 2.1 | 2.5 | - | 587 | - | - | 35 |
| | | Red | | - | 2.1 | 2.5 | - | 632 | - | - | 35 |
| | PAX10201-GGR1 | Yellow Green | Black | - | 2.1 | 2.5 | - | 570 | - | - | 35 |
| | | Yellow Green | | - | 2.1 | 2.5 | - | 570 | - | - | 35 |
| | | Red | | - | 2.1 | 2.5 | - | 632 | - | - | 35 |
| | PAX10201-RGG1 | Red | Black | - | 2.1 | 2.5 | - | 632 | - | - | 35 |
| | | Yellow Green | | - | 2.1 | 2.5 | - | 570 | - | - | 35 |
| | | Yellow Green | | - | 2.1 | 2.5 | - | 570 | - | - | 35 |
| | PAX10201-YGR1 | Yellow | Black | - | 2.1 | 2.5 | - | 587 | - | - | 35 |
| | | Yellow Green | | - | 2.1 | 2.5 | - | 570 | - | - | 35 |
| | | Red | | - | 2.1 | 2.5 | - | 632 | - | - | 35 |
| | PAX10201-RPB1 | Red | Black | - | 2.1 | 2.5 | - | 632 | - | - | 35 |
| Pure Green | | - | | 3.1 | 3.6 | - | 512 | - | - | 262 | |
| Blue | | - | | 3.3 | 3.6 | - | 465 | - | - | 50 | |
| PAX10201-RGY1 | Red | Black | - | 2.1 | 2.5 | - | 632 | - | - | 35 | |
| | Yellow Green | | - | 2.1 | 2.5 | - | 570 | - | - | 35 | |
| | Yellow | | - | 2.1 | 2.5 | - | 587 | - | - | 35 | |
| PAX10201-RGB1 | Red | Black | - | 2.1 | 2.5 | - | 632 | - | - | 35 | |
| | Yellow Green | | - | 2.1 | 2.5 | - | 570 | - | - | 35 | |
| | Blue | | - | 3.3 | 3.6 | - | 465 | - | - | 50 | |

| <i>3mm Housing LED</i> | | | | | | | | | | | |
|---|------------------|----------------|----------------|------------------------|------|------|------------------------|------|------|------------------------|------|
| Package | Part Number | Emitting Color | Surface Color | Forward Voltage VF (V) | | | Peak Wavelength wp(nm) | | | Reception Distance (m) | |
| | | | | Min | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. |
|  | PATSLT3E34X-3F3C | Red | Color Diffused | 1.8 | 2.1 | 2.6 | 630 | 635 | 650 | 100 | 150 |
| | | Yellow | Color Diffused | 1.8 | 2.1 | 2.6 | 585 | 590 | 595 | 100 | 150 |
| | | Yellow Green | Color Diffused | 1.8 | 2.1 | 2.6 | 565 | 570 | 575 | 68 | 100 |
| | PARGLX3E34X-3F2B | Red | Color Diffused | 1.8 | 2.1 | 2.6 | 630 | 640 | 650 | 100 | 150 |
| | | Yellow Green | Color Diffused | 1.8 | 2.1 | 2.6 | 565 | 570 | 575 | 68 | 100 |
| | | Red | Color Diffused | 1.8 | 2.1 | 2.6 | 630 | 640 | 650 | 100 | 150 |
| PAG8HA3E34X-3F1A | Green | Color Diffused | 1.9 | 2.1 | 2.6 | 565 | 570 | 575 | 68 | 100 | |
| | | Yellow | Color Diffused | 1.8 | 2.1 | 2.6 | 585 | 590 | 595 | 110 | 220 |

| Package | Part Number | Receiver Color | Lens Type | Supply Voltage (Vcc) | | Peak Wavelength wp(nm) | | | Reception Distance (m) | | Half Angle |
|---|-------------|----------------|---------------------|----------------------|------|------------------------|------|------|------------------------|------|------------|
| | | | | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | |
| <i>Infrared Receiver Module</i> | | | | | | | | | | | |
|  | PARB38C9AA | Infrared | Black + Metal Cover | 3 | 5.5 | - | 940 | - | 15 | 20 | 90 |
|  | PARB38C9AB | Infrared | Black + Metal Cover | 3 | 5.5 | - | 940 | - | 15 | 20 | 90 |
|  | PARB38C9BA | Infrared | Black | 3 | 5.5 | - | 940 | - | 15 | 20 | 90 |
|  | PARB38C9BB | Infrared | Black | 3 | 5.5 | - | 940 | - | 15 | 20 | 90 |



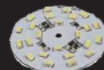



| Directivity 201/2 (degree) | IF (mA) | Reverse Current I _R Max.(uA) | V _R (V) | Absolute Maximum Rating (Ta=25°C) | | | | | | Mounting |
|----------------------------|---------|---|--------------------|-----------------------------------|----------------------|--------------------|---------------------|-----------------------|-----------------------|----------------|
| | | | | I _F (mA) | I _{FP} (mA) | V _R (V) | P _D (mW) | T _{opr} (°C) | T _{sig} (°C) | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 72 | -30~+70 | -40~+85 | Wave Soldering |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 72 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 62.5 | -30~+70 | -40~+85 | |
| - | 20 | 10 | 5 | 20 | 100 | 5 | 72 | -30~+70 | -40~+85 | |

| | | | | | | | | | | |
|----|----|----|---|----|-----|---|----|---------|----------|----------------|
| 30 | 20 | 10 | 5 | 20 | 100 | 5 | 78 | -30~+85 | -40~+100 | Hand Soldering |
| 30 | 20 | 10 | 5 | 20 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 30 | 20 | 10 | 5 | 20 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 30 | 20 | 10 | 5 | 20 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 30 | 20 | 10 | 5 | 20 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 30 | 20 | 10 | 5 | 20 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 30 | 20 | 10 | 5 | 20 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 30 | 20 | 10 | 5 | 20 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 30 | 20 | 10 | 5 | 20 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 30 | 20 | 10 | 5 | 20 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 30 | 20 | 10 | 5 | 20 | 100 | 5 | 78 | -30~+85 | -40~+100 | |
| 30 | 20 | 10 | 5 | 20 | 100 | 5 | 78 | -30~+85 | -40~+100 | |

| B.P.F. Center Frequency (KHz) | View | Current Consumption (mA) | Low level Output Voltage (V) | Burst width tolerance (us) | | Absolute Maximum Rating (Ta=25°C) | | | Mounting |
|-------------------------------|-----------|--------------------------|------------------------------|----------------------------|-----|-----------------------------------|-----------------------|-----------------------|----------------|
| | | | | Typ | Max | V _{cc} (v) | T _{opr} (°C) | T _{sig} (°C) | |
| 37.9 | Side view | 0.9 | 0.2 | 600 | 800 | 6 | -10~+60 | -20~+75 | Wave Soldering |
| 37.9 | Top view | 0.9 | 0.2 | 600 | 800 | 6 | -10~+60 | -20~+75 | |
| 37.9 | Side view | 0.9 | 0.2 | 600 | 800 | 6 | -10~+60 | -20~+75 | |
| 37.9 | Top view | 0.9 | 0.2 | 600 | 800 | 6 | -10~+60 | -20~+75 | |
| 37.9 | Top view | 0.9 | 0.2 | 600 | 800 | 6 | -10~+60 | -20~+75 | |

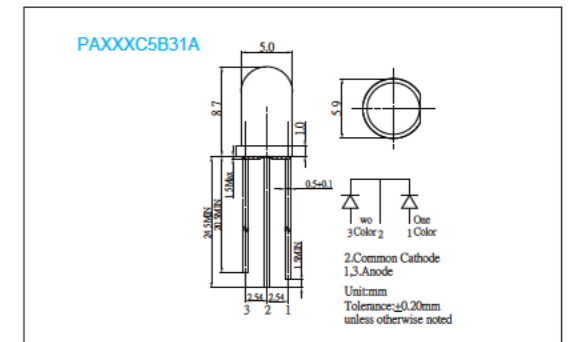
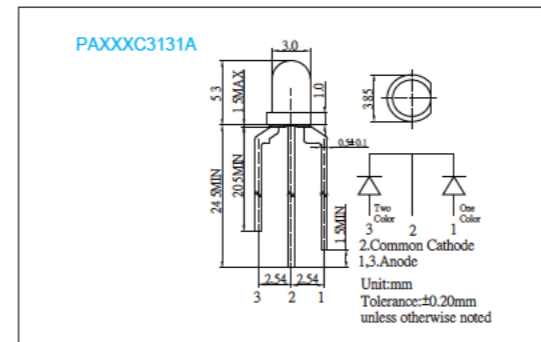
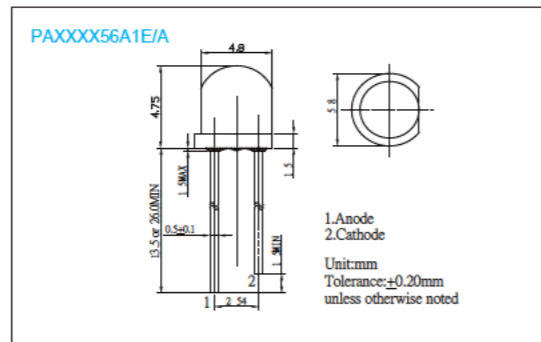
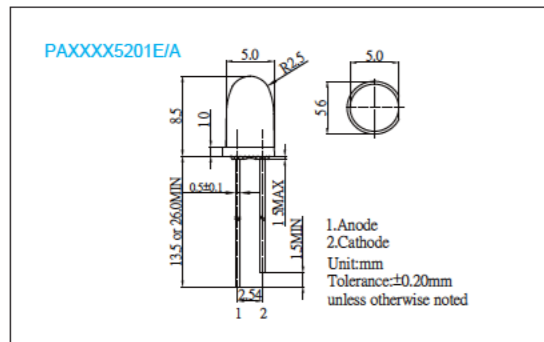
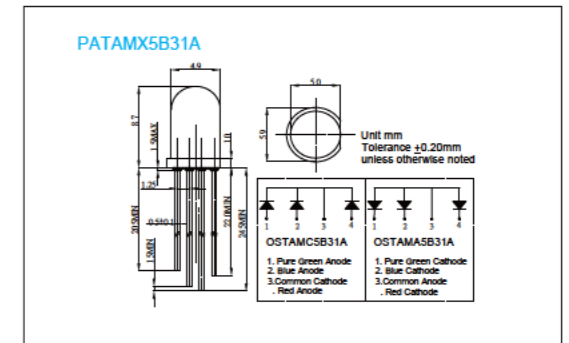
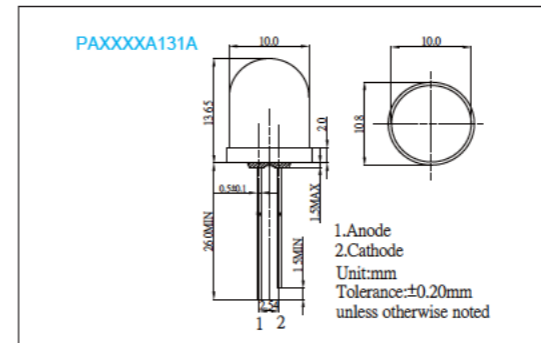
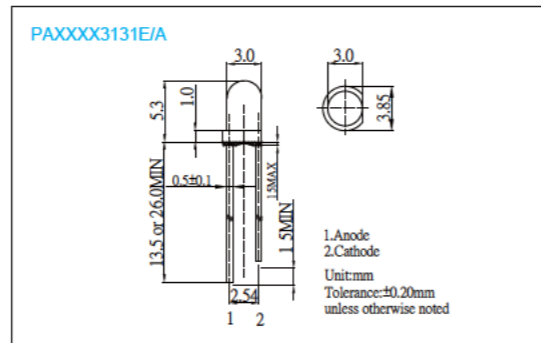
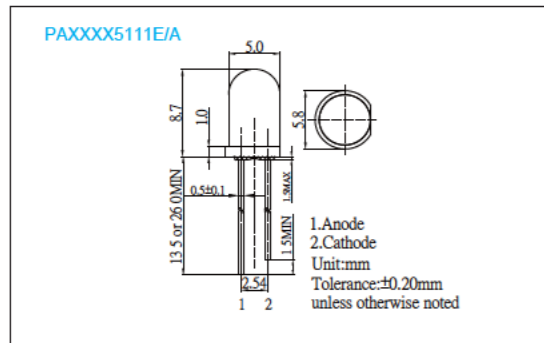
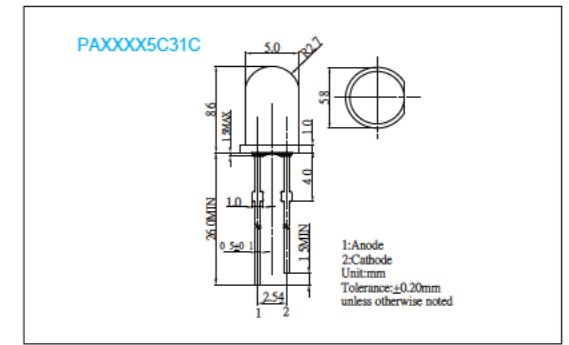
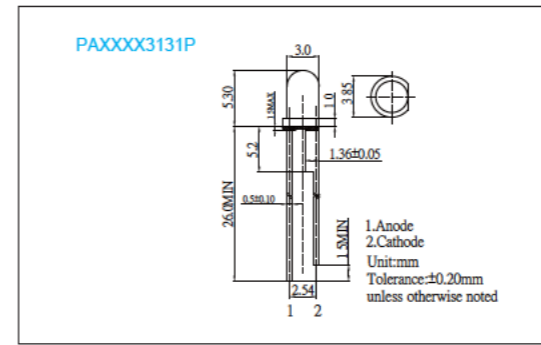
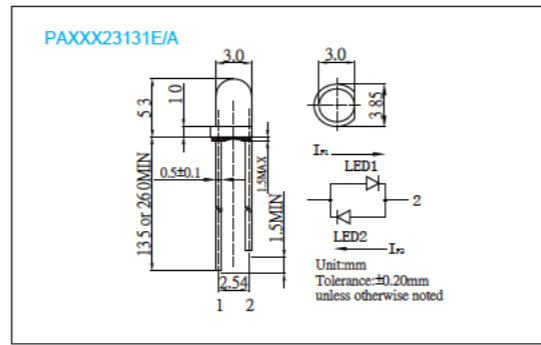
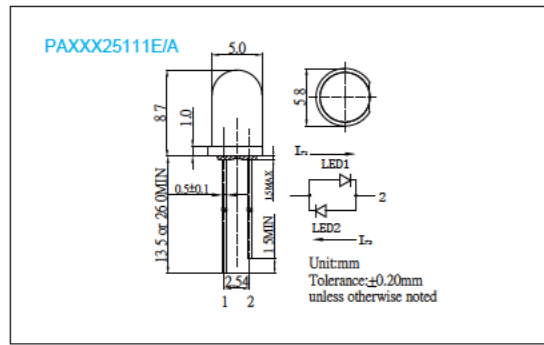
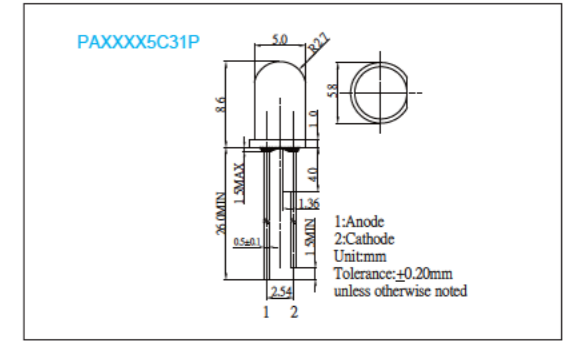
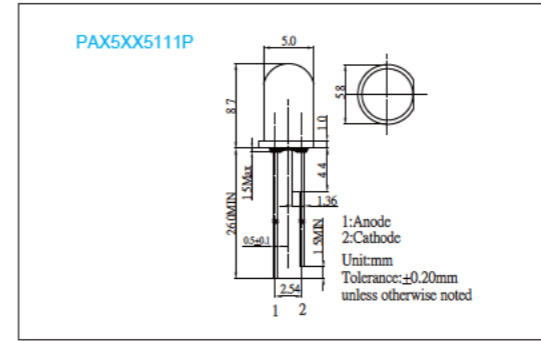
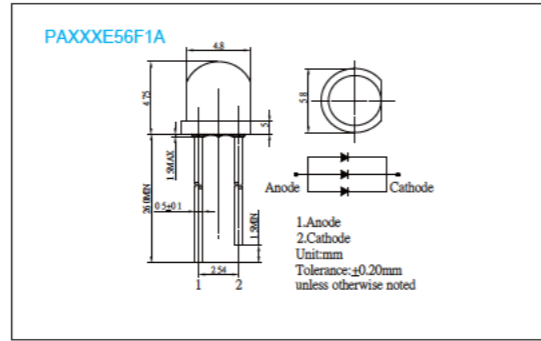
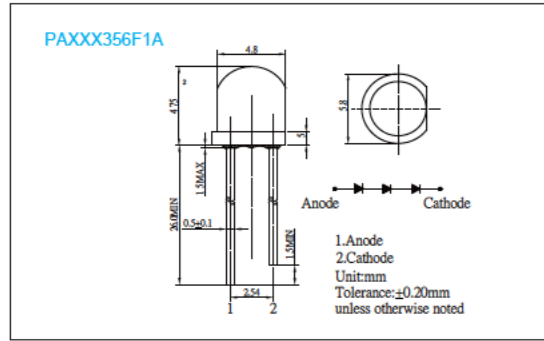
| Package | Part Number | Emitting Color | | Control Voltage VF (V) | Dominant Wavelength wd(nm) | | |
|---|------------------------|----------------|------------|------------------------|----------------------------|------|------|
| | | | | Typ. | Min. | Typ. | Max. |
| <i>E10 AC/DC Screw LED</i> | | | | | | | |
|  | PAP24-WWD28B31F | ● | White | AC/DC24V | 8000-17000K | | |
| | PAP24-MMD28B31F | ● | Warm White | AC/DC24V | 2500-3500K | | |
| | PAP24-BBS28B31F | ● | Blue | AC/DC24V | 465 | 470 | 475 |
| | PAP24-GGG28B31F | ● | Pure Green | AC/DC24V | 520 | 525 | 530 |
| | PAP24-YYM28B31B | ● | Yellow | AC/DC24V | 585 | 590 | 595 |
| | PAP24-RRM28B31B | ● | Red | AC/DC24V | 620 | 625 | 630 |
| <i>E10 DC Screw LED</i> | | | | | | | |
|  | PADK-W5DK8B31F | ● | White | DC12V | 8000-17000K | | |
| | PADK-M5DK8B31F | ● | Warm White | DC12V | 2500-3500K | | |
| | PADK-B5SA8B31F | ● | Blue | DC12V | 465 | 470 | 475 |
| | PADK-G5DA8B31F | ● | Pure Green | DC12V | 520 | 525 | 530 |
| | PADK-5YPM8B31F | ● | Yellow | DC12V | 585 | 590 | 595 |
| | PADK-5RPM8B31F | ● | Red | DC12V | 620 | 625 | 630 |
| <i>E10 Current Regulative Screw LED</i> | | | | | | | |
|  | PADD-W5DK8B31B-CRLED18 | ● | White | DC5.5~20V | 8000-17000K | | |
| | PADD-M5DK8B31B-CRLED18 | ● | Warm White | DC5.5~20V | 2500-3500K | | |
| | PADD-B5SA8B31B-CRLED18 | ● | Blue | DC5.5~20V | 465 | 470 | 475 |
| | PADD-G5DA8B31B-CRLED18 | ● | Pure Green | DC5.5~20V | 520 | 525 | 530 |
| | PADD-Y5MA8B31B-CRLED18 | ● | Yellow | DC5.5~20V | 585 | 590 | 595 |
| | PADD-R5MA8B31B-CRLED18 | ● | Red | DC5.5~20V | 620 | 625 | 630 |

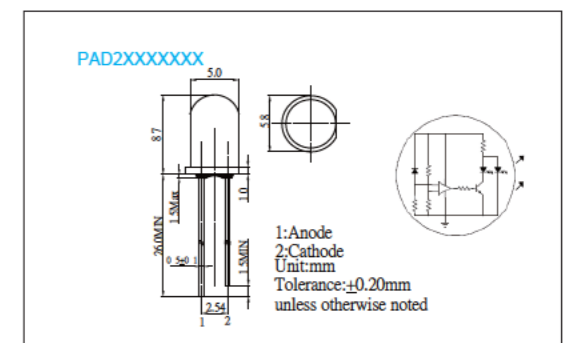
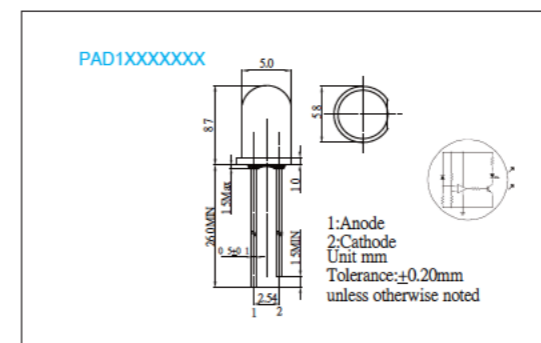
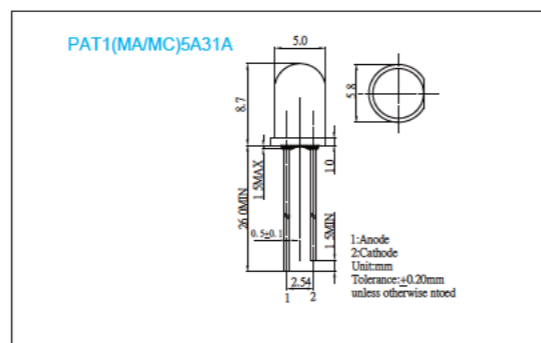
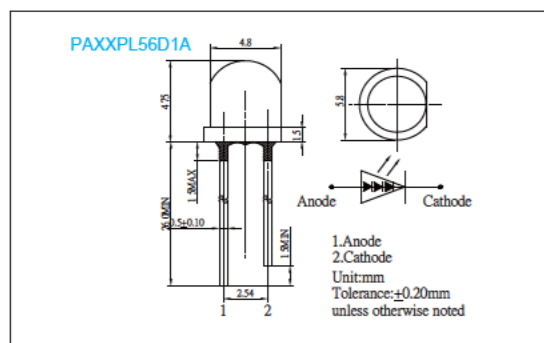
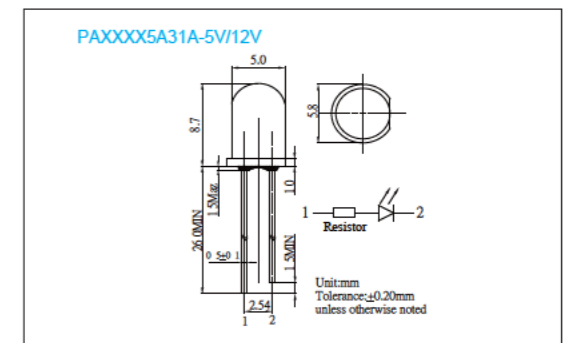
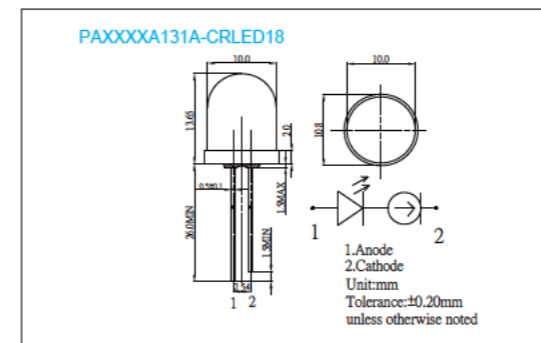
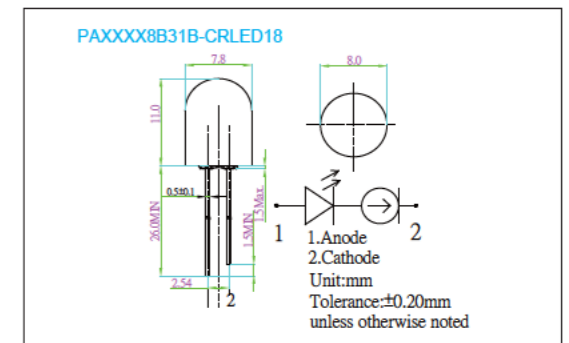
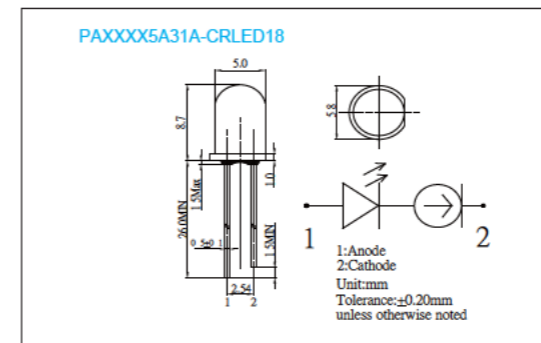
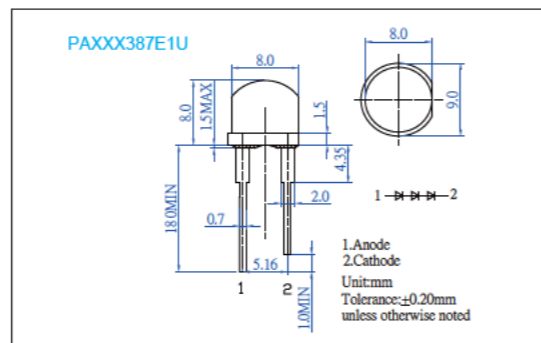
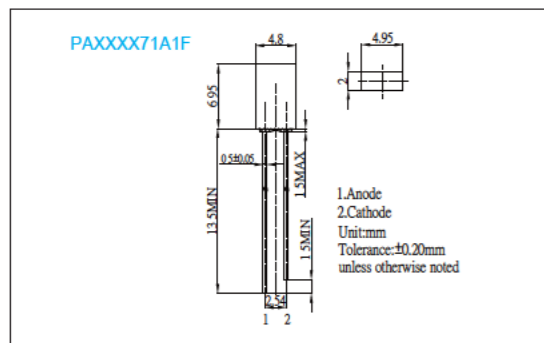
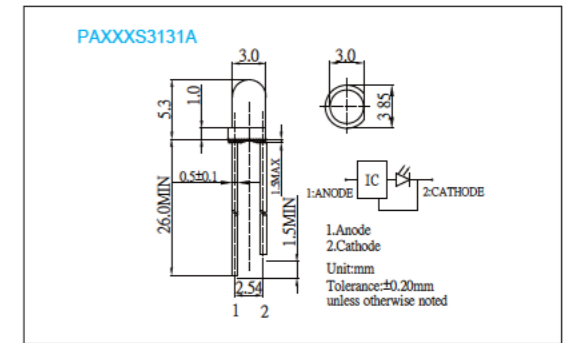
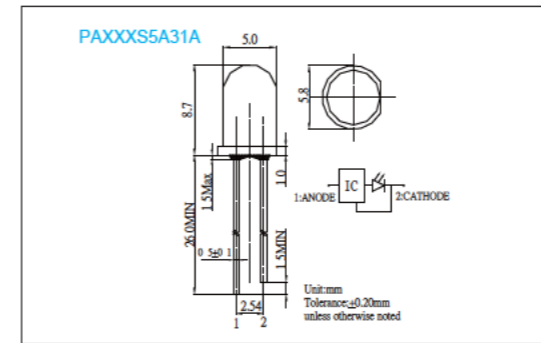
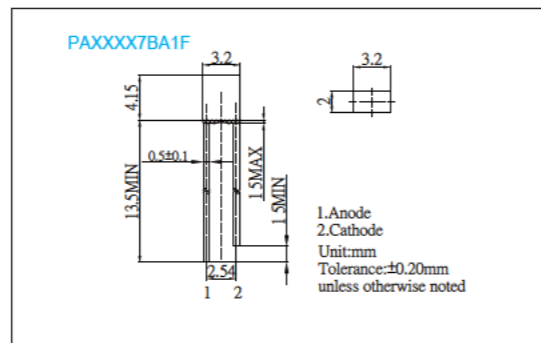
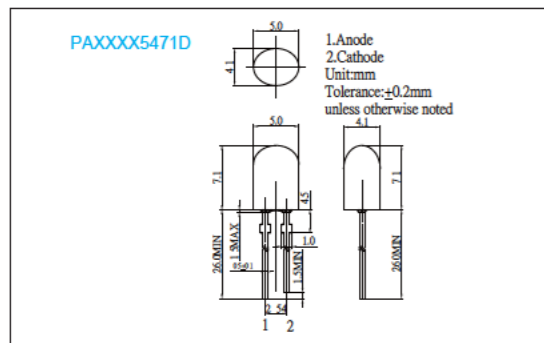
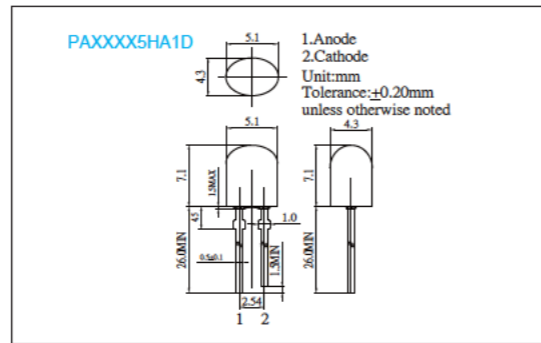
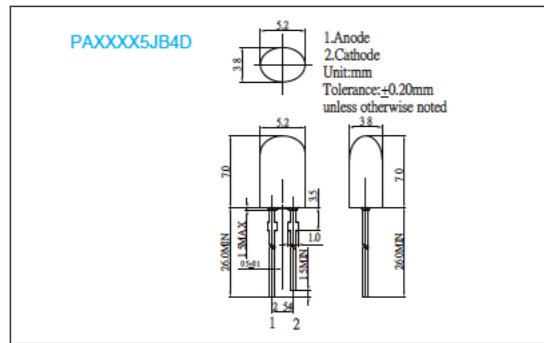
| Luminous Intensity (mcd) | Directivity 2θ1/2 (degree) | IF (mA) | T _{opr} (°C) | T _{stg} (°C) | Mounting |
|--------------------------|----------------------------|---------|-----------------------|-----------------------|----------------|
| 20000 | 30 | 20 | -30 ~ +85 | -40 ~ +100 | Hand Soldering |
| 10000 | 30 | 20 | -30 ~ +85 | -40 ~ +100 | |
| 7000 | 30 | 20 | -30 ~ +85 | -40 ~ +100 | |
| 20000 | 30 | 20 | -30 ~ +85 | -40 ~ +100 | |
| 10000 | 30 | 20 | -30 ~ +85 | -40 ~ +100 | |
| 10000 | 30 | 20 | -30 ~ +85 | -40 ~ +100 | |
| 25000 | 30 | 20 | -30 ~ +85 | -40 ~ +100 | Hand Soldering |
| 14400 | 30 | 20 | -30 ~ +85 | -40 ~ +100 | |
| 8000 | 30 | 20 | -30 ~ +85 | -40 ~ +100 | |
| 25000 | 30 | 20 | -30 ~ +85 | -40 ~ +100 | |
| 15000 | 30 | 20 | -30 ~ +85 | -40 ~ +100 | |
| 15000 | 30 | 20 | -30 ~ +85 | -40 ~ +100 | |
| 12000 | 30 | 16 | -30 ~ +85 | -40 ~ +100 | Hand Soldering |
| 8000 | 30 | 16 | -30 ~ +85 | -40 ~ +100 | |
| 6500 | 30 | 16 | -30 ~ +85 | -40 ~ +100 | |
| 12000 | 30 | 16 | -30 ~ +85 | -40 ~ +100 | |
| 7500 | 30 | 16 | -30 ~ +85 | -40 ~ +100 | |
| 7500 | 30 | 16 | -30 ~ +85 | -40 ~ +100 | |

| Package | Part Number | Emitting Color | | Forward Voltage VF (V) | Dominant Wavelength wd(nm) | | |
|---|-------------|----------------|------------|------------------------|----------------------------|------|------|
| | | | | Typ. | Min. | Typ. | Max. |
| <i>LED Light Strip 60 x SMD3528 /Meter</i> | | | | | | | |
|  | PAW0W536 | ● | Cool White | DC12V | 8500-10000-20000K | | |
| | PAW0M536 | ● | Warm White | DC12V | 2500-3000-3500K | | |
| | PAW0B536 | ● | Blue | DC12V | 465 | 470 | 475 |
| | PAW0G536 | ● | Pure Green | DC12V | 520 | 525 | 530 |
| | PAW0Y536 | ● | Yellow | DC12V | 585 | 590 | 595 |
| | PAW0R536 | ● | Red | DC12V | 620 | 625 | 630 |
| <i>LED Light Strip 60 x SMD5050 /Meter</i> | | | | | | | |
|  | PAW0W556 | ● | Pure White | DC12V | 5500-6500-8500K | | |
| | PAW0M556 | ● | Warm White | DC12V | 2700-3000-3200K | | |
| | PAW0B556 | ● | Blue | DC12V | 465 | 470 | 475 |
| | PAW0G556 | ● | Pure Green | DC12V | 520 | 525 | 530 |
| | PAW0Y556 | ● | Yellow | DC12V | 585 | 590 | 595 |
| | PAW0R556 | ● | Red | DC12V | 620 | 625 | 630 |
| | PAW0TC56 | ● | Red | DC12V | 620 | 625 | 630 |
| | | ● | Green | | 520 | 525 | 530 |
| ● | | Blue | 465 | | 470 | 475 | |
| <i>Ultra Thin Circular LED Module</i> | | | | | | | |
|  | PARS24W414 | ● | White | 12V | 5500K-6500K | | |
| | PARS16W414 | ● | White | 12V | 5500K-6500K | | |
| | PARS08W414 | ● | White | 12V | 5500K-6500K | | |
| <i>Ultra Thin Cutable Rigid LED Bar</i> | | | | | | | |
|  | PARBW0W428 | ● | White | 12V | 5500K-6500K-8500K | | |
| | PARBW0M528 | ● | Warm White | 12V | 3000K-3500K-4000K | | |
| | PARBW0W414 | ● | White | 12V | 5500K-6500K-8500K | | |
| | PARBW0M514 | ● | Warm White | 12V | 3000K-3500K-4000K | | |
| <i>Bendable RGB LED Flashing Mini String</i> | | | | | | | |
|  | PAMST1100FD | ● | Red | 12V | 620 | 625 | 630 |
| | | ● | Green | | 520 | 525 | 530 |
| | | ● | Blue | | 465 | 470 | 475 |
|  | PAMST120EB | ● | Red | 4.5V | 620 | 625 | 630 |
| | | ● | Green | | 520 | 525 | 530 |
| | | ● | Blue | | 465 | 470 | 475 |

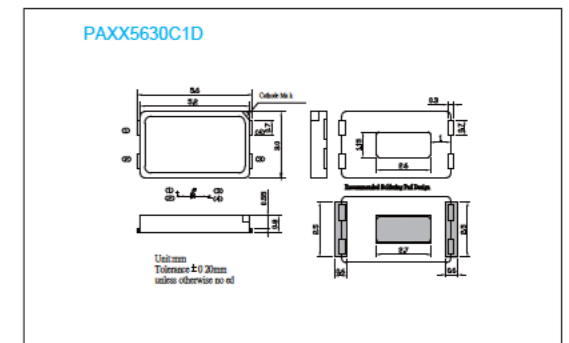
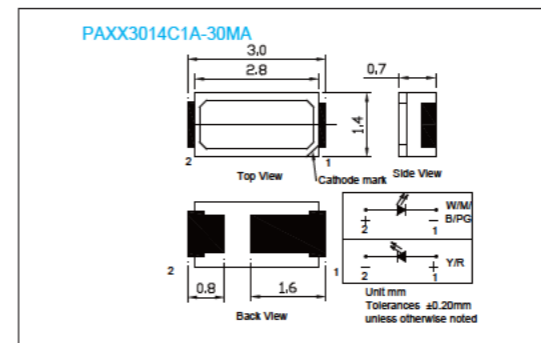
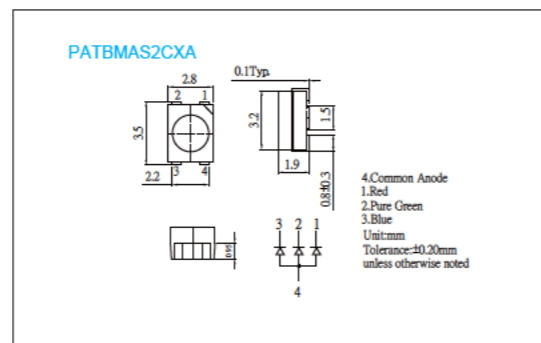
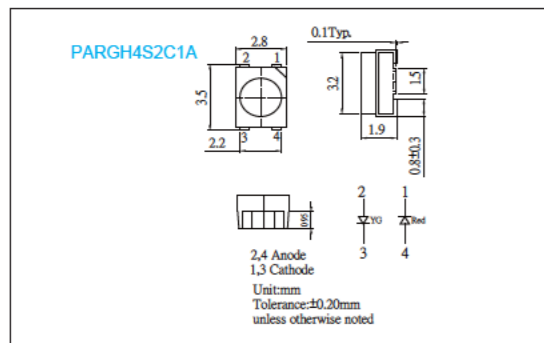
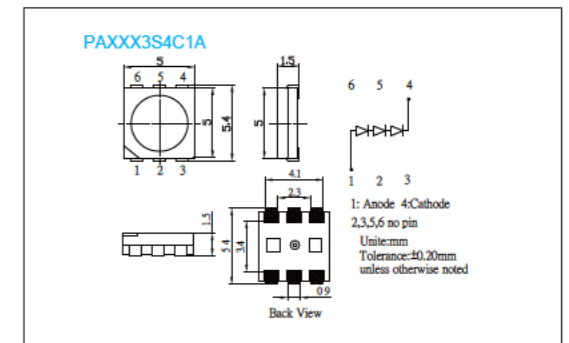
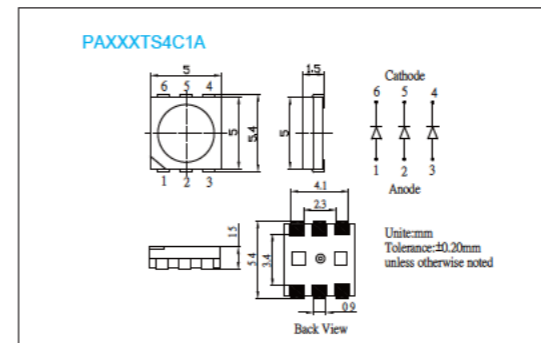
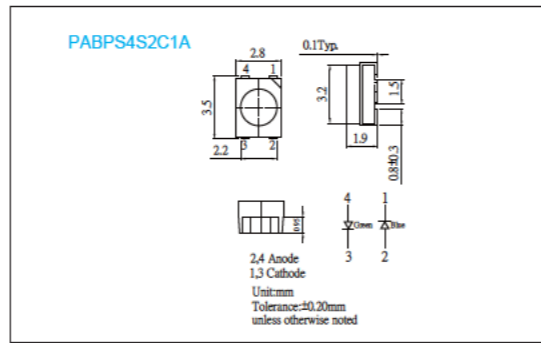
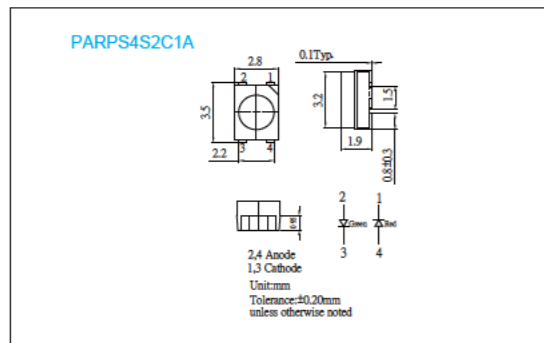
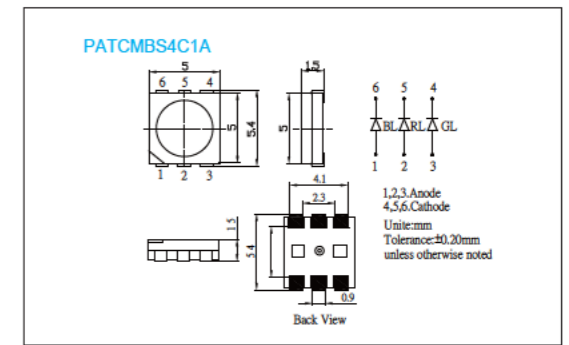
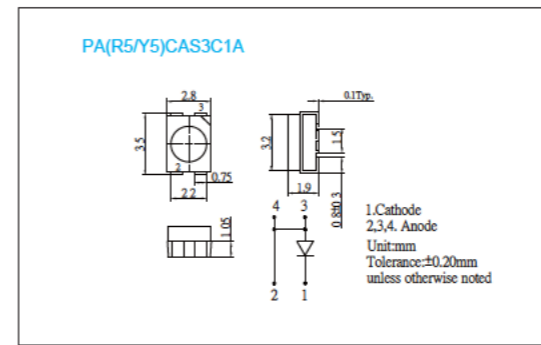
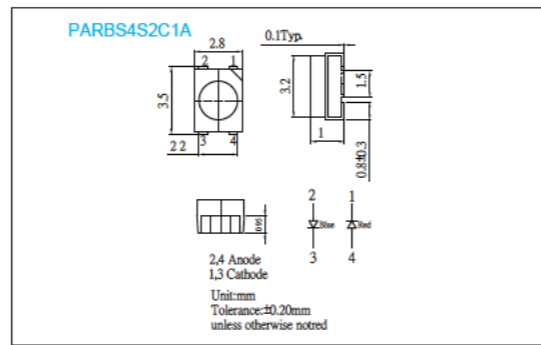
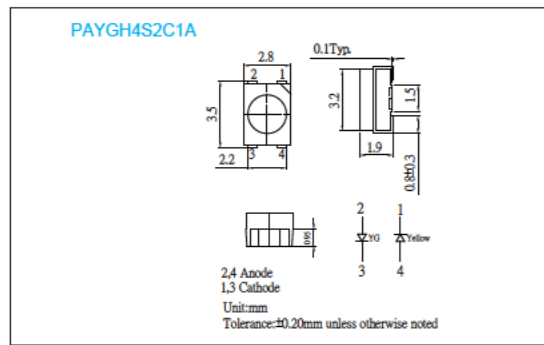
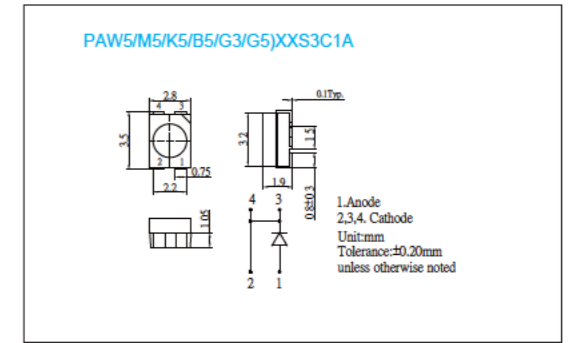
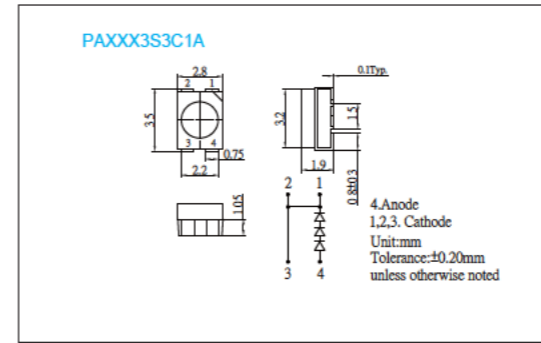
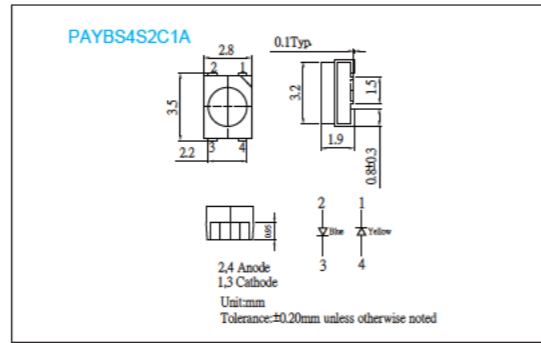
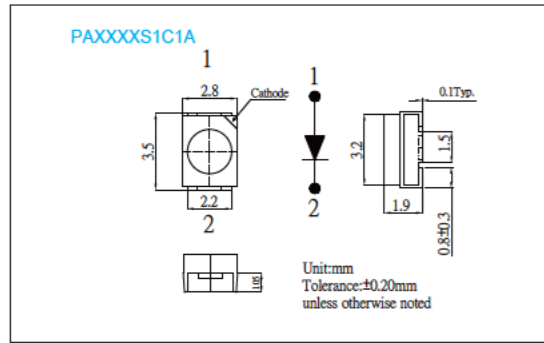
| Luminous Intensity (mcd) | Directivity 2θ1/2 (degree) | IF (mA) | T _{opr} (°C) | T _{stg} (°C) | Mounting |
|--------------------------|----------------------------|---------|-----------------------|-----------------------|-----------------------|
| Typ | | | | | |
| 1700 | 120 | 400 | -30~+85 | -40~+100 | Hand Soldering |
| 1400 | 120 | 400 | -30~+85 | -40~+100 | |
| 305 | 120 | 400 | -30~+85 | -40~+100 | |
| 600 | 120 | 400 | -30~+85 | -40~+100 | |
| 375 | 120 | 400 | -30~+85 | -40~+100 | |
| 400 | 120 | 400 | -30~+85 | -40~+100 | |
| 12-14lm | 120 | 1200 | -30~+85 | -40~+100 | Hand Soldering |
| 11-13lm | 120 | 1200 | -30~+85 | -40~+100 | |
| 755 | 120 | 1200 | -30~+85 | -40~+100 | |
| 1500 | 120 | 1200 | -30~+85 | -40~+100 | |
| 875 | 120 | 1200 | -30~+85 | -40~+100 | |
| 900 | 120 | 1200 | -30~+85 | -40~+100 | |
| 180 | 120 | 1200 | -30~+85 | -40~+100 | |
| 900 | 120 | 1200 | -30~+85 | -40~+100 | |
| 200 | 120 | 1200 | -30~+85 | -40~+100 | |
| 288lm | 120 | 125 | -30~+85 | -40~+100 | Hand Soldering |
| 192lm | 120 | 84 | -30~+85 | -40~+100 | |
| 96lm | 120 | 42 | -30~+85 | -40~+100 | |
| 19-21lm | 120 | 1200 | -30~+85 | -40~+100 | Hand Soldering |
| 19-22lm | 120 | 1200 | -30~+85 | -40~+100 | |
| 8-9lm | 120 | 1000 | -30~+85 | -40~+100 | |
| 9-10lm | 120 | 1000 | -30~+85 | -40~+100 | |
| 100 | 120 | 370 | -30~+85 | -40~+100 | Hand Soldering |
| 360 | 120 | 370 | -30~+85 | -40~+100 | |
| 90 | 120 | 370 | -30~+85 | -40~+100 | |
| 100 | 120 | 130 | -30~+85 | -40~+100 | |
| 360 | 120 | 130 | -30~+85 | -40~+100 | |
| 90 | 120 | 130 | -30~+85 | -40~+100 | |

Outline Dimensions



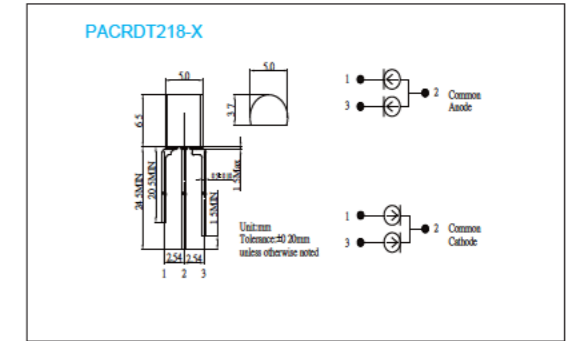
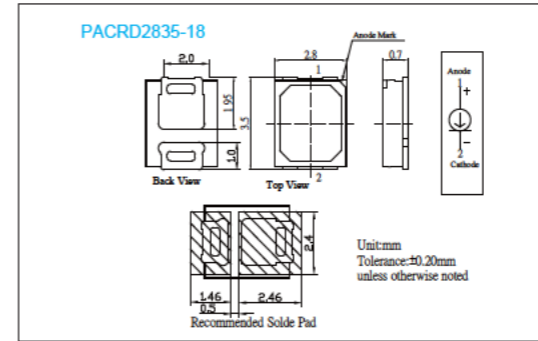
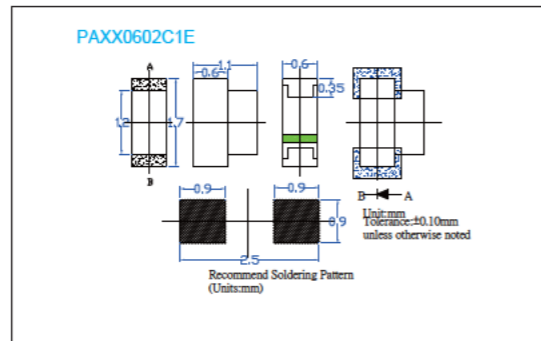
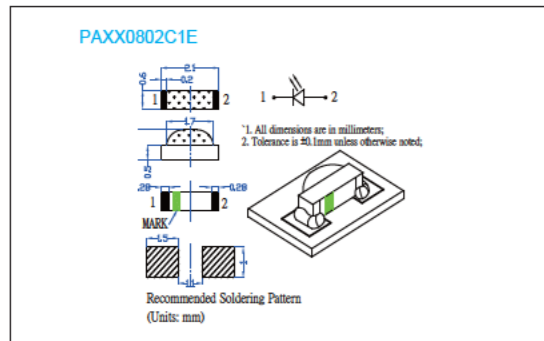
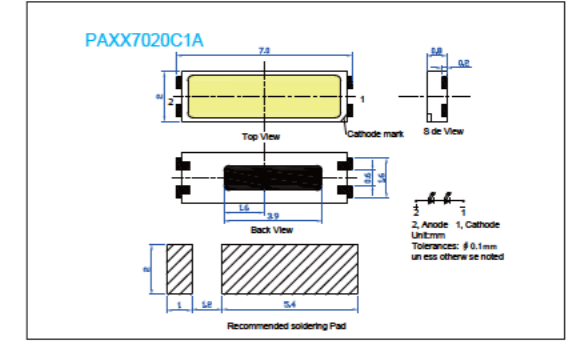
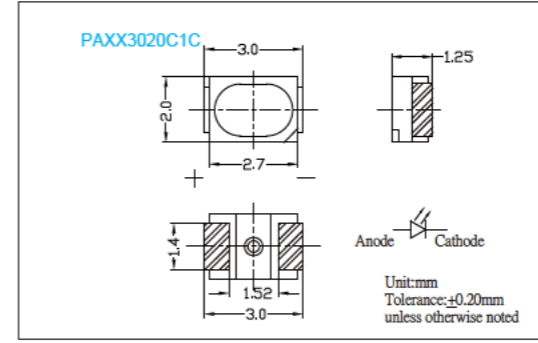
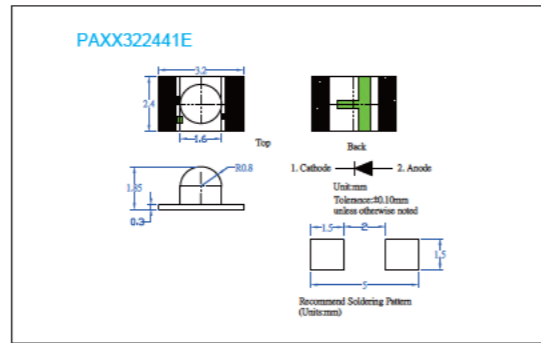
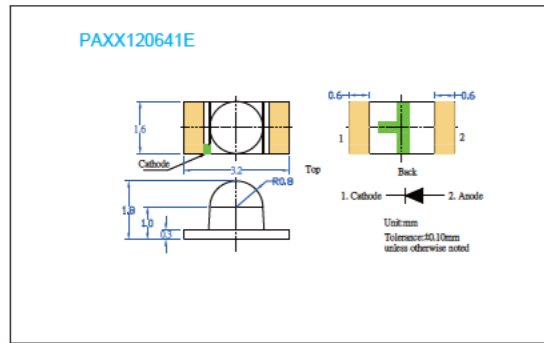
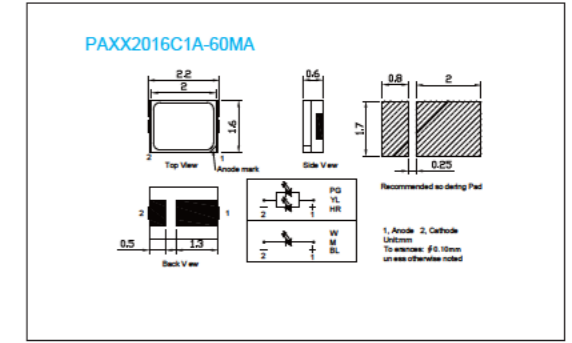
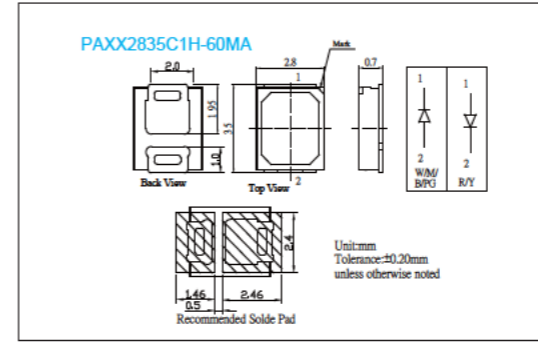
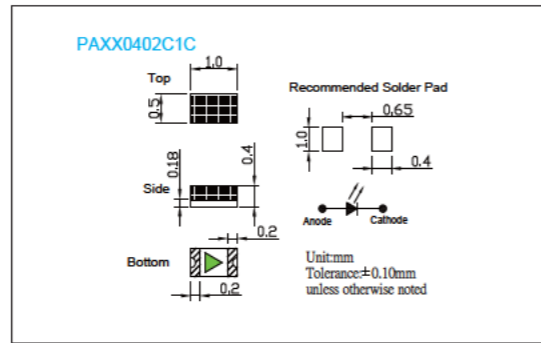
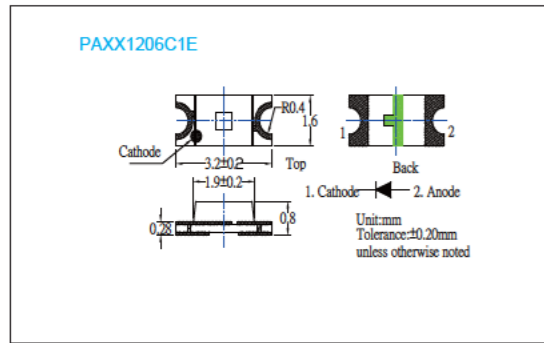
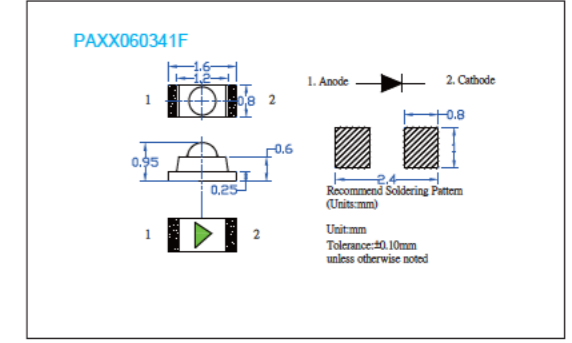
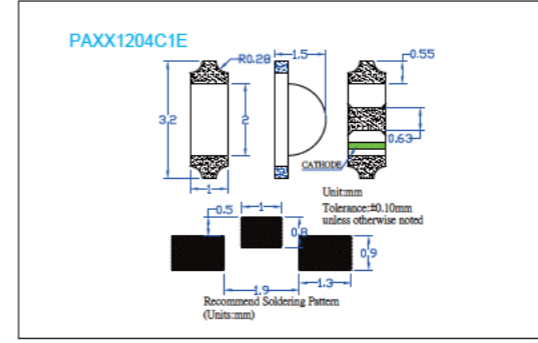
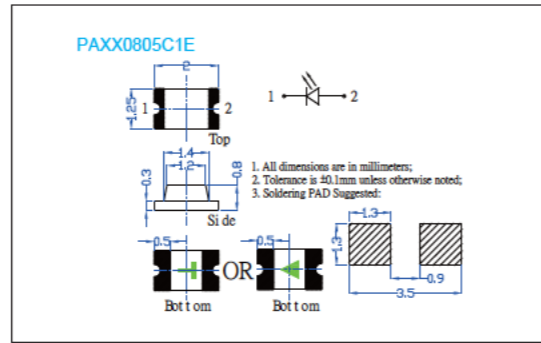
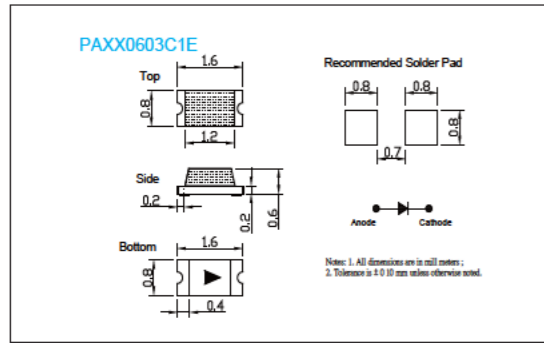


Outline Dimensions



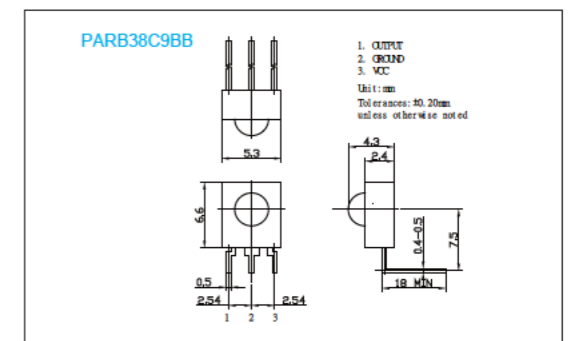
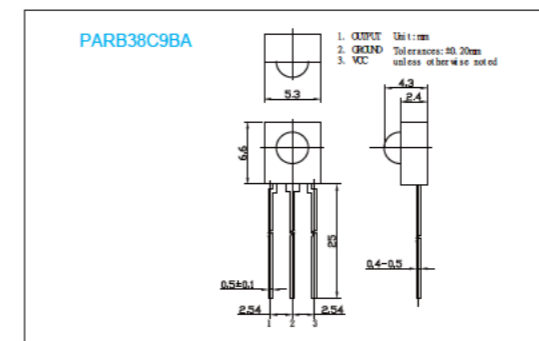
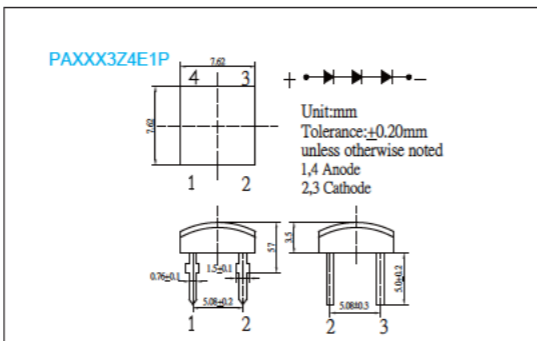
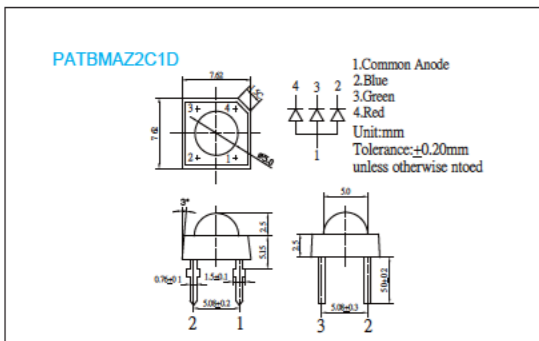
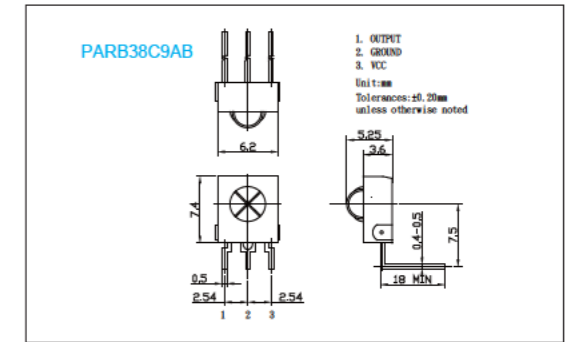
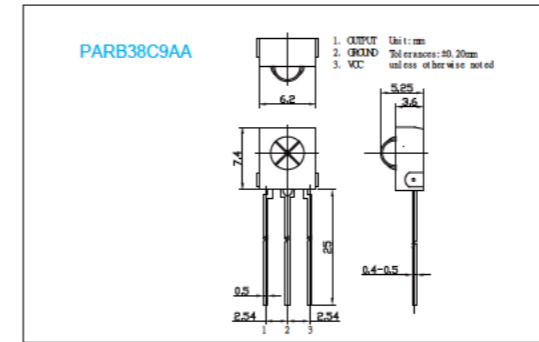
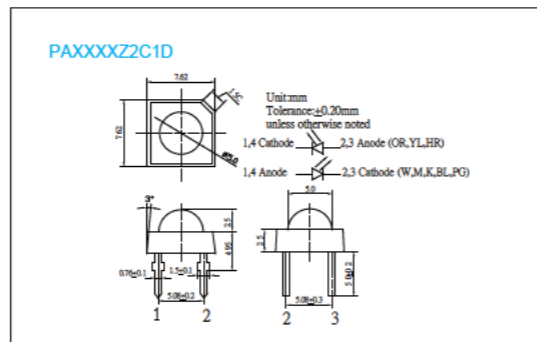
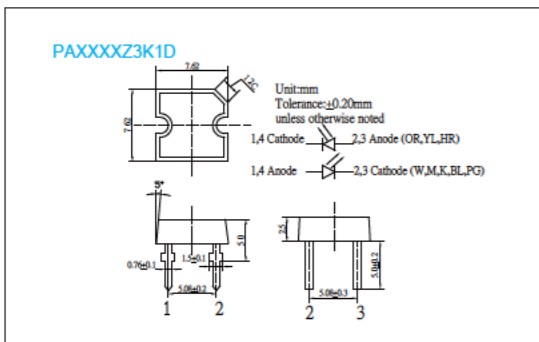
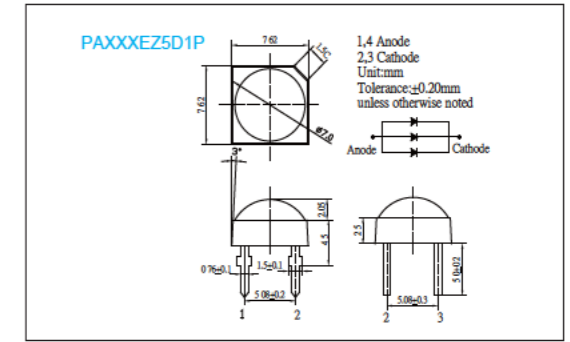
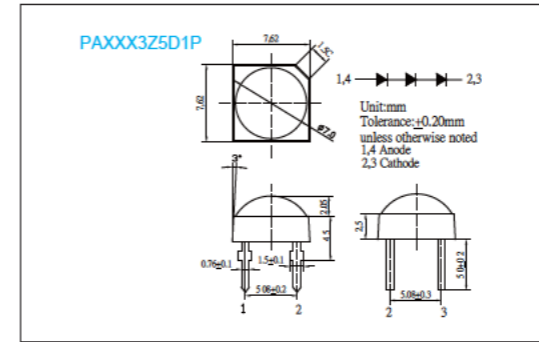
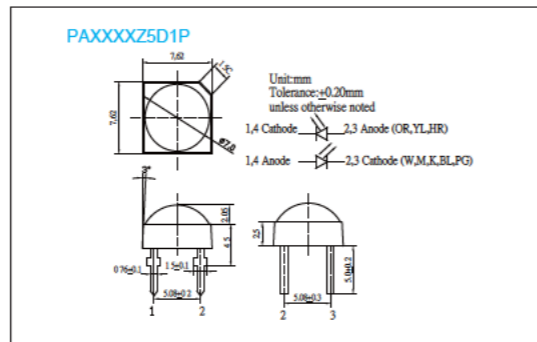
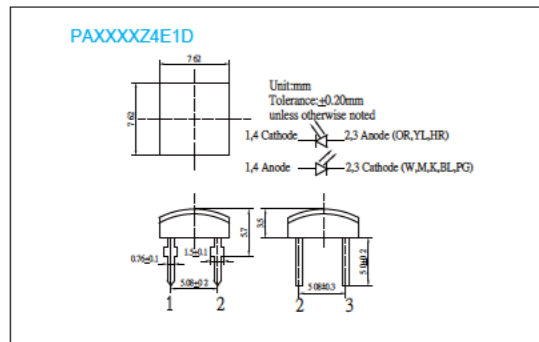
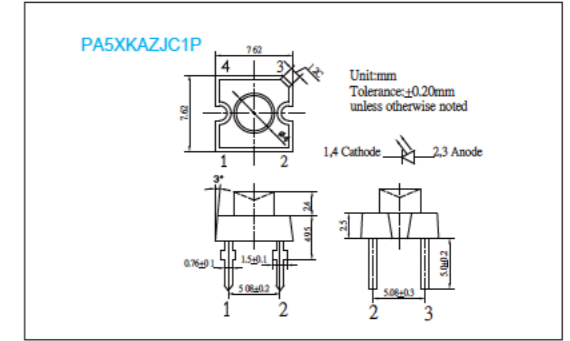
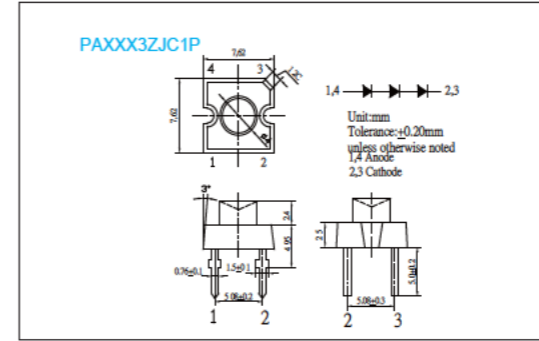
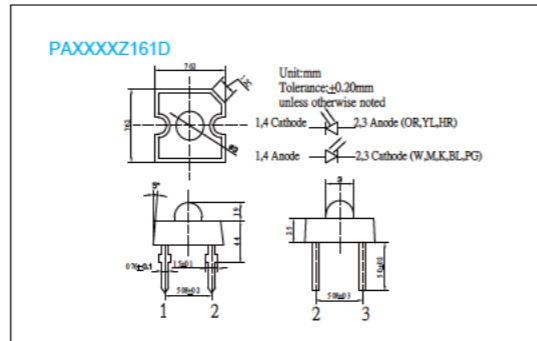
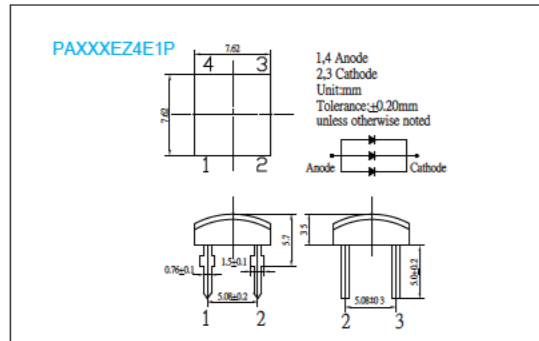
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Outline Dimensions

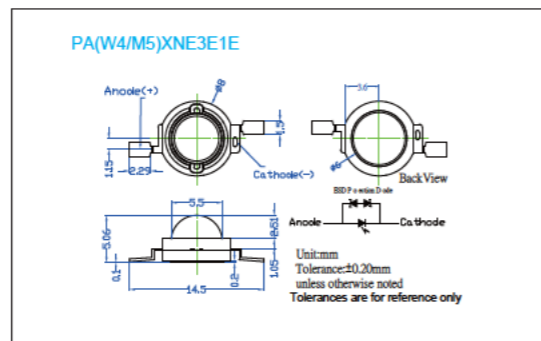
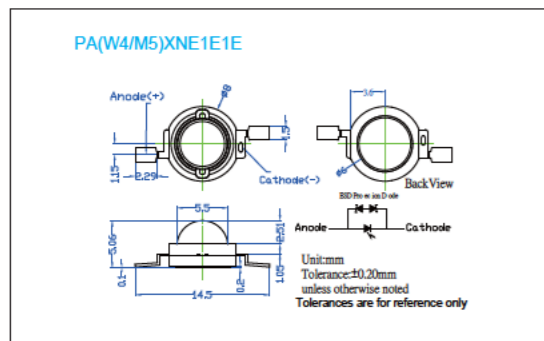
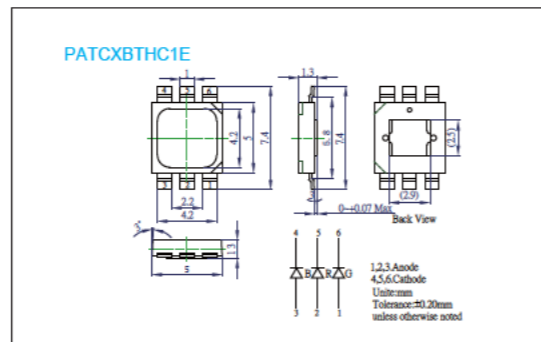
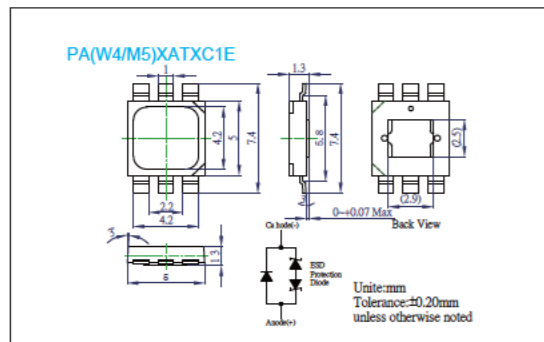
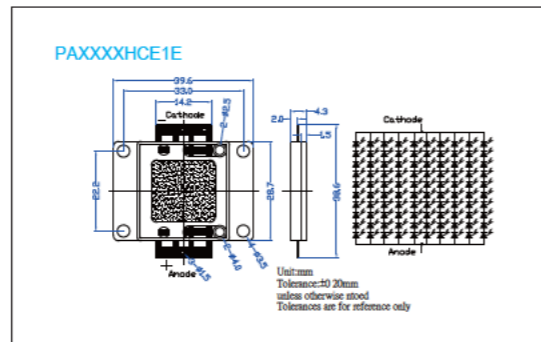
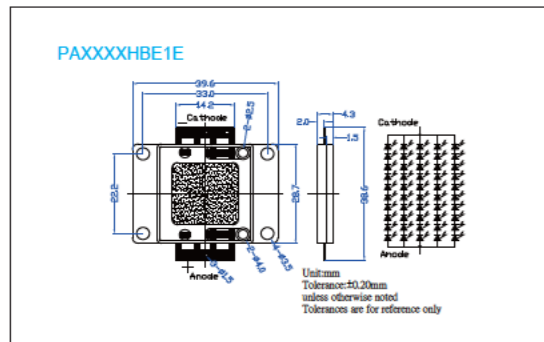
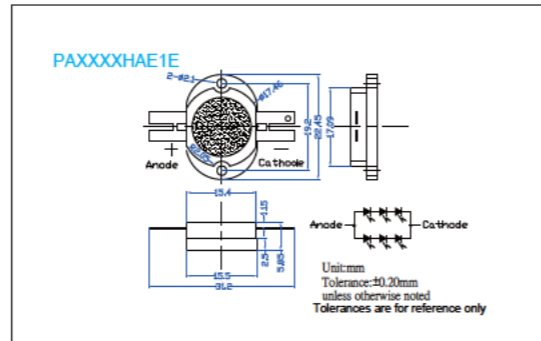
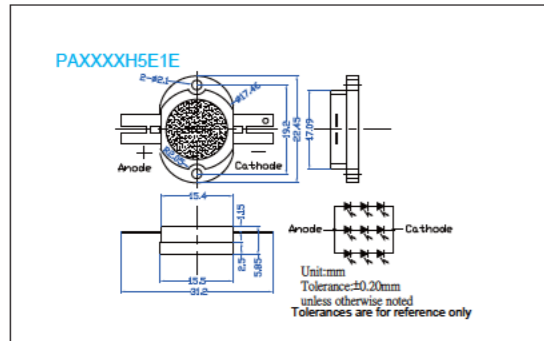


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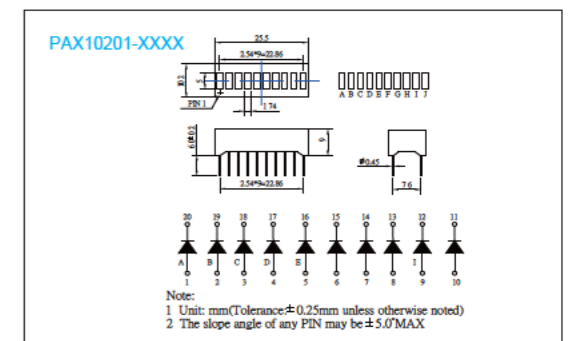
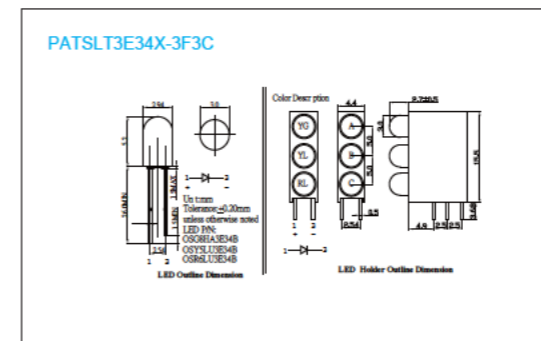
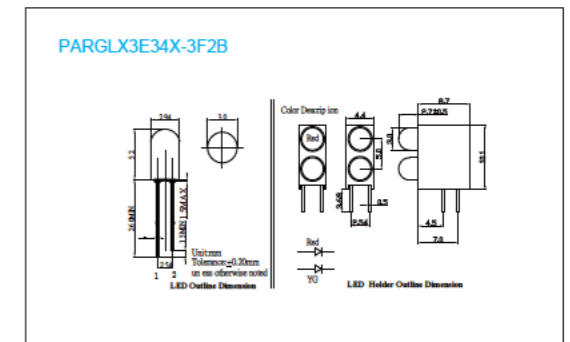
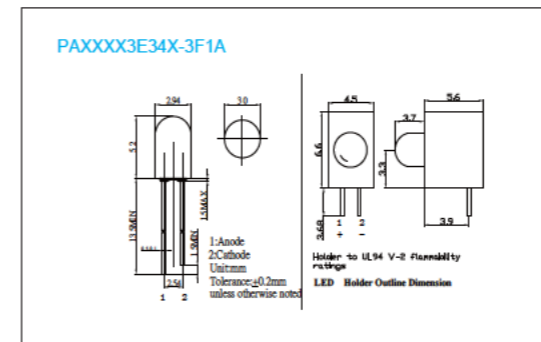
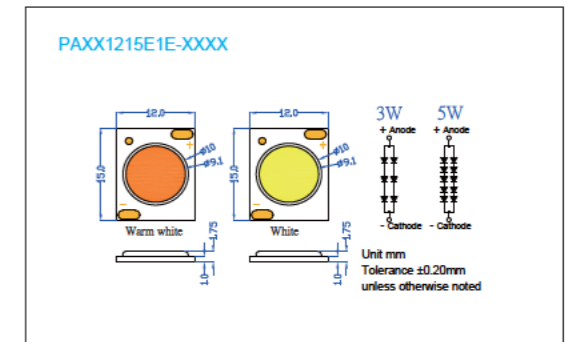
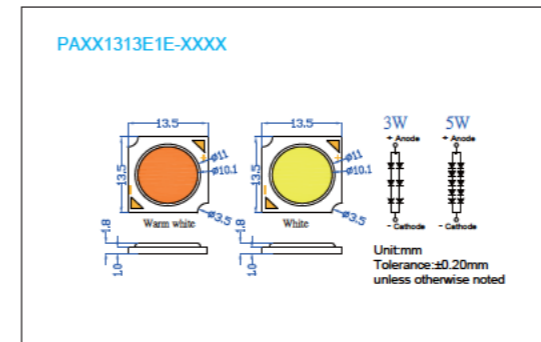
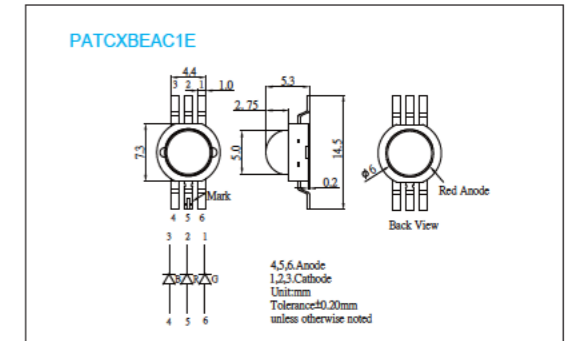
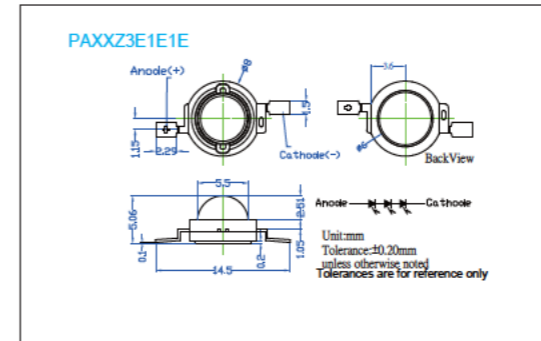
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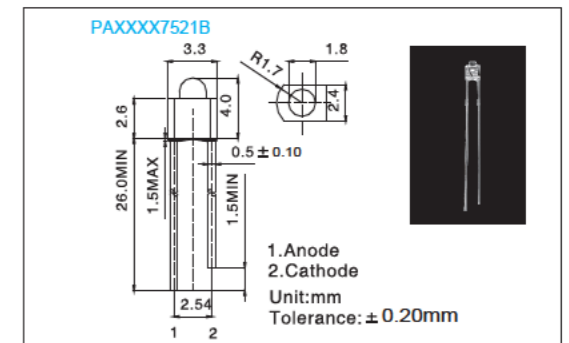
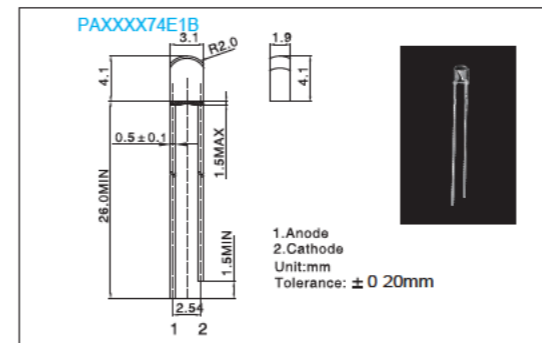
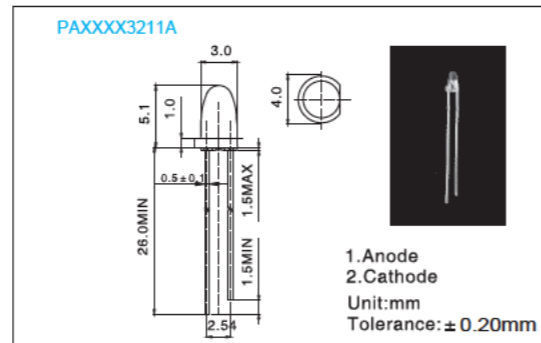
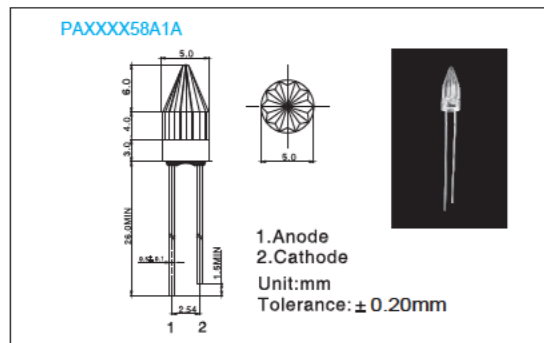
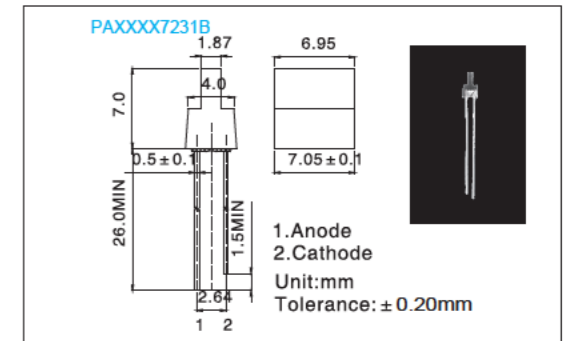
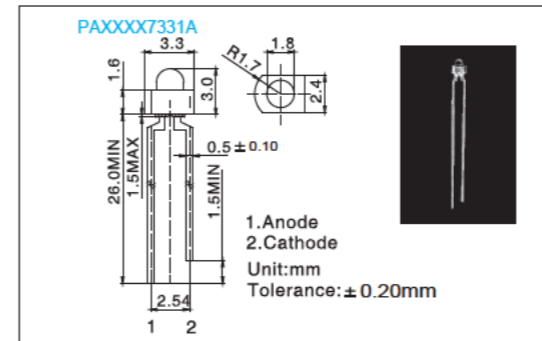
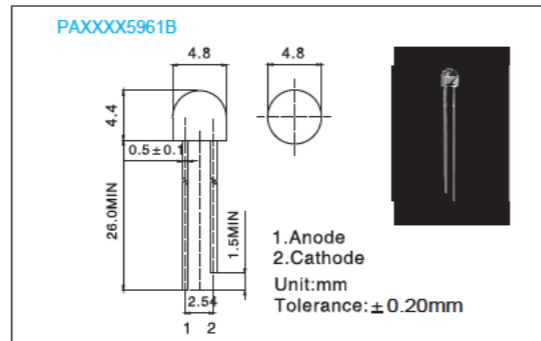
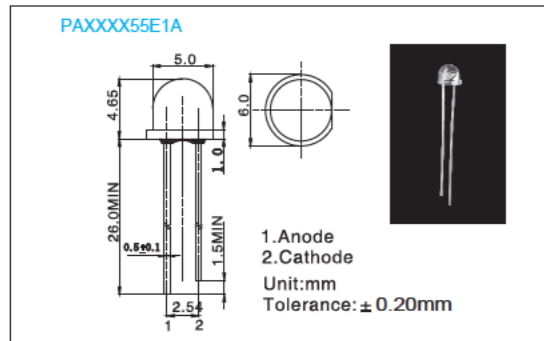
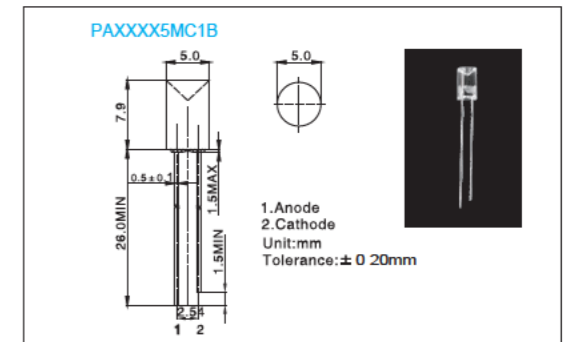
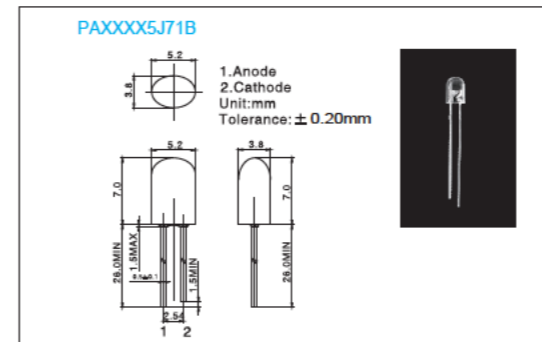
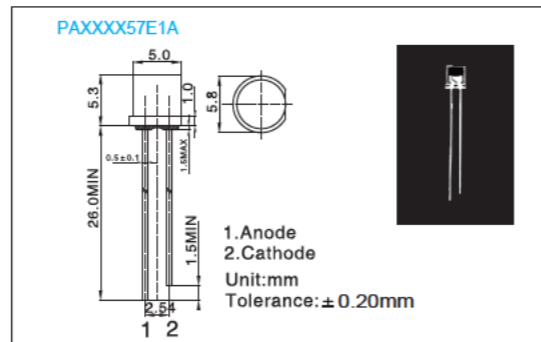
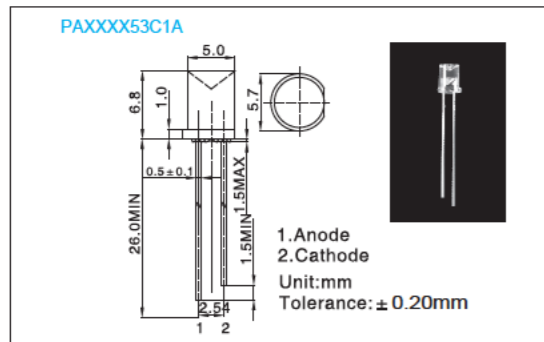
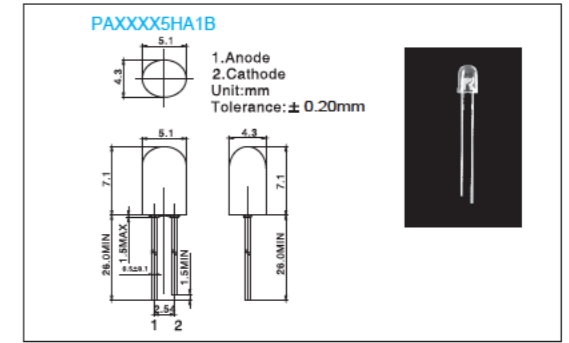
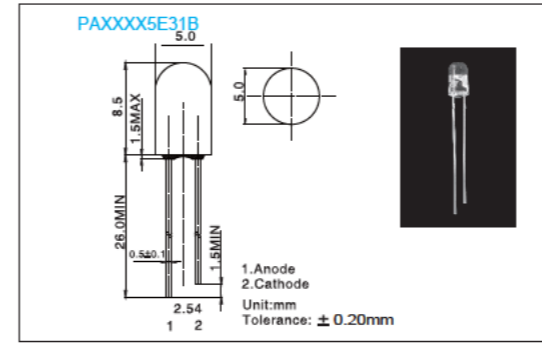
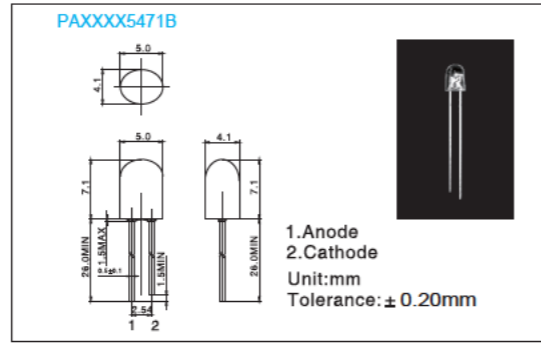
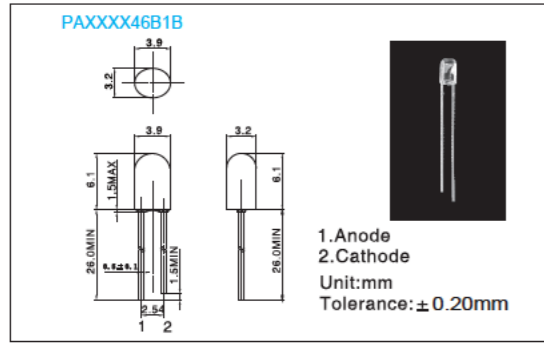
Outline Dimensions



Outline Dimensions

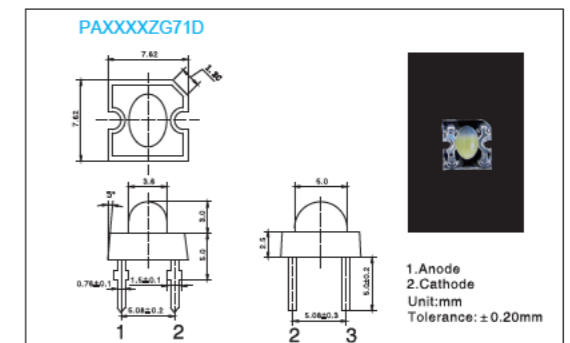
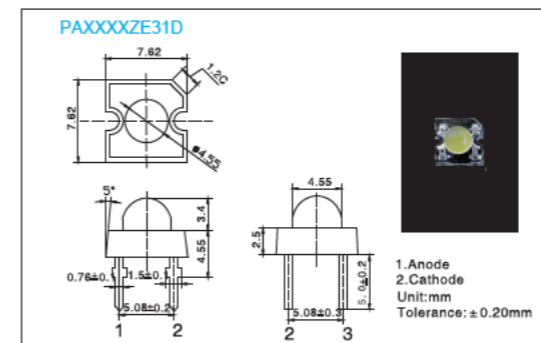
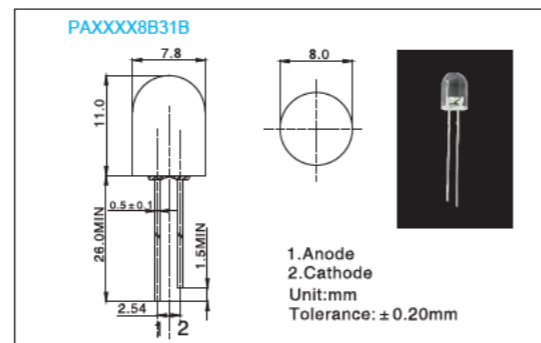
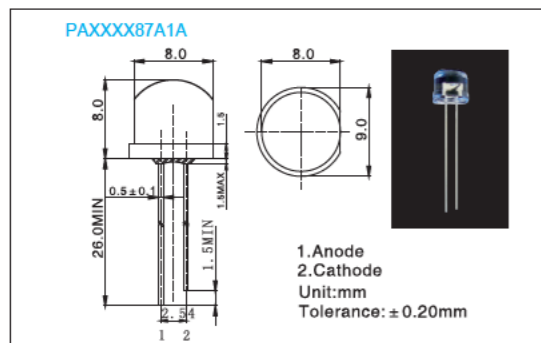
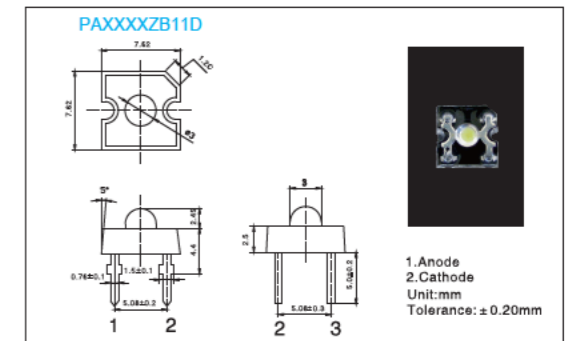
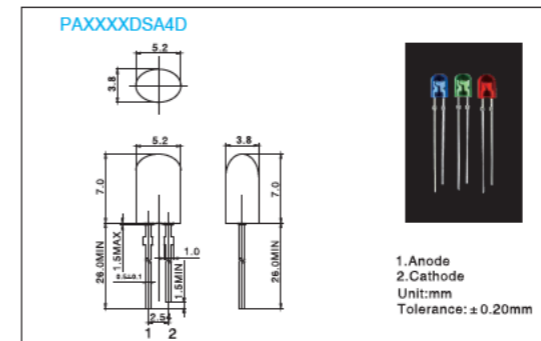
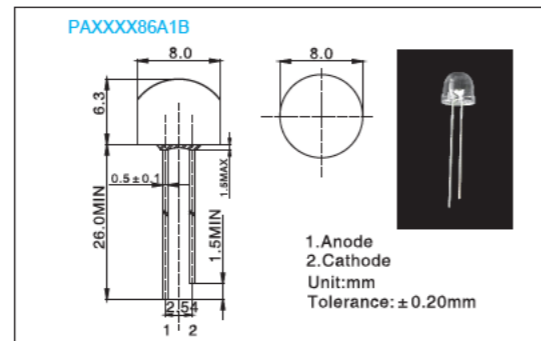
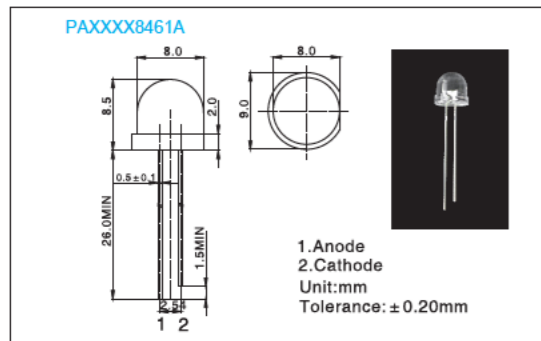
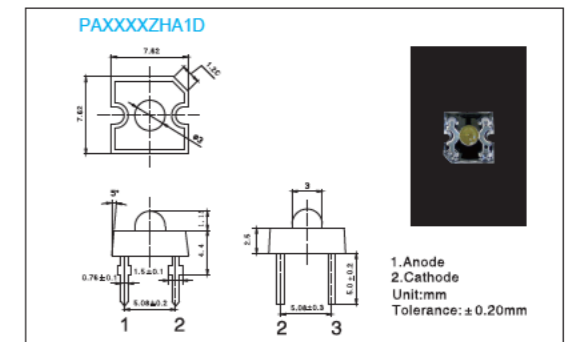
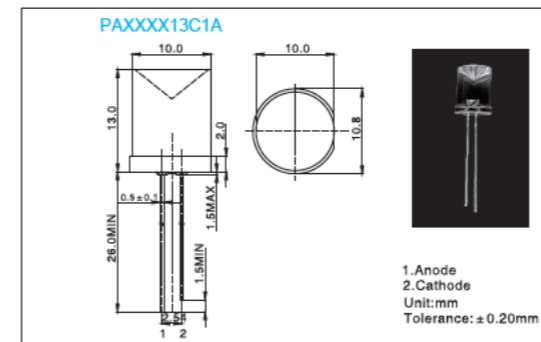
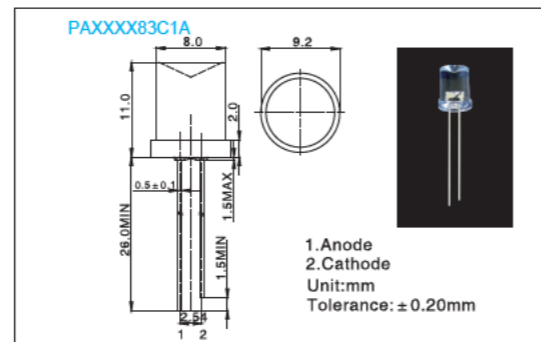
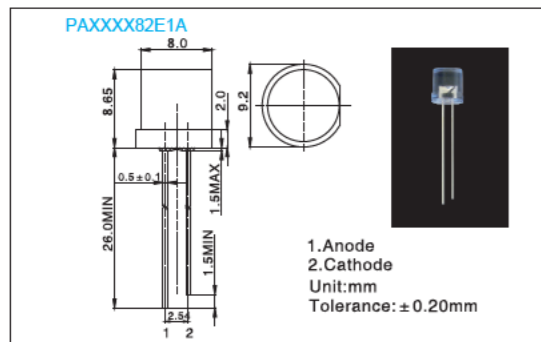
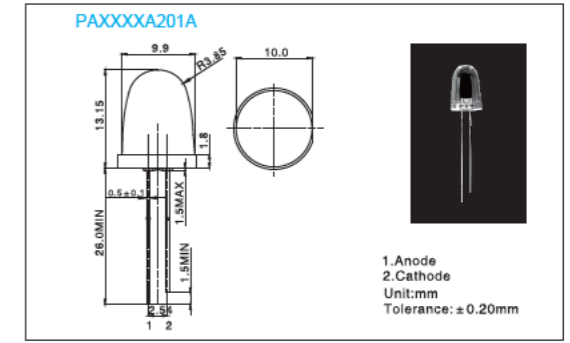
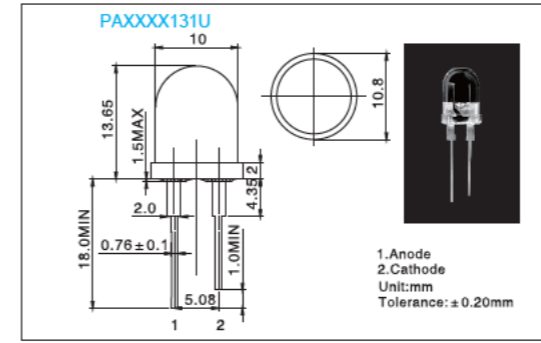
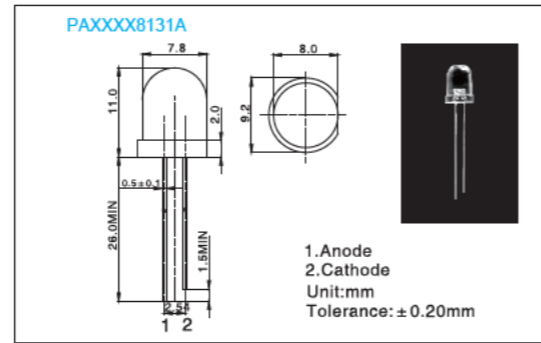
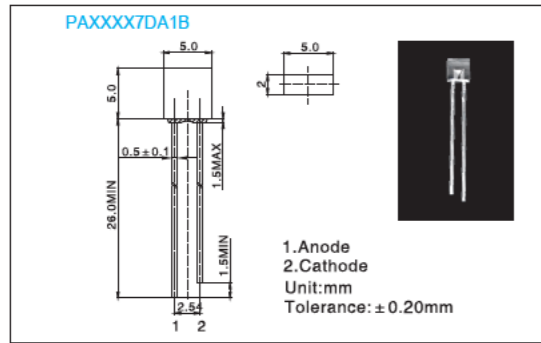


Outline Dimensions

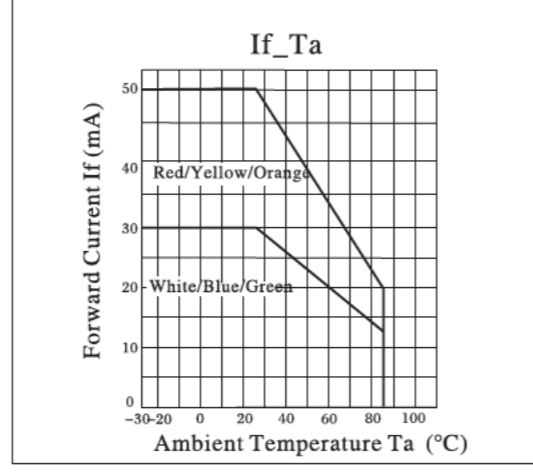
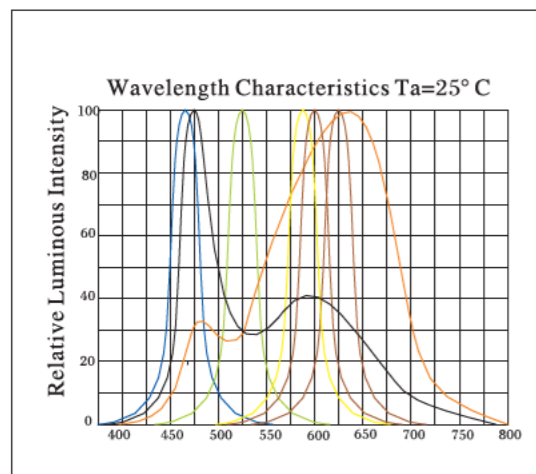
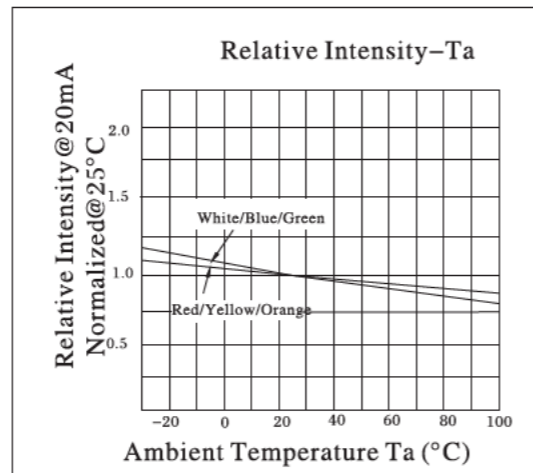
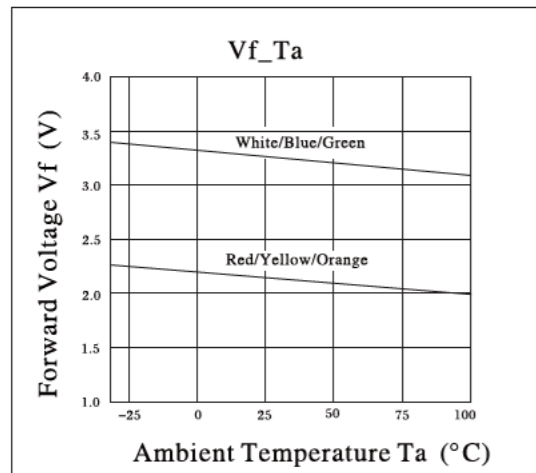
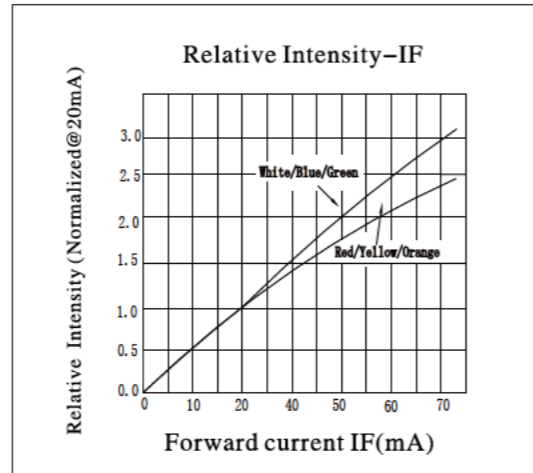
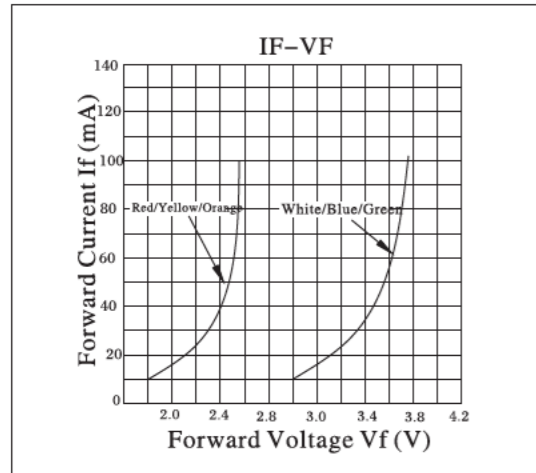


Outline Dimensions

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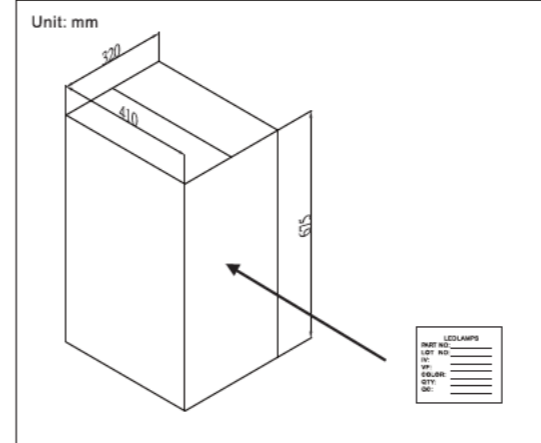
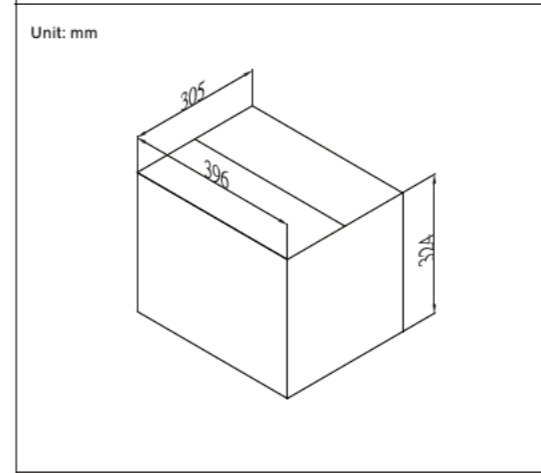
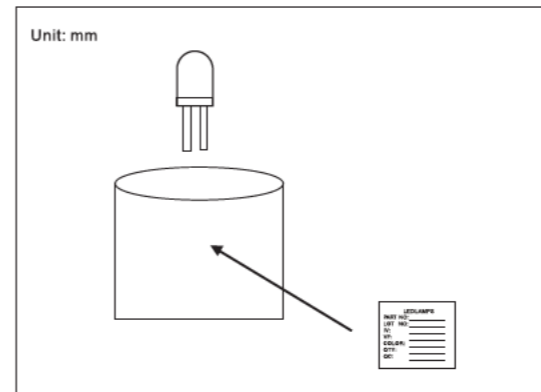


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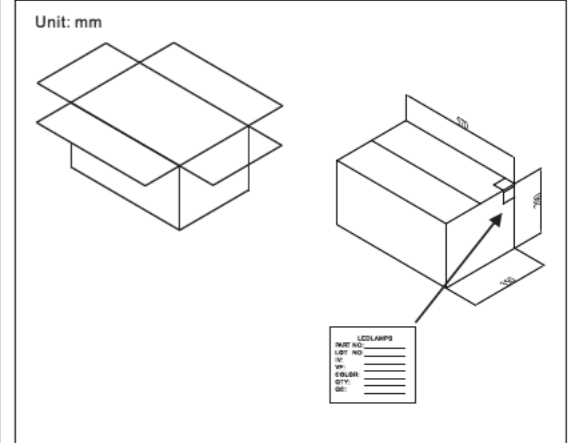
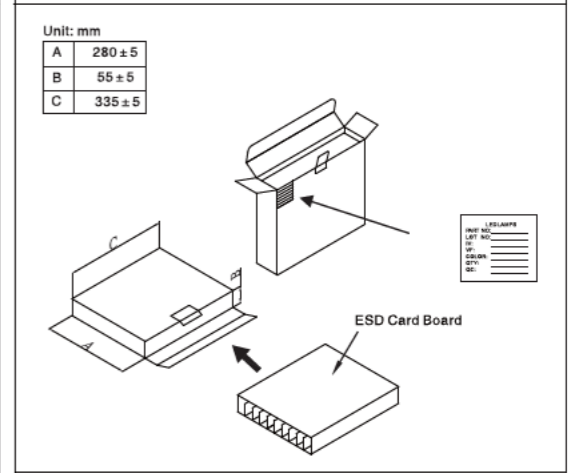
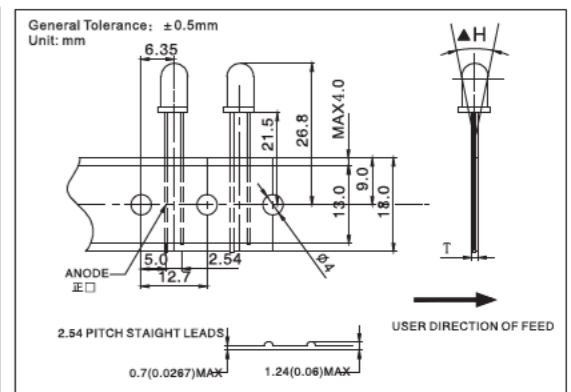
● Packing

*Bulk Packing



Remark: 1.5mm,ESD Bag(500 pcs/Bag)
2.5mm, Box(40 Bags/Box)
3.2 Boxes/Cartron

* Taping Box



Remark: 1.3mm,Box(3000 pcs/box)
2.5mm, Box(2000 pcs/box)
3.10 Boxes/carton

Handling Precautions

■ Lead Forming

- When forming leads, the leads should be bent at a point at least 3mm from the base of the epoxy bulb. Do not use the base of the leadframe as a fulcrum during lead forming.
- Lead forming should be done before soldering.
- Do not apply any bending stress to the base of the lead. The stress to the base may damage the LEDs. characteristics or it may break the LEDs.
- When mounting the LEDs onto a printed circuit board, the holes on the circuit board should be exactly aligned with the leads of the LEDs. If the LEDs are mounted with stress at the leads, it causes deterioration of the epoxy resin and this will degrade the LEDs.

■ Storage

- The LEDs should be stored at 30°C or less and 70%RH or less after being shipped from Patron and the storage life limits are 3 months. If the LEDs are stored for 3 months or more, they can be stored for a year in a sealed container with a nitrogen atmosphere and moisture absorbent material.
- Optosupply's LEDs leadframes are silver plated Fe or Copper alloy. The silver surface may be affected by environments which contain corrosive substances. Please avoid conditions which may cause LEDs to corrode, tarnish or discolor. This corrosion or discoloration may cause difficulty during soldering operations. It is recommended that the LEDs be used as soon as possible.
- Please avoid rapid transitions in ambient temperature, especially, in high humidity environments where condensation can occur.

■ Static Electricity

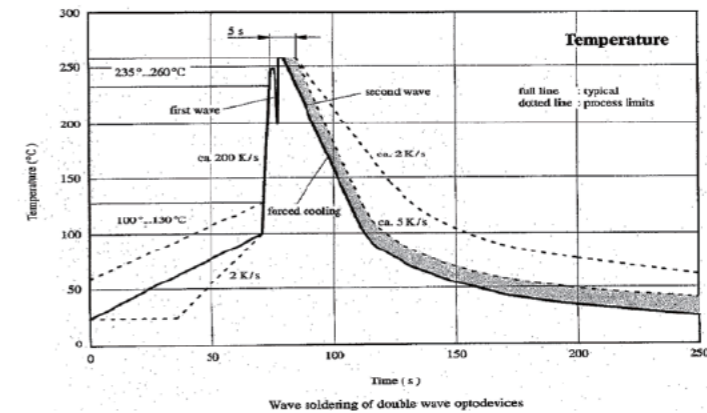
- Static electricity or surge voltage damages the LEDs
It is recommended that a wrist band or an anti-electrostatic glove be used when handling the Through Hole LEDs.
- All devices, equipment and machinery must be properly grounded. It is recommended that precautions be taken against surge voltage to the equipment that mounts the LEDs
- When inspecting the final products in which LEDs were assembled, it is recommended to check whether the assembled LEDs are damaged by static electricity or not. It is easy to find static-damaged LEDs by a light-on test or a VF test at a lower current (below 1mA is recommended).
- Damaged the LEDs will show some unusual characteristics such as the leak current remarkably increases, the forward voltage becomes lower, or the LEDs do not light at the low current.
Criteria: (VF >2.0V at IF=0.5mA)

● Soldering Conditions

■ Recommended Soldering Conditions

| Wave Soldering | | Hand Soldering | |
|-------------------------|--|----------------|--|
| Pre-Heat | 120 °C Max. | Temperature | 350°C Max. |
| Pre-Heat Time | 60 seconds Max. | Soldering Time | 3 seconds Max. |
| Solder Bath Temperature | 260 °C Max. | Position | No closer than 3 mm from the base of the epoxy bulb. |
| Dipping Time | 5 seconds Max. | | |
| Dipping Position | No lower than 3mm from the base of the epoxy bulb. | | |

*Solder the LED No Closer than 3mm from the base of the epoxy bulb. Soldering beyond the base of the tie bar is recommended.



- All Lamp Type LED products are pb-free soldering available.
- Optosupply's LEDs leadframes are silver plated Fe or Copper alloy. Careful attention should be paid during soldering.
- Although the recommended soldering conditions are specified in the above table, dip or hand soldering at the lowest possible temperature is desirable for the LEDs.
- A rapid-rate process is not recommended for cooling the LEDs down from the peak temperature.
- Dip soldering should not be done more than one time.
- Hand soldering should not be done more than one time.
- Do not apply any stress to the lead particularly when heated.
- The LEDs must not be repositioned after soldering.
- After soldering the LEDs, the epoxy bulb should be protected from mechanical shock or vibration until the LEDs return to room temperature.
- Direct soldering onto a PC board should be avoided. Mechanical stress to the resin may be caused from

warping of the PC board or from the clinching and cutting of the leadframes. When it is absolutely necessary, the LEDs may be mounted in this fashion but the User will assume responsibility for any problems. Direct soldering should only be done after testing has confirmed that no damage, such as wire bond failure or resin deterioration, will occur. resin deterioration, will occur. Patron's LEDs should not be soldered directly to double sided PC boards because the heat will deteriorate the epoxy resin.

- When it is necessary to clamp the LEDs to prevent soldering failure, it is important to minimize the mechanical stress on the LEDs.
- Cut the LEDs leadframes at room temperature. Cutting the leadframes at high temperatures may cause failure of the LEDs.

Heat Generation

• Thermal design of the end product is of paramount importance. Please consider the heat generation of the LEDs when making the system design. The coefficient of temperature increase per input electric power is affected by the thermal resistance of the circuit board and density of LEDs placement on the board, as well as other components. It is necessary to avoid intense heat generation and operating current should be decided after considering the ambient maximum temperature of LEDs.

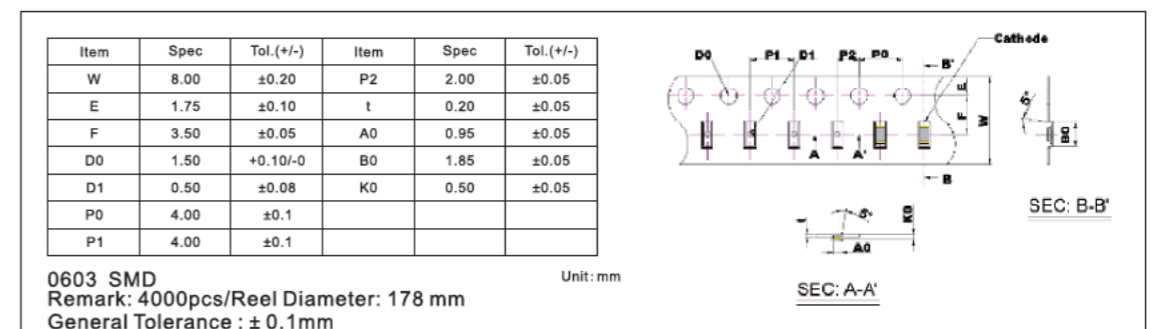
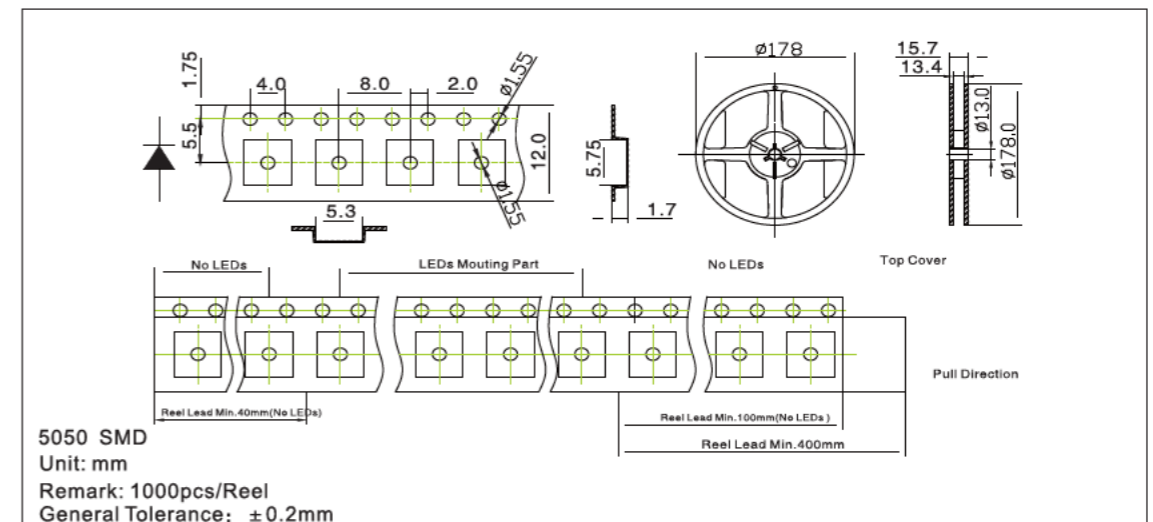
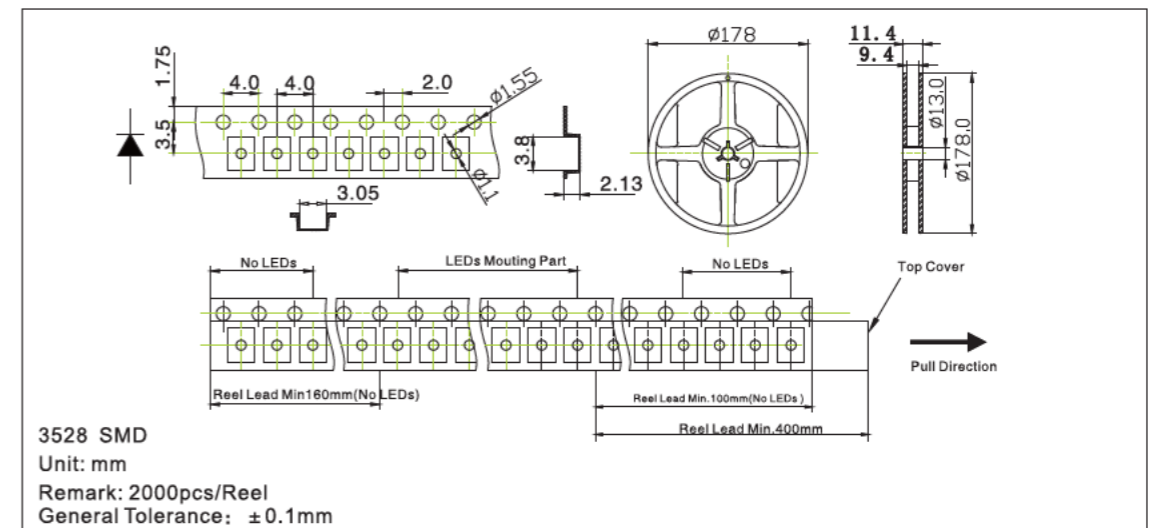
Cleaning

- It is recommended that isopropyl alcohol be used as a solvent for cleaning LEDs. When using other solvents, it should be confirmed beforehand whether the solvents will dissolve the resin or not. Freon solvents should not be used to clean the LEDs because of worldwide regulations.
- Do not clean the LEDs by the ultrasonic. When it is absolutely necessary, the influence of ultrasonic cleaning on the LEDs depends on factors such as ultrasonic power and the assembled condition. Before cleaning, a pre-test should be done to confirm whether any damage to LEDs will occur.

Others

- The LED complies with RoHS and REACH Directive.
- The LED light output is strong enough to injure human eyes. Precautions must be taken to prevent looking directly at the LEDs with unaided eyes for more than a few seconds.
- Flashing lights have been known to cause discomfort in people; you can prevent this by taking precautions during use. Also, people should be cautious when using equipment that has had LEDs incorporated into it.
- The LEDs described in this brochure are intended to be used for ordinary electronic equipment (such as office equipment, communications equipment, measurement instruments and household appliances). Consult Patron's sales staff in advance for information on the applications in which exceptional quality and reliability are required, particularly when the failure or malfunction of the LEDs may directly jeopardize life or health (such as for airplanes, aerospace, submersible repeaters, nuclear reactor control systems, automobiles, traffic control equipment, life support systems and safety devices).
- User shall not reverse engineer by disassembling or analysis of the LEDs without having prior written consent from Patron. Patron directly before disassembling or analysis.
- The formal specifications must be exchanged and signed by both parties before large volume purchase begins.
- The appearance and specifications of the product may be modified for improvement without notice.

● Surface Mount Type Packing



Handling Precautions

■ Moisture Proof Package

• When moisture is absorbed into the SMT package it may vaporize and expand during soldering. There is a possibility that this can cause exfoliation of the contacts and damage to the optical characteristics of the LEDs. For this reason, the moisture proof package is used to keep moisture to a minimum in the package.

• The moisture proof package is made of an aluminum moisture proof bag. A package of a moisture absorbent material (silica gel) is inserted into the aluminum moisture proof bag. The silica gel changes its color from blue to pink as it absorbs moisture.

■ Storage

• Storage Conditions

Before opening the package :

The LEDs should be kept at 30°C or less and 60%RH or less. The LEDs should be used within a year. When storing the LEDs, moisture proof packaging with absorbent material (silica gel) is recommended.

• After opening the package :

Soldering should be done right after opening the package (within 24hrs).

Keeping of a fraction, sealing and Temperature : 5~30°C Humidity : Less than 30%. If the package has been opened more than 24 Hours , components should be dried for 12hrs, at 60±5°C .

• Optosupply LED electrode sections are comprised of a silver plated copper alloy. The silver surface may be affected by environments which contain corrosive gases and so on. Please avoid conditions which may cause the LED to corrode, tarnish or discolor. This corrosion or discoloration may cause difficulty during soldering operations. It is recommended that the User use the LEDs as soon as possible.

• Please avoid rapid transitions in ambient temperature, especially in high humidity environments where condensation can occur.

■ Static Electricity

• Static electricity or surge voltage damages the LEDs.

It is recommended that a wrist band or an anti-electrostatic glove be used when handling the LEDs.

• All devices, equipment and machinery must be properly grounded.

It is recommended that measures be taken against surge voltage to the equipment that mounts the LEDs.

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● Soldering Conditions

■ Recommended Soldering Conditions

| Reflow Soldering | | Hand Soldering | |
|------------------|--------------------------------|----------------------------|--|
| Pre-Heat | 180~200°C | Temperature Soldering time | 350°C Max. 3 sec. Max. (one time only) |
| Pre-Heat Time | 120 sec. Max. | | |
| Peak temperature | 260°C Max. | | |
| Dipping Time | 10sec. Max. | | |
| Condition | Refer to Temperature-profile ① | | |

*Recommended soldering conditions vary according to the type of LED

*Although the recommended soldering conditions are specified in the above table, reflow, or hand soldering at the lowest possible temperature is desirable for the LEDs.

*A rapid-rate process is not recommended for cooling the LEDs down from the peak temperature.

• All SMD LED products are pb-free soldering available.

• Occasionally there is a brightness decrease caused by the influence of heat or ambient atmosphere during air reflow. It is recommended that the User use the nitrogen reflow method.

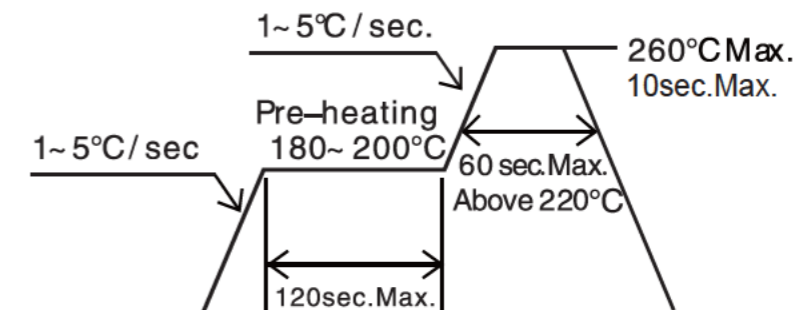
• Repairing should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used. It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.

• Reflow soldering should not be done more than two times.

• When soldering, do not put stress on the LEDs during heating.

• After soldering, do not warp the circuit board.

Temperature-Profile (Surface of Circuit Board)



■ Heat Generation

- Thermal design of the end product is of paramount importance. Please consider the heat generation of the LEDs when making the system design. The coefficient of temperature increase per input electric power is affected by the thermal resistance of the circuit board and density of LEDs placement on the board, as well as other components. It is necessary to avoid intense heat generation and operating current should be decided after considering the ambient maximum temperature of LEDs.

■ Cleaning

- It is recommended that isopropyl alcohol be used as a solvent for cleaning LEDs. When using other solvents, it should be confirmed beforehand whether the solvents will dissolve the resin or not. Freon solvents should not be used to clean the LEDs because of worldwide regulations.
- Do not clean the LEDs by the ultrasonic. When it is absolutely necessary, the influence of ultrasonic cleaning on the LEDs depends on factors such as ultrasonic power and the assembled condition. Before cleaning, a pre-test should be done to confirm whether any damage to LEDs will occur.
- It is recommended to use isopropyl alcohol as a solvent for cleaning on certain LEDs. For more information about proper cleaning methods of each LED, please refer its respective specification sheet.

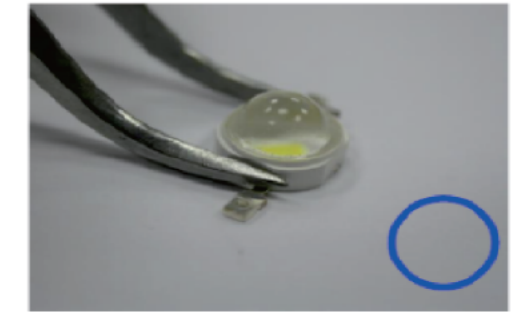
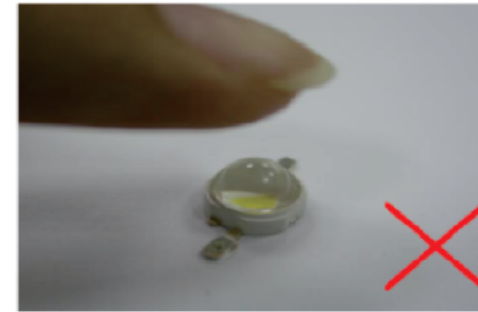
■ Others

- The LED complies with RoHS and REACH Directive.
- The LED light output is strong enough to injure human eyes. Precautions must be taken to prevent looking directly at the LEDs with unaided eyes for more than a few seconds.
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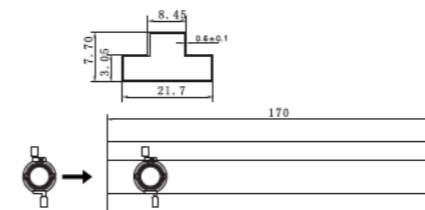
■ Handling of Silicone Lens LEDs

Notes for handling of silicone lens LEDs

- Please do not use a force of over 3kgf impact or pressure on the silicone lens, otherwise it will cause a catastrophic failure.
- The LEDs should only be picked up by making contact with the sides of the LED body.
- Avoid touching the silicone lens especially by sharp tools such as Tweezers.
- Avoid leaving fingerprints on the silicone lens.
- Please store the LEDs away from dusty areas or seal the product against dust.
- When populating boards in SMT production, there are basically no restrictions regarding the form of the pick and place nozzle, except that mechanical pressure on the silicone lens must be prevented.
- Please do not mold over the silicone lens with another resin. (epoxy, urethane, etc)



■ Xeon Power LED Packing: Plastic Tube



■ Handling of Ceramic LED

