

# **Power Supplies**

## **Encapsulated Solutions**

1W ~ 60W



## **LED Driver Solutions**

IP65 + 3 In 1 dimming



## **Industrial Power Supplies**

60W ~ 100W



# **Customs Solutions**

100W~500W



<u>myrra.com</u> <u>myrra-powersupplies.com</u> Contact us: <u>contact@myrra.com</u> Myrra company Profile

Myrra Power Supplies, Transformers, Inductors and Chokes are World renowned for their reliability and performance. This is the result of constant technological development and continuous production process improvements, which has made Myrra Group a leading Company in both design (R&D) and manufacturing.

With their own range of products, including encapsulated Power Supplies, Transformers (50/60Hz), HF Transformers and Value-Added Services, Myrra has become a reliable and renowned Global Supplier.

Since incorporation in 1949, Myrra has become one of the largest European sources for their products in the electrical market, and is striving to grow their position in a continuously evolving market.

As a Company certified by VDE, UL, CSA, ISO9001 and with a clear policy for conservation of the environment (RoHs, REACH, ISO14001), Myrra is an ideal partner for your future requirements.





## **Power Supplies**

"We at Myrra, Design and Manufacture all our Power Products, ensuring our Customers experience consistent Quality and Reliability"

## **Catalogue Contents**

Page	Details
2-3	Products overview
48000 Se	eries
4	Single Output 1W ~3W
47000 Se	eries & 49000 Series
6	Single Output 2.0W ~ 5W (49XXXC)
8	Single Output 2.5W ~ 5W
10	Single Output 2.4W ~ 5W (relaxed regulation)
12	Dual Output 3W ~ 5W (common ground)
14	Dual Output 3W ~ 4W (isolated outputs)
16	Single Output 7.5W
18	Single Output 5W ~ 10W (49XXXE)
20	Single Output 10W
22	Single Output 20W (49XXXG)
24	Single Output 20W (47000)
26	Single Output 50W ~ 60W
LED Driv	ver Solutions

28 LED Driver 48W ~ 65W

## **Industrial Power Supplies**

30 Single Output 60W ~ 100W

### **Customs Solutions**

32	Open Frame Type AC/DC Power Supplies 100W ~ 500W
	Grow Lights - LED Driver 100W ~ 200W

Industrial DIN RAIL AC/DC Power Supplies 100W ~ 200W

## Support and Service

- 33 Application notes 47000,48000 and 49000 series
- 34 Modified and Custom Solutions

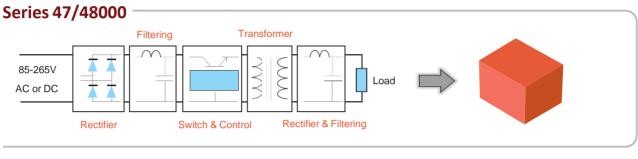




## **ENCAPSULATED POWER SUPPLIES 1W to 60W**









MYRRA encapsulated Switched Mode Power Supplies is based on Flyback topology.

They constitute an interesting alternative to the traditional supply in the most common applications of power from 1W to 60W.

ENERGY SAVING due to high efficiency and low standby power.

#### **Application for our Power Supplies:**

- Alternative to the linear transformers in all AC/DC applications of power up to 60W
- Alternative to DC/DC converters for application in D.C. current (Telecom supplies, electric substations etc.)
- Industrial,medical,domestic and consumerelectronics applications
- S t a n d b y devices and others DC or AC auxiliary supplies

With the same footprint as an EE20-EI30-EI38-EI48 transformer, they will replace:

- 50 Hz Transformer
- Fuse
- Output Rectifier
- Filtering Capacitor
- Linear Regulator/DC to DC Circuit
- Heatsink

#### **MAIN FEATURES**

- Wide input voltage range
- Increased power: 3 x compared to standard EE20-EI30-EI38-EI48 transformers
- Better energetic efficiency: 70% typical compared to 40% for the conventional supply
- Very low Standby Power consumption: meets requirements of Energy Star or EC Code of Conduct
- Same footprint as EE20-EI30-EI38-EI48 transformer: (1W~10W) Upgrade your application without redesign of PCB

#### SAFETY STANDARDS

- Meets all requirements of:
  - IEC/EN62368-1
  - IEC/EN60950-1
  - IEC/EN60335-1
  - IEC/EN61558-2-16
  - IEC/EN61558-1
  - UL62368-1
  - CSA 22.2 N°62368-1
  - UL60950-1
  - CSA 22.2 N°60950-1
  - UL 94-V0

#### **EMC STANDARDS**

Conducted and radiated emissions conform to EN 55014-1,EN55032,FCC Part15 Class B

- ●IEC/EN 61000-3-x
- Immunity conform to
  - EN 55014-2
  - EN 61000-4-x

## ONE OUTPUT 1W to 3W - Small Compact Size

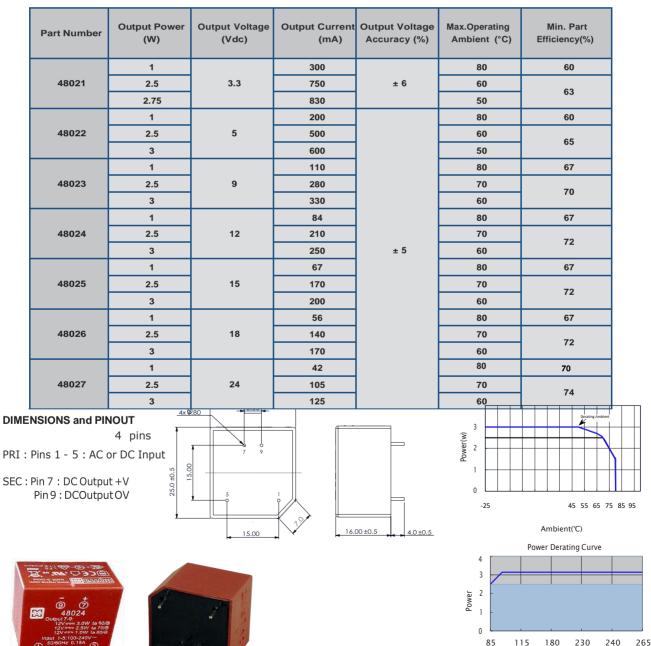


### MAIN FEATURES

- Small Compact Size PCB Mount
- Single Output
- Output Range: 3.3VDC 24VDC
- Input Range: 85VAC 265VAC/47
   63Hz Or120VDC 370VDC
- Very Low Standby Power Consumption < 0.15W
- Better Energetic Efficiency : Meet RequirementsOf Energy Star And EC Code Of Conduct
- Encapsulated Design And Same Footprint As EE20 Transformer : Upgrade Your Application Without Redesign Of PCB

- Safety: IEC/EN61558-2-16,IEC/EN60950-1, IEC/EN60335-1, IEC/EN62368-1,UL62368-1,UL60950-1, CAN/CSA22.2No.60950-1-07, CSA22.2No.62368-1-14
- Materials : Uses UL 94-V0 Plastic And Resin
- EMC : Conducted And Radiated Emissions Conform To EN55014, EN55032, FCC Part 15, CLASS B, IEC/EN61000-3-2 CLASS A, EN61000-3-3 without any additional components.
- Immunity Conform To: EN61000-4-2, IEC/EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11

Input voltage (Vac)





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**Power Supplies** 

NPDIE & NODE         E-Cap and a 0.1LF Ceramic-Cap. An oscilloscope set at 20MHz bandwidth)           DrO Utput         The output voltage all not exceed 110% rated output voltage @ 50% (>100% Load change, 14/uS, 1KHz 50% duty cycle           Hold Up Time         Sm Smin@ 100Vac, 240Vac, DC output with full load           Tum On Delay         35 max@ @ SSVac, 255Vac input and DC output with full load           Rise Time         50ms max@ 85Vac, 255Vac input and DC output with full load           Overshoot         The output voltage shall not exceed ±10% rated output voltage @ Power on and 85Vac, 255Vac inpu and DC with full load           Undershoot         The output voltage shall not exceed ±10% rated output voltage @ Power off and 85Vac, 255Vac inpu and DC with full load           efficiency         Set table (Meets Requirements Of Energy Star And EC Code Of Conduct)           The power supply shall automatic protect. The power supply shall auto-recover normal operation after the abort is removed. No excessive heat, odour, or plastic deformation shall occur with no safety hazard           Over temperature protection         The power supply shall withstand a continuous output short without damage in 24 hours; The short is removed, no excessive heat, odour, or plastic deformation shall occur with no safety hazard           Over temperature protection         The power supply shall shut down when the junction temperature of PWM controller exceeds th thermal shutdown temperature, typically 140°C 10°C           Output Short Circuit Protection         Operation femperature         -20°C to 43°C	I	Model: 1 to 3 Watt	Specification
A C Input Frequency Marge 47tr: 53tr Characteristic Input Current Standby Poerf Standby Poerf Output Violage Accuracy 3.3 Vrpe: 5 5%, Other types(5V,97,12V,15V,18V and 24V): 5 5% Output Violage Current Output Violage Current Output Violage Current Output Violage Current Output Violage Current Output Violage Current Protection Characteristic Fredetion Fredetion Characteristic Fredetion Fredetion Characteristic Fredetion		Rated AC input Voltage	100~240Vac or 140VDC-340VDC
Churacteristic         Bated AC Input Frequency         SQR0Hz           Input Current         0.15 W Max(Meet Requirements Of Energy Star And EC Code Of Conduct)           Output Voltage Accuracy         3.3 V type: 1-6 N, Other types(3/9/12/15/18/ and 24/1: 1-5 N, Other types(3/9/12/15/18/ and 24/15/15/18/ and 24/15/15/18/ and 24/15/15/18/ and 24/15/15/18/ and 24/15/15/18/ and 24/15/15/18/ and 24/15/15/15/16/14/18/18/16/15/15/15/16/14/11/18/16/16/16/16/16/16/16/16/16/16/16/16/16/		AC Input Voltage Range	85~265Vac or 120VDC-370VDC
Input Current         0.15x Max@BSVac"26SVac, at full ladd           Standby Power         0.15w Max@BSVac"26SVac, at full ladd           Standby Power         0.15w Max@BSVac"26SVac, at full ladd           Output Voltage Line Regulation         3.3V type: ± 6%. (Other types[V,9V].2V].15V, ISV and 24V): ± 5%.           Output Voltage Line Regulation         3.3V type: ± 6%. (Other types[V,9V].2V].15V, ISV and 24V): ± 5%.           Output Voltage Line Regulation         3.3V type: ± 6%. (Other types[V,9V].2V].15V, ISV and 24V): ± 5%.           Diple & Noise         EC. and a 0.12C corrant: Cop. An acolloscope set 1.24VM: Earboly.           Dynamic Response         1.4V, 5.10H : 50M duty cycle.           Hold Up Time         5m 5m xim@ 100Vic "24OVia:, De augus with full load           Rise Time         5m 5m xim@ 100Vic "24OVia:, De augus with full load           Overshoot         The output voltage shall not exceed: 10% rated output voltage @ Power ond 85Vac"265Vac linput and DC output with full load           Undershoot         The power supply shall automatic protect. The power supply shall actomatic protect. The power supply shall occur with as affet heazard           Output Short Circuit Protection         The power supply shall automatic protect. The power supply shall returne for the deformation protect is returned	AC Input	AC Input Frequency Range	47Hz~63Hz
Standby Power         0.15W MaxMeet Requirements Of Energy Star And EC Code Of Conduct)           Cutput Voltage Accuracy         3.3V type: 5.5% (Other types(5V,9V,12V,15V,18V and 24V): ± 5%           Output Voltage Load Regulation         3.3V type: 5.5% (Other types(1V,9V,12V,15V,18V and 24V): ± 5%           Output Voltage Load Regulation         3.3V type: 5.6% (Other types(1V,9V,12V,15V,18V and 24V): ± 5%           Output Voltage Load Regulation         3.3V type: 5.6% (Other types(1V,9V,12V,15V,18V and 24V): ± 5%           Output Voltage Load Regulation         3.3V type: 5.6% (Other types(1V,9V,12V,15V,18V and 24V): ± 5%           Output Voltage Load Regulation         3.3V type: 5.6% (Other types(1V,9V,12V,15V,18V and 24V): ± 5%           Protection         Max 2000*:p08 Table A Load Command Regulation R	Characteristics	Rated AC Input Frequency	50/60Hz
Protection         0.utput Voltage Accuracy         3.3V type:: 5 %, Other types(5V,9V,12V,15V,18V and 2AV): 5 %           Output Voltage Line Regulation         3.3V type:: 5 %, Other types(5V,9V,12V,15V,18V and 2AV): 5 %           Det put Voltage Line Regulation         3.3V type:: 5 %, Other types(5V,9V,12V,15V,18V and 2AV): 5 %           Det put Voltage Line Regulation         3.3V type:: 5 %, Other types(5V,9V,12V,15V,18V and 2AV): 5 %           De Coluput         Max 2007P pip Refer Action Line There measuring will be terminated with a 470 F.           De Coluput         The output voltage Line Regulation         The output voltage Line Regulation           De Coluput         The output voltage Line Regulation         The output voltage Line Regulation           De Coluput         The output voltage Size(2) coluput with full load         The output voltage Bit and Coluput vo		Input Current	0.15A Max@85Vac~265Vac, at full load
Output Voitage Line Regulation         3.3V type: 5.5%, (Other types(5)/99,12V,15V,18V and 24V); ± 3%.           Output Voitage Line Regulation         3.3V type: 5.5%, (Other types(5)/99,12V,15V,18V and 24V); ± 3%.           Bipple & Noise         Max 200mVp-pip Read AC, Input, at nominal line (The measuring will be terminated with a 47u F. Eric output voitage shalline C.p. An outbiologies et al. 20MHt bandwith)           Dynamic Response         11/40,5, 11/415 (35% voitage 25%)         10/61 (11/61,00)           Bisple & Noise         5m5 min@ 100Vic 2*240Vic, DC output with full load           Turn On Delay         35 max @ 55Vic="255Vic="bitted and put voitage @ Power on and 85Vic="256Vic="bitted and pu		Standby Power	0.15W Max(Meet Requirements Of Energy Star And EC Code Of Conduct)
Protection         0utput Voltage Load Regulation         3.3V type: 4 5%, Other types(VJ,9V,12V,12V,18V and 24V): 5 %           Ripple & Noise         64:20 part do 0.10" Ceranic Cap. An oscilloscope set at 20MH: bandwidth           Dynamic Response         14:00:110:01         11:01:01           Optimiz Voltage Load Regulation         3:max get SVac-265Vac input and DC output with full load           Turn On Delay         3:max get SVac-265Vac input and DC output with full load           Overshoot         The output voltage shall not exceed 10% rated output voltage @ Fower on and SVac-265Vac input and DC output with full load           Overshoot         The output voltage shall not exceed 10% rated output voltage @ Power off and SVac-265Vac input and DC output with full load           Overshoot         The output voltage shall not exceed 10% rated output voltage @ Power off and SVac-265Vac input and DC output with full load           Protection         The output voltage shall not exceed 10% rated output voltage @ Power off and SVac-265Vac input and DC output with full load           Protection         Over Current Protection         The power supply shall withoratid a continuous output short without damage in 24 hours. The power supply shall withoratid a continuous output short without damage in 24 hours. The power supply shall withoratid a continuous output short without damage in 24 hours. The power supply shall withoratid a continuous output short without damage in 24 hours. The power supply shall shuddown temperature of PWM controller exceeds th thermal shuddown temperature, typically 240°C 10°C.           Over		Output Voltage Accuracy	3.3V type: ± 6 % ,Other types(5V,9V,12V,15V,18V and 24V): ± 5 %
Number         Max 2000 Worp of Rated Act input, at normal line (The measuring will be terminated with a 7u-F, C-2g and a 0.1u/C ceramic-Cap. An collicopoe et at 200% rated output voltage @ 50% <->100% Load change, 1A/05, 1KH 250% duty cycle           DC Output         The output voltage shall not exceed 130% rated output voltage @ 50% <->100% Load change, 1A/05, 1KH 250% duty cycle           Characteristic         Time on Delay         25 max @ 85Vac^265Vac. DC output with full load           Res Time         Soms max @ 85Vac^265Vac. DC output with full load           Over Shoot         The output voltage shall not exceed +10% rated output voltage @ Power on and 85Vac^265Vac input and DC output with full load           Develoat         The output voltage shall not exceed +10% rated output voltage @ Power off and 85Vac^265Vac input and DC output with full load           Efficiency         See table (Meets Requirements Of Energy Star Ad EC Code Of Conduct)           The power supply shall withstand a continuous output short without damage in 24 hours. The show may be output short without damage in 24 hours. The show may be shall encour on the safety hazard           Over Current Protection         The power supply shall withstand a continuous output short without damage in 24 hours. The show may be shall be fore to rever ower, on secssive head, dout, or platic deformation shall occur with not safety hazard           Over temperature protection         The power supply shall withstand a continuous output short without damage in 24 hours. The show may be applied before to rever ower, on secssive head, dout, or platic deformation shall occur with methernal shuddown temperatu		Output Voltage Line Regulation	3.3V type: ± 5 %, Other types(5V,9V,12V,15V,18V and 24V): ± 3 %
Dramme Response         14/US, 12HE 50% duty cycle         14/US, 12HE 50% duty cycle           DC Output Characteristics         Mol Up Time         5ms min@ 2004er 240Vac, DC output with full load           Turn On Delay         35 max @ 85Vac*265Vac input and DC output with full load           Overshoot         The output voltage 4D0 ware on and 85Vac*265Vac input and DC output with full load           Indershoot         The output voltage shall not exceed 10% rated output voltage @ Power on and 85Vac*265Vac input and DC output with full load           Protection         The output voltage shall not exceed 10% rated output voltage @ Power on and 85Vac*265Vac input and DC output with full load           Protection         The power supply shall automatic protect. The power supply shall auto-recover normal operation safety hazard           Output Short Circuit Protection         The power supply shall withstand a continuous output short without damage in 24 hours; The shon operation after the short is removed, no excessive head, odour, or plastic deformation shall occur with no safety hazard           Output Short Circuit Protection         The power supply shall shut down when the junction temperature of PWM controller exceeds th thermal shutput with full load           Environmental         Storage Temperature         22°C r ( see table)           Operation Temperature         22°C r ( see table)           Operation Temperature         10°C to 35°C           Storage Temperature         10°C to 35°C           Stor	-		Max 200mVp-p@ Rated AC input, at nominal line (The measuring will be terminated with a 47uF AI
Characteristic         The one play         S max @ BSVac*265Vac input and DC output with full load           Protection         The output voltage shall not exceed +10% rated output voltage @ Power on and BSVac*265Vac input and DC output with full load           Protection         The output voltage shall not exceed +10% rated output voltage @ Power off and BSVac*265Vac input and DC output with full load           Protection         The output voltage shall not exceed +10% rated output voltage @ Power off and BSVac*265Vac input and DC output with full load           Protection         The output voltage shall not exceed +10% rated output voltage @ Power off and BSVac*265Vac input and DC output with full load           Protection         Over Current Protection         The power supply shall atomatic protect. The power supply shall atomator ecore normal operation after the deformation is removed. No excessive heat, odour, or plastic deformation shall occur with no safety hazard           Output short Circuit Protection         The power supply shall shut down when the junction temperature of PWM controller exceeds the thermal shutdown temperature, typically 140°C ±10°C           Operation Temperature         10°C to -35°C         Storage Temperature           Operation Humidity         10°P 90% RN(No Condensing) @ DC output with full load           Disrage Temperature         10°C to -35°C           Environmental         Storage Temperature         10°C to -35°C           Storage Humidity         <75%RH		Dynamic Response	
Intro the leay         25 mark g8 55V2*C55Vac input and DC output with full load           Rike Time         50ms mark g8 55V2*C55Vac input and DC output with full load           Overshoot         The output voltage shall not exceed +10% rated output voltage @ Power on and 85Vac*265Vac input and DC output with full load           Efficiency         See table (Meets Requirements of Energy Star And EC Code Of Conduct)           The power supply shall automatic protect. The power supply shall auto-recover normal operation after the deformation is removed. No excessive head, odour, or plastic deformation shall occur with safety hazard           Output Short Circuit Protection         The power supply shall automatic protect. The power supply shall auto-recover normal operation may be applied before power on, or after power on, The power supply shall resume norma operation is removed. No excessive head, odour, or plastic deformation shall occur with no safety hazard           Output Short Circuit Protection         The power supply shall with down when the junction temperature of PWM controller exceeds the thermal shutdown temperature, typically 140°C ±10°C           Operation Femperature         -25°C *1 (see table)           Operation Immighty         10*90% RH(No Condensing) @ DC output with full load           Environmental         Storage Humidity         75%SRH           Cooling Method         Ordinary or thermostat           Dielectric Strength         Primary to Secondary: 4000Vac SmA, 3 secs.           Radiation         Meeting EN5002-4:22019. Closs A <td></td> <td>Hold Up Time</td> <td>5mS min@ 100Vac~240Vac, DC output with full load</td>		Hold Up Time	5mS min@ 100Vac~240Vac, DC output with full load
Overshoot         The output voltage shall not seed on Upt voltage @ Power on and 85Vac"-265Vac inpu and DC with full load           Undershoot         The output voltage shall not seed on Upt voltage @ Power of and 85Vac"-265Vac inpu and DC output with full load           Efficiency         See table (Meets Requirements Of Energy Star And EC Code Of Conduct)           The power supply shall automatic protect. The power supply shall auto-recover normal operation after the deformation is removed. No excessive heat, odour, or plastic deformation shall occur with safety haard           Over Current Protection         The power supply shall withstand a continuous output short without damage in 24 hours; The shon may be applied before power on, or after power on, or plastic deformation shall occur with no safety haard           Over temperature protection         The power supply shall shut down when the junction temperature of PVM controller exceeds the therm shuthdown temperature, typicall plat C 10°C 10°C 10°C Operation Temperature           Over temperature protection         The power supply shall shut down when the junction temperature of PVM controller exceeds the therm shuthdown temperature, typicall plat C 10°C 10°C 10°C Operation Humidity           Operation Temperature         -25°C ~+ (see table)           Storage Temperature         -10°C to +35°C           Storage Temperature         -10°	Characteristics	Turn On Delay	3S max @ 85Vac~265Vac input and DC output with full load
Decision         and DC with full load         and DC with full load           Undershoot         The output voltage shall not exceed -10% rated output voltage Power off and 85Vac":265Vac inpu and DC output with full load           Efficiency         See table (Meets Requirements Of Energy Star And EC Code Of Conduct)           The power supply shall automatic protect. The power supply shall auto-recover normal operation after the deformation is removed. No excessive heat, odour, or plastic deformation shall occur with after the addromatic protect. The power supply shall subteme norm operation after the short is removed, no excessive heat, odour, or plastic deformation shall occur with ostery based           Over temperature protection         The power supply shall shut down when the junction temperature of PWM controller exceeds th thermal shutdown temperature, typically 140°C ±10°C           Operation Temperature         -25°C + (see table)           Operation Humidity         10° 90% RHNo Condensing) @ DC output with full load           Storage Temperature         -75%RH           Cooling Method         Ordinary or thermostat           Dielectric Strength         Primary to Secondary: 4000Vac SmA, 3 secs.           Reduition         Meeting EN55032,EN55014,FCC part 15, Class B           Conduction         Meeting EN51000-4:22019           Harmonic Current Disturbance         Meeting EN51000-4:22019, Class A           Voltage Fluctuation And Flicker         Meeting EN51000-4:22019           Electrois Star		Rise Time	
Undershoot         and DC output with full load         other           Efficiency         See table (Meets Requirements Of Energy Star And EC Code Of Conduct)           The power supply shall automatic protect. The power supply shall auto-recover normal operation after the deformation is removed. No excessive head, odour, or plastic deformation shall occur with n asfety haard           Over Current Protection         The power supply shall withstand a continuous output short without damage in 24 hours; The shor may be applied before power on, on a fare power supply shall resume norm on safety haard           Over temperature protection         The power supply shall shut down when the junction temperature of PWM controller exceeds the thermal shutdown temperature, typically 140°C 10°C           Storage Temperature         -10°C to +35°C           Storage Flumidity         -75°C+(See table)           Oution         Meeting ENS032_ENS014, FCC part 15, Class B           Conduction         Meeting ENS032_ENS014, FCC part 15, Class B           Conduction         Meeting ENS1000-4-2:2019           Electrical Fast Transient         Meeting ENS1000-4-2:2019           Electrical Fast Tra		Overshoot	and DC with full load
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Over Current Protection         after the deformation is removed. No excessive heat, odour, or plastic deformation shall occur with r after the paradr           Protection         Output Short Circuit Protection         The power supply shall withstand a continuous output short without damage in 24 hours; The shor may be applied before power on, or after power on, or later deformation shall occur with no safety haard           Over temperature protection         The power supply shall withstand a continuous output short without damage in 24 hours; The shor moperation after the shorts is removed, no excessive heat, odour, or plastic deformation shall occur with no safety haard           Over temperature protection         The power supply shall shut down when the junction temperature of PWM controller exceeds the thermal shutdown temperature, typically 140°C ±10°C           Operation Humidity         10° 90% RHNO Condensing) @ DC output with full load           Storage Temperature         -10°C to +35°C           Storage Temperature         -10°C to +35°C           Cooling Method         Ordinary or thermostat           Conduction         Meeting EN55032,EN55014,FCC part 15, Class B           Harronic Current Disturbance         Meeting EN51000-3-2:2019, Class A           Voltage Fluctuation And Flicker         Meeting EN51000-4:2:2019           Veltare Fluctuation And Flicker         Meeting EN51000-4:2:2019, Class A           Requirement         Meeting EN51000-4:2:2014, L1KV (surge level can be extended to 6KV with an external circuit - pleaser feer to MYRA		Efficiency	
Protection Characteristics         Output Short Circuit Protection         may be applied before power on, or after power on; The power supply shall resume norm operation after the short is removed, no excessive heat, odour, or plastic deformation shall occur win no safety hazard           Over temperature protection         The power supply shall shut down when the junction temperature of PWM controller exceeds the thermal shutdown temperature, typically 140°C ±10°C           Storage Temperature         -25°C ~+ (see table)           Operation Humidity         10° 90% RH(No Condensing) @ DC output with full load           Storage Temperature         -10°C to +35°C           Storage Temperature         -10°C to +35°C           Dielectric Strength         Primary to Secondary: 4000vac 5mA, 3 secs.           Radiation         Meeting EN55032,EN55014, FCC part 15, Class B           Conduction         Meeting EN5002,EN55014, FCC part 15, Class B           Voltage Fluctuation And Flicker         Meeting EN51000-4-3:2019, Class A           Voltage Fluctuation And Flicker         Meeting EN61000-4-3:2019           Electrostatic Discharge         Meeting EN61000-4-3:2019           Electrostatic Discharge         Meeting EN61000-4-3:2019           Conducted Susceptibility         Meeting EN61000-4-11:204           Voltage Dips And Interruptions         Meeting EN61000-4-11:204           Voltage Dips And Interruptions         Meeting EN61000-4-11:204		Over Current Protection	after the deformation is removed. No excessive heat, odour, or plastic deformation shall occur with no
Other Reinparation Brotection         thermal shutdown temperature, typically 140°C ±10°C           Operation Temperature         -25°C ~+ (see table)           Operation Humidity         10° 90% RH(No Condensing) @ DC output with full load           Storage Temperature         -10°C to +35°C           Storage Humidity         <75%RH		Output Short Circuit Protection	The power supply shall withstand a continuous output short without damage in 24 hours; The short may be applied before power on, or after power on; The power supply shall resume normal operation after the short is removed, no excessive heat, odour, or plastic deformation shall occur with no safety hazard
Environmental         Operation Humidity         10° 90% RH(No Condensing) @ DC output with full load           Storage Temperature         -10°C to -35°C           Storage Humidity         < 75% RH		Over temperature protection	The power supply shall shut down when the junction temperature of PWM controller exceeds the thermal shutdown temperature, typically 140°C $\pm10^\circ\text{C}$
Environmental         Storage Temperature         -10°C to +35°C           Storage Humidity         <75%RH		Operation Temperature	-25°C ~+ (see table)
Storage Humidity         < 75%RH           Cooling Method         Ordinary or thermostat           Dielectric Strength         Primary to Secondary: 4000Vac 5mA, 3 secs.           Radiation         Meeting EN55032,EN55014,FCC part 15, Class B           Conduction         Meeting EN55032,EN55014,FCC part 15, Class B           Harmonic Current Disturbance         Meeting EN5032,EN55014, FCC part 15, Class A           Voltage Fluctuation And Flicker         Meeting EN51000-3-3:2019, Class A           Voltage Fluctuation And Flicker         Meeting EN61000-4-2:2009 Contact Discharge ±4KV,Air Discharge ±8KV           Requirement         RF Field Strength Susceptibility         Meeting EN61000-4-3:2019           Electrical Fast Transient         Meeting EN61000-4-3:2019         Electrical Fast Transient           Lightning Surge         Meeting EN61000-4-3:2014, ±1KV (surge level can be extended to 6KV with an external circuit - please refer to MYRRA's website and catalogue for MYRRA SMPS application notes).           Conducted Susceptibility         Meeting EN61000-4-6: 2014           Voltage Dips And Interruptions         Meeting EN61000-4-1: 2004           Safety Standards         Meeting EN61000-4-1: 2004           Safety Standards         Meeting EN61000-4-1: 2014, ±1KV (surge level can be extended to 6KV with an external circuit - please refer to MYRRA's website and catalogue for MYRRA SMPS application notes).           Conducted Susceptibility		Operation Humidity	10~ 90% RH(No Condensing) @ DC output with full load
Cooling Method         Ordinary or thermostat           Dielectric Strength         Primary to Secondary: 4000Vac 5mA, 3 secs.           Radiation         Meeting EN55032,EN55014,FCC part 15, Class B           Conduction         Meeting EN55032,EN55014,FCC part 15, Class B           Voltage Fluctuation And Flicker         Meeting EN55032,EN55014, FCC part 15, Class A           Voltage Fluctuation And Flicker         Meeting EN61000-3-2:2019, Class A           Voltage Fluctuation And Flicker         Meeting EN61000-4-2:2009 Contact Discharge ±4KV,Air Discharge ±8KV           Requirement         RF Field Strength Susceptibility         Meeting IEC/EN61000-4-3:2019           Electrical Fast Transient         Meeting EN61000-4-3:2014, ±1KV (surge level can be extended to 6KV with an external circuit - please refer to MYRRA's website and catalogue for MYRRA SMPS application notes).           Conducted Susceptibility         Meeting EN61000-4-6: 2014           Voltage Dips And Interruptions         Meeting EN61000-4-6: 2014           Voltage Dips And Interruptions         Meeting EN61000-4-6: 2014           Safety Standards         Meeting EN61000-4-6: 2014           Voltage Dips And Interruptions         Meeting EN61000-4-1: 2004           Safety Standards         Meet all requirements of : UL60950-1, UL62368-1, CAN/CSA22.2No.60950-1-07, CSA22.2No.6236i           1-14, IEC/EN60950-1, IEC/EN61535-2-16, IEC/EN6336-1, CE, VDE, ENEC Marks, UL certificate NO.E345767	Environmental	Storage Temperature	-10°C to +35°C
Dielectric Strength         Primary to Secondary: 4000Vac SmA, 3 secs.           Radiation         Meeting EN55032,EN55014,FCC part 15, Class B           Conduction         Meeting EN55032,EN55014,FCC part 15, Class B           Harmonic Current Disturbance         Meeting EN55032,EN55014, FCC part 15, Class A           Voltage Fluctuation And Flicker         Meeting EN51000-3-3:2019, Class A           Voltage Fluctuation And Flicker         Meeting EN51000-4-2:2009 Contact Discharge ±4KV,Air Discharge ±8KV           Requirement         RF Field Strength Susceptibility         Meeting EN61000-4-3:2019           Electrical Fast Transient         Meeting EN61000-4-3:2019         Electrical Fast Transient           Lightning Surge         Please refer to MYRRA's website and catalogue for MYRRA SMPS application notes).         Conducted Susceptibility           Voltage Dips And Interruptions         Meeting EN61000-4-6: 2014         Meeting EN61000-4-6: 2014           Voltage Dips And Interruptions         Meeting EN61000-4-6: 2014         Meeting EN61000-4-6: 2014           Voltage Dips And Interruptions         Meeting EN61000-4-11: 2004         1-14, IEC/EN60930-1, IEC/EN60335-1, IEC/EN61558-2-16, IEC/EN62368-1, CE, VDE, ENEC Marks, UL certificate NO. 40046353           Reliability         Requirement         >200K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at 25deg.C Caluated in accordance with MILHDBK-217-F2           Burn-In Test		Storage Humidity	<75%RH
Radiation         Meeting EN55032,EN55014,FCC part 15, Class B           Conduction         Meeting EN55032,EN55014, FCC part 15, Class B           Harmonic Current Disturbance         Meeting IEC/EN61000-3-2:2019, Class A           Voltage Fluctuation And Flicker         Meeting EN61000-3-3:2013           Electrostatic Discharge         Meeting EN61000-4-2:2009 Contact Discharge ±4KV,Air Discharge ±8KV           Requirement         Field Strength Susceptibility         Meeting EN61000-4-3:2019           Electrical Fast Transient         Meeting EN61000-4-3:2019, ±1KV         Electrical Fast Transient           Lightning Surge         Meeting EN61000-4-2:2009 Contact Discharge ±4KV,Air Discharge ±8KV           Conducted Susceptibility         Meeting EN61000-4-3:2019           Voltage Pips And Interruptions         Meeting EN61000-4-3:2014, ±1KV (surge level can be extended to 6KV with an external circuit - please refer to MYRRA's website and catalogue for MYRRA SMPS application notes).           Conducted Susceptibility         Meeting EN61000-4-6: 2014           Voltage Dips And Interruptions         Meeting EN61000-4-1: 2004           Safety Standards         Meet all requirements of: UL60950-1, UL62368-1, CAN/CSA22.2No.60950-1-07, CSA22.2No.62368-1, CE/EN62368-1, CE/EN623		Cooling Method	Ordinary or thermostat
Reliability         Metadation         Meta International Construction           Reliability         Refige ND100-4-2:2009 Contact Discharge ±4KV,Air Discharge ±8KV           Safety & EMC         RF Field Strength Susceptibility         Meeting EN61000-4-2:2009 Contact Discharge ±4KV,Air Discharge ±8KV           Safety & EMC         RF Field Strength Susceptibility         Meeting EN61000-4-2:2009 Contact Discharge ±4KV,Air Discharge ±8KV           Requirement         RF Field Strength Susceptibility         Meeting EN61000-4-2:2009 Contact Discharge ±4KV,Air Discharge ±8KV           Requirement         RF Field Strength Susceptibility         Meeting EN61000-4-2:2009 Contact Discharge ±4KV,Air Discharge ±8KV           Safety & EMC         RF Field Strength Susceptibility         Meeting EN61000-4-3:2019           Electrical Fast Transient         Meeting EN61000-4-5:2014, ±1KV (surge level can be extended to 6KV with an external circuit - please refer to MYRRA's website and catalogue for MYRRA SMPS application notes).           Conducted Susceptibility         Meeting EN61000-4-6: 2014           Voltage Dips And Interruptions         Meeting EN61000-4-11: 2004           Safety Standards         Meeting EN61000-4-5:2014, ±1C/EN60355-1, EC/EN61558-2-16, EC/EN62368-1, CAN/CSA22.2No.60950-1-07, CSA22.2No.60950-1-07, CSA22.2No.60950-1-07, CSA22.2No.60950-1-07, CSA22.2No.60950-1-07, CSA22.2No.60950-1, ±14, EC/EN60950-1, EC/EN60355-1, EC/EN61558-2-16, EC/EN62368-1, CE, VDE, ENEC Marks, UL certificate NO.1604553           Reliability         MEME		Dielectric Strength	
Reliability         Meeting EV/EN61000-3-2:2019, Class A           Harmonic Current Disturbance         Meeting EN61000-3-2:2019, Class A           Voltage Fluctuation And Flicker         Meeting EN61000-3-2:2019           Electrostatic Discharge         Meeting EN61000-4-2:2009 Contact Discharge ±4KV, Air Discharge ±8KV           Requirement         RF Field Strength Susceptibility         Meeting EN61000-4-2:2019           Electrical Fast Transient         Meeting EN61000-4-2:2019           Lightning Surge         Meeting EN61000-4-2:2014, ±1KV (surge level can be extended to 6KV with an external circuit - please refer to MYRRA's website and catalogue for MYRRA SMPS application notes).           Conducted Susceptibility         Meeting EN61000-4-6: 2014           Voltage Dips And Interruptions         Meeting EN61000-4-11: 2004           Safety Standards         Meet all requirements of : UL60950-1, UL62368-1, CAN/CSA22.2No.60950-1-07, CSA22.2No.62364           1-14, IEC/EN60950-1, IEC/EN60355-1, IEC/EN61558-2-16, IEC/EN62368-1, CE, VDE, ENEC Marks, UL certificate NO.40046353           NTBF         >200K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at Z5deg.C           Calculated in accordance with MIIL-HDBK-217-F2           Burn-In Test         The unit shall be burned in for 2 <sup>m</sup> Shours under 230Vac input and DC with full load at an ambient temperature of 30 <sup>m</sup> 45 degrees C		Radiation	Meeting EN55032, EN55014, FCC part 15, Class B
Safety & EMC Requirement       Moreting EN61000-3-3:2013         Safety & EMC Requirement       Meeting EN61000-4-2:2009 Contact Discharge ±4KV,Air Discharge ±8KV         Ref Field Strength Susceptibility       Meeting EN61000-4-3:2019         Electrical Fast Transient       Meeting EN61000-4-3:2019         Electrical Fast Transient       Meeting EN61000-4-3:2014, ±1KV (surge level can be extended to 6KV with an external circuit - please refer to MYRRA's website and catalogue for MYRRA SMPS application notes).         Conducted Susceptibility       Meeting EN61000-4-6:2014         Voltage Dips And Interruptions       Meeting EN61000-4-6:2014         Safety Standards       Meeting EN61000-4-1:2004         Safety Standards       Meeting EN61000-4-1:2004         Reliability Requirement       Meeting EN61000-4-1:2004         MITBF       >200K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at 25deg.C Calculated in accordance with MIL-HDBK-217-F2         Burn-In Test       The unit shall be burned in for 2° Shours under 230Vac input and DC with full load at an ambient temperature of 30°45 degrees C		Conduction	Meeting EN55032, EN55014, FCC part 15, Class B
Safety & EMC         RF Field Strength Susceptibility         Meeting EN61000-4-2:2009 Contact Discharge ±4KV,Air Discharge ±8KV           Requirement         RF Field Strength Susceptibility         Meeting EN61000-4-3:2019           Electrical Fast Transient         Meeting EN61000-4-4:2012, ±1KV           Lightning Surge         Meeting EN61000-4-5:2014, ±1KV (surge level can be extended to 6KV with an external circuit - please refer to MYRRA's website and catalogue for MYRRA SMPS application notes).           Conducted Susceptibility         Meeting EN61000-4-11: 2004           Voltage Dips And Interruptions         Meeting EN61000-4-11: 2004           Safety Standards         Meeting EN61000-4-11: 2004           Reliability Requirement         MTBF           Safety Standards         Meeting EN61000-4-11: 2004           NTBF         >200K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at 25deg.C           Requirement         Burn-In Test         The unit shall be burned in for 2~ Shours under 230Vac input and DC with full load at an ambient temperature of 30~45 degrees C		Harmonic Current Disturbance	Meeting IEC/EN61000-3-2:2019, Class A
Safety & EMC Requirement       RF Field Strength Susceptibility       Meeting IEC/EN61000-4-3:2019         Requirement       Electrical Fast Transient       Meeting EN61000-4-4:2012, ±1KV         Lightning Surge       Meeting EN61000-4-5:2014, ±1KV (surge level can be extended to 6KV with an external circuit - please refer to MYRRA's website and catalogue for MYRRA SMPS application notes).         Conducted Susceptibility       Meeting EN61000-4-6 : 2014         Voltage Dips And Interruptions       Meeting EN61000-4-6 : 2014         Voltage Dips And Interruptions       Meeting EN61000-4-11 : 2004         Safety Standards       Meeting EN61000-4-11 : 2004         Safety Standards       Meeting EN61000-4-11 : 2004         Voltage Dips And Interruptions       Meeting EN61000-4-11 : 2004         Safety Standards       Meeting ENC/EN60305-1, UL62368-1, CAN/CSA22.2No.60950-1-07, CSA22.2No.62368-1, CE, VDE, ENEC Marks, UL certificate NO.E345767         VDE certificate NO.E345767       VDE certificate NO.40046353         >200K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at 25deg.C Calculated in accordance with MIL-HDBK-217-F2         Burn-In Test       The unit shall be burned in for 2~ Shours under 230Vac input and DC with full load at an ambient temperature of 30~45 degrees C		Voltage Fluctuation And Flicker	Meeting EN61000-3-3:2013
Requirement       In The ordering in Susception (y)       Meeting EN61000-4-4:2012, ±1KV         Electrical Fast Transient       Meeting EN61000-4-5:2014, ±1KV (surge level can be extended to 6KV with an external circuit - please refer to MYRRA's website and catalogue for MYRRA SMPS application notes).         Conducted Susceptibility       Meeting EN61000-4-6: 2014         Voltage Dips And Interruptions       Meeting EN61000-4-11: 2004         Safety Standards       Meet all requirements of : UL60950-1, UL62368-1, CAN/CSA22.2No.60950-1-07, CSA22.2No.62368-1, 1-14, IEC/EN60950-1, IEC/EN61558-2-16, IEC/EN62368-1, CE, VDE, ENEC Marks, UL certificate NO.E345767         VDE certificate NO.E345767       VDE certificate NO.40046353         Reliability Requirement       MTBF       >200K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at 25deg.C Calculated in accordance with MIL-HDBK-217-F2         Burn-In Test       The unit shall be burned in for 2~ Shours under 230Vac input and DC with full load at an ambient temperature of 30~45 degrees C		Electrostatic Discharge	Meeting EN61000-4-2:2009 Contact Discharge ±4KV,Air Discharge ±8KV
Electrical Fast Transient       Meeting EN61000-4-4:2012, ±1KV         Lightning Surge       Meeting EN61000-4-5:2014, ±1KV (surge level can be extended to 6KV with an external circuit - please refer to MYRRA's website and catalogue for MYRRA SMPS application notes).         Conducted Susceptibility       Meeting EN61000-4-6:2014         Voltage Dips And Interruptions       Meeting EN61000-4-6:2014         Safety Standards       Meet all requirements of : UL60950-1, UL62368-1, CAN/CSA22.2No.60950-1-07, CSA22.2No.62368-1, CE, VDE, ENEC Marks, UL certificate NO.E345767         VDE certificate NO.40046353       >200K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at 25deg.C Calculated in accordance with MIL-HDBK-217-F2         Burn-In Test       The unit shall be burned in for 2~ Shours under 230Vac input and DC with full load at an ambient temperature of 30~45 degrees C	Safety & EMC	RF Field Strength Susceptibility	Meeting IEC/EN61000-4-3:2019
Lightning Surgeplease refer to MYRRA's website and catalogue for MYRRA SMPS application notes).Conducted SusceptibilityMeeting EN61000-4-6 : 2014Voltage Dips And InterruptionsMeeting EN61000-4-11 : 2004Safety StandardsMeet all requirements of : UL60950-1, UL62368-1, CAN/CSA22.2No.60950-1-07, CSA22.2No.62368-1, -14, IEC/EN60950-1, IEC/EN60335-1,IEC/EN61558-2-16, IEC/EN62368-1, CE, VDE, ENEC Marks, UL certificate NO.E345767Reliability RequirementMTBF200K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at 25deg.C Calculated in accordance with MIL-HDBK-217-F2Burn-In TestThe unit shall be burned in for 2~ Shours under 230Vac input and DC with full load at an ambient temperature of 30~45 degrees C	Requirement	Electrical Fast Transient	Meeting EN61000-4-4:2012, ±1KV
Conducted Susceptibility       Meeting EN61000-4-6 : 2014         Voltage Dips And Interruptions       Meeting EN61000-4-11 : 2004         Safety Standards       Meet all requirements of : UL60950-1, UL62368-1, CAN/CSA22.2No.60950-1-07, CSA22.2No.62368-1, -14, IEC/EN60950-1, IEC/EN60335-1,IEC/EN61558-2-16, IEC/EN62368-1, CE, VDE, ENEC Marks, UL certificate NO.E345767         VDE certificate NO. 40046353       >200K Hours @230VAC input at max operation temperature;         >S50K Hours @230VAC input at 25deg.C       Calculated in accordance with MIL-HDBK-217-F2         Burn-In Test       The unit shall be burned in for 2~ Shours under 230Vac input and DC with full load at an ambient temperature of 30~45 degrees C		Lightning Surge	
Voltage Dips And Interruptions       Meeting EN61000-4-11 : 2004         Safety Standards       Meet all requirements of : UL60950-1, UL62368-1, CAN/CSA22.2No.60950-1-07, CSA22.2No.62368-1, 1-14, IEC/EN60950-1, IEC/EN60335-1,IEC/EN61558-2-16, IEC/EN62368-1, CE, VDE, ENEC Marks, UL certificate NO.E345767         Reliability Requirement       MTBF       >200K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at 25deg.C Calculated in accordance with MIL-HDBK-217-F2         Burn-In Test       The unit shall be burned in for 2~ 5hours under 230Vac input and DC with full load at an ambient temperature of 30~45 degrees C		Conducted Suscentibility	
Reliability Requirement       MTBF       >200K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at 25deg.C Calculated in accordance with MIL-HDBK-217-F2         Burn-In Test       The unit shall be burned in for 2~ 5hours under 230Vac input and DC with full load at an ambient temperature of 30~45 degrees C			Meeting EN61000-4-11 : 2004
Reliability       MTBF       >200K Hours @230VAC input at max operation temperature;         Requirement       >550K Hours @230VAC input at 25deg.C         Calculated in accordance with MIL-HDBK-217-F2         Burn-In Test       The unit shall be burned in for 2~ 5hours under 230Vac input and DC with full load at an ambient temperature of 30~45 degrees C			Meet all requirements of : UL60950-1, UL62368-1, CAN/CSA22.2No.60950-1-07, CSA22.2No.62368 1-14, IEC/EN60950-1, IEC/EN60335-1,IEC/EN61558-2-16, IEC/EN62368-1, CE, VDE, ENEC Marks, UL certificate NO.E345767
Burn-In Test temperature of 30~45 degrees C		MTBF	>200K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at 25deg.C Calculated in accordance with MIL-HDBK-217-F2
Net Weight About 16 grams per product unit		Burn-In Test	
	Net Weight	About 16 grams per product unit	
		right to change specifications in this docu	

Myrra reserve the right to change specifications in this document without notice

# ONE OUTPUT 2W to 5W (49XXC)



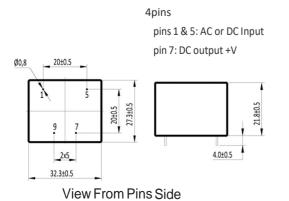
### MAIN FEATURES

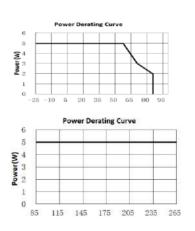
- 2.5 To 5W Small Compact Size PCB Mount
- Single Output Secondary Side Regulated
- Output Range : 3.3VDC 30VDC
- Input Range : 85VAC 265VAC/47 63Hz Or 120VDC -370VDC
- Very Low Standby Power Consumption < 0.1W
- Better Energetic Efficiency : Meet Requirements Of Energy Star And EC Code Of Conduct
- Encapsulated Design And Same Footprint As El30 Transformer : Upgrade Your Application Without Redesign Of PCB

- Safety : Meets All Requirements of IEC/EN61558-2-16, IEC/EN60335-1, IEC/EN62368-1, UL62368-1, CSA C22.2NO.62368-1-14
- Materials : Uses UL 94-V0 Plastic And Resin
- EMC : Conducted And Radiated Emission conform To EN55032, FCC Part 15, CLASS B ,IEC/EN61000-3-2 CLASS A, EN61000-3-3 without any additional components.
- Immunity Conform To:EN61000-4-2, IEC/EN61000-4-3, EN61000-4-4,EN61000-4-5, EN61000-4-6, EN61000-4-8,EN61000-4-11

Part Number	Output Power (W)	Output voltage (Vdc)	Output current (mA)	Output Voltage Accuracy (%)	Ambient Temp. (°C)	Min. Part Efficiency(%)
49033C	2.0		610		80	
	2.75	3.3	830		70	71
	5.0		1500		50	
49050C	2.0	5.0	400		85	70
	3.0	5.0	600		70	
	5.0		1000		60	72
49090C	2.0	9.0	220		85	73
	3.0	9.0	330		70	
	5.0		560		60	75
49120C	2.0	10	170		85	74
	3.0	12	250		70	76
	5.0		420		60	
49150C	2.0	4.5	130	±2	85	74
	3.0	15	200		70	
	5.0		330		60	77
49180C	2.0	40	110		85	76
	3.0	18	170		70	
	5.0		280		60	78
49240C	2.0	24	84		85	76
	3.0	24	125		70	
	5.0		210		60	80
	2.0		67		85	76
49300C	3.0	30	100		70	
	5.0		167		60	80

#### **DIMENSIONS and PINOUT**









6





**Power Supplies** 

Мо	del: 2.5 To 5 Watt	Specification
	Rated AC input Voltage	100~240Vac Or 140VDC-340VDC
	AC Input Voltage Range	85~265Vac Or 120VDC-370VDC
AC Input	AC Input Frequency Range	47Hz~63Hz
Characteristics	Rated AC Input Frequency	50/60Hz
	Input Current	0.2A Max@85Vac~265Vac@DC output with full load
	Standby Power	0.1W Max(Meet Requirements Of Energy Star And EC Code Of Conduct)
	Output Voltage Accuracy	±2%
	Output Voltage Line Regulation	±0.5%
DC Output	OutputVoltage Load Regulation	±2%
Characteristics	Ripple & Noise	Max 180mVp-p@ Rated AC input(The measuring will be terminated with a 47uF AL E-Cap and a 0.1uF Cer-Cap. An oscilloscope set at 20MHz bandwidth)
	Efficiency	See Table (Meet Requirements Of Energy Star And EC Code Of Conduct)
	Over Current Protection	The power supply shall automatically protect against over current. The power supply shall auto-recover normal operation after the fault condition is removed. No excessive heat, odour, or plastic deformation shall occur with no safety hazard during the fault.
Protection Characteristics	Output Short Circuit Protection	The power supply shall withstand a continuous output short without damage; The short may be applied before power on, or after power on. The power supply shall resume norma operation after the short is removed. No excessive heat, odour, or plastic deformation shal occur with no safety hazard during the fault.
	Over Temperature Protection	The power supply shall shut down when the junction temperature of PWM controller exceeds the thermal shutdown temperature, typically 140°C $\pm 10^{\circ}$ C
	Operation Temperature	-25°C ~+85°C (see table)
Environmental	Operation Humidity	10~ 90% RH(No Condensing) @ DC output with full load
	Storage Temperature	-10°C to +35°C
	Storage Humidity	< 75%RH
	Dielectric Strength	Primary to Secondary: 4000Vac 5mA, 3 sec.
	Radiation	Meets EN55032,FCC part 15, Class B. under 3dB margin
Safety & EMC	Conduction	Meets EN55032,FCC part 15,Class B. under 3dB margin
Requirement	Safety Standards	Meet all requirements of : Meet all requirements of : UL62368-1, CSA22.2No.62368-1-14, IEC/EN60335-1,IEC/EN61558-2-16, IEC/EN62368-1 CE, VDE,UKCA, ENEC Mark UL certificate NO.E345767 VDE certificate NO. 40053361
Reliability Requirement	МТВЕ	>550K Hours @ 230VAC input at 24deg.C and DC output with 5W load. >200K Hours @ 230VAC input at max operation temperature and DC output with 5W load Calculated in accordance with MIL-HDBK-217-F2
	Burn-In Test	The power supply is subject to a burn in test for 2~5hours under 230VAC input and DC full load at an ambient temperature of 30~45 degrees C
Net Weight	About 30 grams per product uni	t
Guarantee	This product is in accordance wit	th the European RoHS & REACH directives

 ${\it Myrra\ reserve\ the\ right\ to\ change\ specifications\ in\ this\ document\ without\ notice}$ 

# ONE OUTPUT 2.5W to 5W



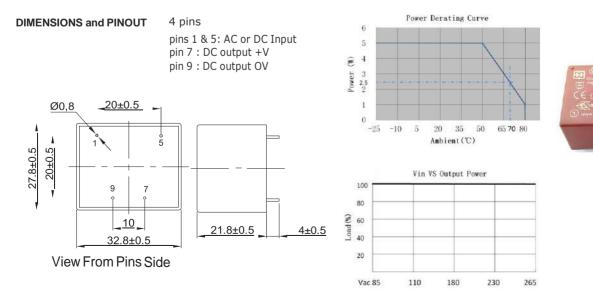
### MAIN FEATURES

- 2.5 To 5W Small Compact Size PCB Mount
- Single Output
- Output Range : 3.3VDC 24VDC
- Input Range : 85VAC 265VAC/47 63Hz Or 120VDC - 370VDC
- Very Low Standby Power Consumption < 0.2W
- Better Energetic Efficiency : Meet Requirements Of Energy Star And EC Code Of Conduct
- Encapsulated Design And Same Footprint As El30 Transformer : Upgrade Your Application Without Redesign Of PCB

- Safety:Meets All Requirements of: IEC/EN61558-2-16, IEC/EN60950-1, IEC/EN60335-1,IEC/EN62368-1, UL60950-1, CSA22.2No.60950-1,CE, VDE, ENEC Mark
- Materials : Uses UL 94-V0 Plastic And Resin
- EMC Conducted And Radiated Emissions Conform To EN55014, EN55032, FCC Part 15, CLASS B, IEC/EN61000-3-2 CLASS A, EN61000-3-3 without any additionalcomponents.
- Immunity Conform To: EN61000-4-2, IEC/EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11

Part Number	Output Power (W)	Output voltage (Vdc)	Output current (mA)	Output Voltage Accuracy (%)	Max.Operating Ambient (°C)	Min. Part Efficiency(%)
47121	2.5	3.3	750			65
47122	2.75	5	550			68
47123		9	270		70	72
47124	2.5	12	210		70	74
47125	2.0	15	170			75
47126		24	110			77
47151	4.5	3.3	1350	± 2		65
47152	4.5	5	900			68
47153		9	550			72
47154	5	12	420		50	75
47155	5	15	320			76
47156		24	220			79
47157	4.5	3.8	1180			66

Special Version : 4712xSLI and 4715xSLI = 19.2mm case height (x=1, 2, 3, 4, 5, 6 or 7)









**Power Supplies** 

Mo	del: 2.5 To 5 Watt	Specification			
	Rated AC input Voltage	100~240Vac Or 140VDC-340VDC			
	AC Input Voltage Range	85~265Vac Or 120VDC-370VDC			
AC Input	AC Input Frequency Range	47Hz~63Hz			
Characteristics	Rated AC Input Frequency	50/60Hz			
	Input Current	0.2A Max@85Vac~265Vac@ DC output at full load			
	Standby Power	0.3W Max(Meet Requirements Of Energy Star And EC Code Of Conduct)			
	Output Voltage Accuracy	±2%			
	Output Voltage Line Regulation	± 0.5%			
DC Output	Output Voltage Load Regulation	±2%			
Characteristics	Ripple & Noise	Max 200mVp-p@ Rated AC input(The measuring will be terminated with a 47uF AL E-Cap and a 0.1uF Cer-Cap. An oscilloscope set at 20MHz bandwidth)			
	Efficiency	See Table (Meet Requirements Of Energy Star And EC Code Of Conduct)			
	Over Current Protection	The power supply shall automatic protection. The power supply shall auto recovery normal operation after the deformation is removed. No excessive heat, odour, or plastic deformation shall occur, no safety hazard			
Protection Characteristics	Output Short Circuit Protection	The power supply shall withstand a continuous output short without damage in 24 hours The short may be applied before power on, or after power on ; The power supply shall resum normal operation after the short is removed, no excessive heat, odour, or plastic deformatio shall occur, no safety hazard			
	Over Temperature Protection	The power supply shall shut down when the junction temperature of PWM controller exceeds the thermal shutdown temperature, typically 140°C $\pm 10^\circ$ C			
	Operation Temperature	-25°C ~+ (see table)			
Environmental	Operation Humidity	10~ 90% RH(No Condensing) @ DC output with full load			
	Storage Temperature	-10°C to +35°C			
	Storage Humidity	< 75%RH			
	Dielectric Strength	Primary to Secondary: 4000Vac 5mA, 3 sec.			
	Radiation	Meet EN55032,EN55014 , Class B. under 3dB margin			
Safety & EMC	Conduction	Meet EN55032,EN55014, Class B. under 3dB margin			
Requirement	Safety Standards	Meet all requirements of UL60950-1, CSA22.2No.60950-1-07JEC/EN60950-1, IEC/EN60335- IEC/EN61558-2-16, IEC/EN62368-1,CE,VDE, And ENEC Mark VDE Approval No. 40034334 UL Approval No.E345767			
Reliability Requirement	MTBF	>550K Hours @ 230VAC input at 24deg.C and DC output with 5W load. >200K Hours @ 230VAC input at max operation temperature and DC output with 5W load Calculated in accordance with MIL-HDBK-217-F2			
,	Burn-In Test	The unit shall be burned in for 2~ 5hours under 230Vac input and DC with full load at an ambient temperature of 30~45 degrees C			
Net Weight	About 30 grams per product unit				
Guarantee	This product meet to RoHS stand	Jard			

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# ONE OUTPUT 2.4W to 5W

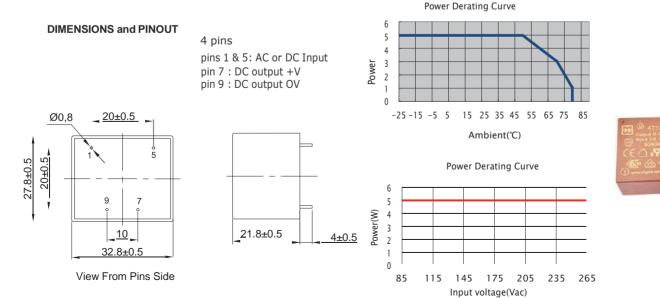


### MAIN FEATURES

- 2.4To 5W Small Compact Size PC B Mount
- Single Output
- Output Range : 5.5VDC 24VDC
- Input Range : 85VAC 265VAC/47 63Hz Or 120VDC - 370VDC
- Very Lo w Standby Power Consumption < 0.3W
- Better Energetic Efficiency : Meet Requirements Of Energy Star
- Encapsulated Design And Same Footprint As El30 Transformer : Upgrade Your Application Without Redesign Of PCB

- Safety: Meets All Requirements of:IEC/EN61558-2-16, IEC/EN60950-1, IEC/EN60335-1, UL60950-1, IEC/EN62368-1, CSA22.2No.60950-1-07,CE, VDE, ENEC Mark
- Materials: Uses UL 94-V0 Plastic And Resin
- EMC Conducted And Radiated Emissions Conform To EN55014, EN55032, FCC Part 15, CLASS B, IEC/EN61000-3-2 CLASS A, EN61000-3-3 without any additional components
- Immunity Conform To: EN61000-4-2, IEC/EN61000-4-3, EN61000-4-4,EN61000-4-5, EN61000-4-6, EN61000-4-11

Part Number	Output Power (W)	Output Voltage (Vdc)	Output Current (mA)	Output Voltage Accuracy (%)	Ambient (°C)	Min. Part Efficiency(%)
47114	2.4	12	200			74
47132	2.5	5	500		68	
47133		9	360		70	73
47134	3.2	12	270			75
47135	5.2	18	180			78
47136		24	130	± 5		80
47162		5	900			68
47163		9	560			73
47164	5	12	420		50	75
47165		18	280			78
47166		24	210			80









Mo	del: 2.5 To 5 Watt	Specification
	Rated AC input Voltage	100~240Vac Or 140VDC-340VDC
	AC Input Voltage Range	85~265Vac Or 120VDC-370VDC
AC Input	AC Input Frequency Range	47Hz~63Hz
Characteristics	Rated AC Input Frequency	50/60Hz
	Input Current	0.2A Max@85Vac~265Vac@DC output with full load
	Standby Power	0.3W Max(Meet Requirements Of Energy Star And EC Code Of Conduct)
	Output Voltage Accuracy	±5%
	Output Voltage Line Regulation	±2%
DC Output	Output Voltage Load Regulation	±5%
Characteristics	Ripple & Noise	Max 200mVp-p@ Rated AC input(The measuring will be terminated with a 47uF AL E-Cap and a 0.1uF Cer-Cap. An oscilloscope set at 20MHz bandwidth)
	Efficiency	See Table (Meet Requirements Of Energy Star And EC Code Of Conduct)
	Over Current Protection	The power supply shall automatic protection. The power supply shall autorecovery normal operation after the deformation is removed. No excessive heat, odour, or plastic deformation shall occur, no safety hazard
Protection Characteristics	Output Short Circuit Protection	The power supply shall withstand a continuous output short without damage in 24 hours ; The short may be applied before power on, or after power on ; The power supply shall resume normal operation after the short is removed, no excessive heat, odour, or plastic deformationshall occur, no safety hazard
	Over temperature protection	The power supply shall shut down when the junction temperature of PWM controller exceeds the thermal shutdown temperature, typically 140°C ±10°C
	Operation Temperature	-25°C ~+ (see table)
Environmental	Operation Humidity	10~ 90% RH(No Condensing) @ DC output with full load
	Storage Temperature	-10°C to +35°C
	Storage Humidity	< 75%RH
	Dielectric Strength	Primary to Secondary: 4000Vac 5mA, 3 sec.
	Radiation	Meet EN55032,EN55014 , Class B. under 3dB margin
Safety & EMC	Conduction	Meet EN55032,EN55014, Class B. under 3dB margin
Requirement	Safety Standards	Meet all requirements of UL60950-1,CSA22.2No.60950-1-07,IEC/EN60950-1,IEC/EN60335- 1,IEC/EN61558-2-16,IEC/EN62368-1 CE,VDE, And ENEC Mark VDE Approval No. 40034334
Reliability Requirement	MTBF	UL Approval No.E345767 >550K Hours @ 230VAC input at 24deg.C and DC output with 5W load. >200K Hours @ 230VAC input at max operation temperature and DC output with 5W load <i>Calculated in accordance with MIL-HDBK-217-F2</i>
	Burn-In Test	The unit shall be burned in for 2~5hours under 230Vac input and DC with full load at an ambient temperature of 30~45 degrees C
Net Weight	About 30 grams per product unit	
Guarantee	This product meet to RoHS stand	ard

 $\label{eq:main_series} \textit{Myrra reserve the right to change specifications in this document without notice}$ 

## **TWO OUTPUTS - COMMON 3W to 5W**



### MAIN FEATURES

- 3W To 5W Small Compact Size PCB Mount
- Two Common Output
- Output Voltage Accuracy : See Table For 15 to 100% Rated Load Of EachOutput (includes line and load variations)
- Input Range : 85VAC 265VAC/47 63Hz Or 120VDC - 370VDC
- Very Low Standby Power Consumption < 0.2W
- Better Energetic Efficiency : Meet Requirements Of Energy Star

- Encapsulated Design And Same Footprint As El30Transformer : Upgrade Your Application Without Redesign Of PCB
- Safety: Meets All Requirements of: IEC/EN61558-2-16, IEC/EN60950-1, IEC/EN60335-1, UL60950-1, IEC/EN62368-1, CSA22.2No.60950-1-07, CE, VDE, ENEC Mark
- Materials: Uses UL 94-V0 Plastic And Resin
- EMC: Conducted And Radiated Emission conform To EN55032, FCC Part 15, CLASS B, IEC/EN61000-3-2 CLASS A, EN61000-3-3 without any additional components.
- Immunity Conform To:EN61000-4-2, IEC/EN61000-4-3, EN61000-4-4,EN61000-4-5, EN61000-4-6, EN61000-4-8,EN61000-4-11

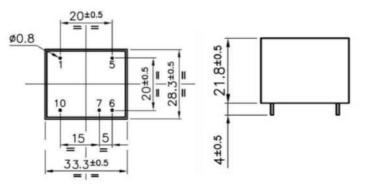
Part Number	Output Power (W)	Output Voltage (Vdc)	Output Current (mA)	Output Voltage Accuracy (%)	Max.Operating Ambient (°C)	Min. Part Efficiency(%)	
47243	4.7	(+)10.5	380	± 2		72	
		(+) 7.0	100	± 5	50		
47244	5	(+) 15	300	± 2		73	
41244	5	(+) 7.0	70	± 5		.0	
47245	3.2	(+) 12	130	± 3	70		
47245	5.2	(+) 5.5	300	± 5	10	65	
47246		(+) 5.0	400 (600max)	± 3		03	
47240	4	(+) 12	170	± 5	60		
47247	4	(+) 15	130	± 3	50	73	
		(+) 15	130	± 3		13	

Notes : The dual DC Voltage Outputs share a Common OV reference. Power deration must be considered at higher Operating Ambient Temperatures.

#### DIMENSIONS and PINOUT

5 pins

pins 1 & 5: AC or DC Input pin 6: Common output 0V pin 7: DC output I pin 10: DC output II













**Power Supplies** 

Model: Two	Common Outputs 3 TO 5W	Specification		
	Rated AC input Voltage	100~240Vac Or 140VDC-340VDC		
	AC Input Voltage Range	85~265Vac Or 120VDC-370VDC		
AC Input	AC Input Frequency Range	47Hz~63Hz		
Characteristics	Rated AC Input Frequency	50/60Hz		
	Input Current	0.2A Max@85Vac~265Vac@DC output with full load		
	Standby Power	0.2W Max (Meet Requirements Of Energy Star And EC Code Of Conduct)		
DC Output	Output Voltage Accuracy	See Table		
Characteristics	Cross-Load Regulation	Refer to P/N specification		
	Efficiency	See Table(Meet Requirements Of Energy Star And EC Code Of Conduct)		
	Over Current Protection	The power supply shall automatic protection. The power supply shall auto recovery normal operation after the deformation is removed. No excessive heat, odour, or plastic deformation shall occur, no safety hazard		
Protection Characteristics	Output Short Circuit Protection	The power supply shall withstand a continuous output short without damage in 24 hours; The short may be applied before power on, or after power on ; The power supply shall resum normal operation after the short is removed, no excessive heat, odour, or plastic deformati shall occur, no safety hazard		
	Over Temperature Protection	The power supply shall shut down when the junction temperature of PWMcontroller exceeds the thermal shutdown temperature, typically 140°C±10°C.		
	Operation Temperature	-25°C ~ +Ta (see table)		
	Operation Humidity	10~ 90% RH(No Condensing) @DC output with full load		
Environmental	Storage Temperature	-10°C to +35°C		
	Storage Humidity	<75%RH		
	Dielectric Strength	Primary to Secondary: 4000Vac 5mA, 3 sec.		
	Radiation	Meet EN55032,EN55014, Class B. under 3dB margin		
	Conduction	Meet EN55032,EN55014,Class B. under 3dB margin		
Safety & EMC Requirement	Safety Standards	Meet all requirements of UL60950-1,CSA22.2No.60950-1-07,IEC/EN60950-1, IEC/EN60335- 1,IEC/EN61558-2-16,IEC/EN62368-1 CE,VDE, And ENEC Mark VDE Approval No. 40034334 UL Approval No.E345767		
Reliability Requirement	MTBF	>550K Hours @ 230VAC input at 24deg.C and DC output with 5W load. >200K Hours @ 230VAC input at max operation temperature and DC output with 5W loa Calculated in accordance with MIL-HDBK-217-F2		
nequirement	Burn-In Test	The unit shall be burned in for 2~5hours under 230Vac input and DC with full load at an ambient temperature of 30~45 degrees C		
Net Weight	About 30 grams per product unit			
Guarantee	This product meet to RoHS stands	ard		

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**TWO OUTPUTS - ISOLATED 3.5W to 4W** 

#### **MAIN FEATURES**

- Small Compact Size P C BMount
- Two Isolated Output
- Output Voltage Accuracy : See Table For 15 to 100% Rated Load Of Each Output( includes line and load variations)
- Input Range : 85VAC 265VAC/47 63Hz Or 120VDC - 370VDC
- Very Low Standby Power Consumption < 0.2W
- Better Energetic Efficiency : Meet Requirements Of Energy Star

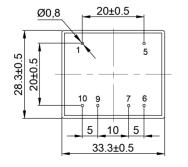
- Encapsulated Design And Same Footprint As El30Transformer : Upgrade Your Application Without Redesign Of PCB
- Safety: Meets All Requirements of: IEC/EN61558-2-16, IEC/EN60950-1, IEC/EN60335-1, UL60950-1, IEC/EN62368-1,CSA22.2No.60950-1-07, CE, VDE, ENEC Mark
- Materials : Uses UL 94-V0 Plastic And Resin
- EMC : Conducted And Radiated Emission conform To EN55032, FCC Part 15, CLASS B, IEC/EN61000-3-2 CLASS A, EN61000-3-3 without any additional components.
- Immunity Conform To:EN61000-4-2, IEC/EN61000-4-3, EN61000-4-4,EN61000-4-5, EN61000-4-6, EN61000-4-8,EN61000-4-11

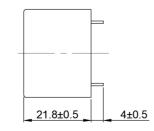
Part Number	Output Power (W)	Output Voltage (Vdc)	Output Current (mA)	Output Voltage Accuracy (%)	Max.Operating Ambient (°C)	Min. Part Efficiency(%)
47252	3.5	5	350 (600 max)	± 3		60
11202	0.0	5	350	± 5		
47254		12	165 (300max)	± 2		72
47204		12	165	± 5		
47255		15	135 (200 max)	± 2	60	73
47200	4	15	135	± 5	00	10
47257	7	5	400 (600 max)	± 2		68
47237		12	170	± 5		00
47258		18	150 (200 max)	± 4		72
47230		8	150	± 5		12

#### DIMENSIONS and PINOUT

6 pins

pins 1 & 5: AC or DC Input pin 6: DC output 1 0V pin 7: DC output 1 +V pin 9: DC output 2 0V pin 10: DC output 2 +V









View From Pins Side



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Model : Two Common Outputs 3 TO 5W		Specification			
	Rated AC input Voltage	100~240Vac Or 140VDC-340VDC			
	AC Input Voltage Range	85~265Vac Or 120VDC-370VDC			
AC Input	AC Input Frequency Range	47Hz~63Hz			
Characteristics	Rated AC Input Frequency	50/60Hz			
	Input Current	0.2A Max@85Vac~265Vac@ DC output with full load			
	Standby Power	0.2W Max (Meet Requirements Of Energy Star And EC Code Of Conduct)			
DC Output	Output Voltage Accuracy	See Table			
Characteristics	Cross-Load Regulation	Refer to P/N specification			
	Efficiency	See Table(Meet Requirements Of Energy Star And EC Code Of Conduct)			
	Over Current Protection	The power supply shall automatic protection. The power supply shall auto recovery normal operation after the deformation is removed. No excessive heat, odour, or plastic deformation shall occur, no safety hazard			
Protection Characteristics	Output Short Circuit Protection	The power supply shall withstand a continuous output short without damage in 24 hours. The short may be applied before power on, or after power on ; The power supply shall resun normal operation after the short is removed, no excessive heat, odour, or plastic deformation shall occur, no safety hazard			
	Over Temperature Protection	The power supply shall shut down when the junction temperature of PWMcontroller exceeds the thermal shutdown temperature, typically140°C±10°C.			
	Operation Temperature	-25°C ~ +Ta (see table)			
	Operation Humidity	10~ 90% RH(No Condensing) @ DC output with full load			
Environmental	Storage Temperature	-10°C to +35°C			
	Storage Humidity	< 75%RH			
	Dielectric Strength	Primary to Secondary: 4000Vac 5mA, 3 sec.			
	Radiation	Meet EN55032,EN55014, Class B. under 3dB margin			
	Conduction	Meet EN55032,EN55014,Class B. under 3dB margin			
Safety & EMC Requirement	Safety Standards	Meet all requirements of UL60950-1, CSA22.2No.60950-1-07, IEC/EN60950-1, IEC/EN60335- 1,IEC/EN61558-2-16,IEC/EN62368-1 CE,VDE, And ENEC Mark VDE Approval No. 40034334 UL Approval No.E345767			
Reliability Requirement	MTBF	>550K Hours @ 230VAC input at 24deg.C and DC output with 5W load. >200K Hours @ 230VAC input at max operation temperature and DC output with 5W load <i>Calculated in accordance with MIL-HDBK-217-F2</i>			
	Burn-In Test	The unit shall be burned in for 2~ 5hours under 230Vac input and DC with full load at an ambient temperature of 30~45 degrees C			
Net Weight	About 30 grams per product unit				
Guarantee	This product meet to RoHS stands	ard			
	1				

 $\label{eq:main_series} \textit{Myrra reserve the right to change specifications in this document without notice}$ 

# **ONE OUTPUT 7.5W**



### MAIN FEATURES

- 7.5W Small Compact Size PC B Mount
- Single Output
- Output Range : 3.3VDC 24VDC
- Input Range : 85VAC 265VAC/47 63Hz Or 120VDC - 370VDC
- Very Lo w Standby Power Consumption < 0.15W
- Better Energetic Efficiency : Meet Requirements Of Energy Star
- Encapsulated Design And Same Footprint As El38 Transformer : Upgrade Your Application Without Redesign Of PCB

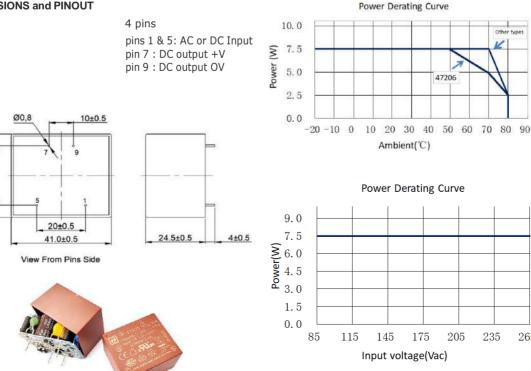
- Safety : Meets All Requirements of: IEC/EN61558-2-16, IEC/EN60950-1, IEC/EN60335-1, UL60950-1, IEC/EN62368-1, CAN/CSA22.2No.60950-1-07, CE, VDE, ENEC Mark
- Materials : Uses UL 94-V0 Plastic And Resin
- EMC : Conducted And Radiated Emission conform To EN55032, FCC Part 15, CLASS B, IEC/EN61000-3-2 CLASS A, EN61000-3-3 without any additional components.
- Immunity Conform To: EN61000-4-2, IEC/EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11

265

Part Number	Output Power (W)	Output Voltage (Vdc)	Output Current (mA)	Output Voltage Accuracy (%)	Max.Operating Ambient (°C)	Min. Part Efficiency(%)
47206		3.3	2270	± 3	50	74
47200		5	1500			77
47201		9	830			80
47202	7.5	12	625	±2	70	
47203		15	500	±Ζ	10	82
47204		18	420			02
47205		24	310			

#### **DIMENSIONS and PINOUT**

35.0±0.5 25±0.5









**Power Supplies** 

Model: 7.5 Watt		Specification		
	Rated AC input Voltage	100~240Vac Or 140VDC-340VDC		
	AC Input Voltage Range	85~265Vac Or 120VDC-370VDC		
AC Input	AC Input Frequency Range	47Hz~63Hz		
Characteristics	Rated AC Input Frequency	50/60Hz		
	Input Current	0.3A Max@85Vac~265Vac@DC with full load		
	Standby Power	0.15W Max(Meet Requirements Of Energy Star And EC Code Of Conduct)		
	Output Voltage Accuracy	± 2% (5V,9V,12V,15V,18V,24V Types) - ± 3%(3.3V Type)		
	Output Voltage Line Regulation	±0.5%		
DC Output	Output Voltage Load Regulation	± 1%(5V,9V,12V,15V,18V,24V Types) ± 3%(3.3V Type)		
Characteristics	Ripple & Noise	Max 180mVp-p@ Rated AC input, at nominal line (The measuring will be terminated with a 47uF AL E-Cap and a 0.1uF Cer-Cap. An oscilloscope set at 20MHz bandwidth)		
	Efficiency	Meet Requirements Of Energy Star And EC Code Of Conduct		
	Over Current Protection	The power supply shall automatic protection. The power supply shall auto recovery norma operation after the deformation is removed. No excessive heat, odour, or plastic deformation shall occur, no safety hazard		
Protection Characteristics	Output Short Circuit Protection	The power supply shall withstand a continuous output short without damage in 24 hour The short may be applied before power on, or after power on; The power supply shall resur normal operation after the short is removed, no excessive heat, odour, or plastic deformation shall occur, no safety hazard		
	Operation Temperature	-20°C ~ +Ta (see table)		
	Operation Humidity	10~ 90% RH(No Condensing) @ full load		
Environmental	Storage Temperature	-10°C to +35°C		
	Storage Humidity	< 75%RH		
	Dielectric Strength	Primary to Secondary: 4000Vac 5mA, 3 sec.		
	Radiation	Meet EN55032,EN55014,FCC part 15, Class B. under 3dB margin		
	Conduction	Meet EN55032,EN55014, FCC part 15,Class B. under 3dB margin		
Safety & EMC		Meet all requirements of		
Requirement	Safety Standards	UL60950-1,CAN/CSA22.2No.60950-1-07,IEC/EN60950-1,IEC/EN60335-1,IEC/EN61558-2- 16,IEC/EN62368-1		
		CE,VDE, And ENEC Mark VDE Approval No. 40041563 UL Approval No.E345767		
Reliability Requirement	МТВГ	<ul> <li>&gt;550K Hours @ 230VAC input at 24deg.C and DC output with 5W load.</li> <li>&gt;200K Hours @ 230VAC input at max operation temperature and DC output with 5W locculated in accordance with MIL-HDBK-217-F2</li> </ul>		
Requirement	Burn-In Test	The unit shall be burned in for 2~5hours under 230Vac input and DC with full load at an ambient temperature of 30~45 degrees C		
		fullioad at an ambient temperature of 50° 45 degrees c		

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# ONE OUTPUT 5W to 10W (49XXE)



### MAIN FEATURES

- 5 To 10W Small Compact Size PCB Mount
- Single Output Secondary Side Regulated
- Output Range : 3.3VDC 30VDC
- Input Range : 85VAC 265VAC/47 63Hz Or 120VDC -370VDC
- Very Low Standby Power Consumption < 0.1W
- Better Energetic Efficiency : Meet Requirements Of Energy Star And EC Code Of Conduct

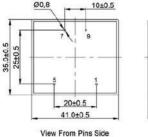
Encapsulated Design And Same Footprint As El38 Transformer : Upgrade Your Application Without Redesign Of PCB

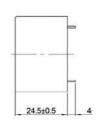
- Safety : Meets All Requirements of IEC/EN61558-2
   16, IEC/EN60335-1, IEC/EN62368-1, UL62368-1, CSA C22.2NO.62368-1-14,CE,VDE,ENEC,UKCA Mark.
- Materials : Uses UL 94-V0 Plastic And Resin
- EMC : Conducted And Radiated Emission conform To EN55032, FCC Part 15, CLASS B, IEC/EN61000-3-2 CLASS A, EN61000-3-3 without any additional components.
- Immunity Conform To:EN61000-4-2, IEC/EN61000-4-3, EN61000-4-4,EN61000-4-5, EN61000-4-6, EN61000-4-8,EN61000-4-11

Part Number	Output Power (W)	Output voltage (Vdc)	Output current (mA)	Output Voltage Accuracy (%)	Ambient Temp. (°C)	Min. Part Efficiency
49033E	10		2700		60	
	7.5	3.3	2270		70	68%
	5.0		1500		80	
49050E	10		2000		60	73%
	7.5	5.0	1500		70	13%
	5.0		1000		80	70%
49090E	10		1100		60	
	7.5	9.0	830		75	79%
	5.0		550		80	74%
49120E	10		830		60	
	7.5	12	625		75	80%
	5.0		420	±2	80	75%
49150E	10		670		60	
	7.5	15	500		75	81%
	5.0		330		80	76%
49180E	10		560		60	
	7.5	18	420		75	81%
	5.0		280		80	76%
49240E	10		420		60	81%
	7.5	24	310		75	01 %
	5.0		210		80	76%
49300E	10		333		60	
	7.5	30	250		75	81%
	5.0		167		80	76%

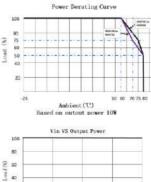
DIMENSIONS and PINOUT 4pins

pins 1 & 5: AC or DC Input pin 7: DC output +V pin 9: DC output OV









110 180 Input Voltage(Vac) 230

108



20

Vac 85



## 



**Power Supplies** 

Mo	del: 5W To 10Watt	Specification
	Rated AC input Voltage	100~240Vac Or 140VDC-340VDC
	AC Input Voltage Range	85~265Vac Or 120VDC-370VDC
AC Input Characteristics	AC Input Frequency Range	47Hz~63Hz
	Rated AC Input Frequency	50/60Hz
	Input Current	0.35A Max@85Vac~265Vac@DC output with full load
	Standby Power	0.1W Max(Meet Requirements Of Energy Star And EC Code Of Conduct)
	Output Voltage Accuracy	±2%
	Output Voltage Line Regulation	±0.5%
DC Output	Output Voltage Load Regulation	±2%
Characteristics	Ripple & Noise	Max 180mVp-p@ Rated AC input(The measuring will be terminated with a 47uF AL E-Cap and a 0.1uF Cer-Cap. An oscilloscope set at 20MHz bandwidth)
	Efficiency	See Table (Meet Requirements Of Energy Star And EC Code Of Conduct)
Protection	Over Current Protection	The power supply shall automatic protection. The power supply shall auto-recovery normal operations after the deformation is removed. No excessive heat, odour, or plastic deformation shall occur with no safety hazard
Characteristics	Output Short Circuit Protection	The power supply shall withstand a continuous output short without damage in 24 hours The short may be applied before power on, or after power on; The power supply shall resume normal operation after the short is removed, no excessive heat, odour, or plastic deformation shall occur, no safety hazard
	Over Temperature Protection	The power supply shall shut down when the junction temperature of PWM controller exceeds the thermal shutdown temperature, typically 140°C ±10°C
	Operation Temperature	-25°C ~+80°C (Refer to "Derating Graph")
Environmental	Operation Humidity	10~ 90% RH(No Condensing) @ DC output with full load
	Storage Temperature	-10°C to +35°C
	Storage Humidity	< 75%RH
	Dielectric Strength	Primary to Secondary: 4000Vac 5mA, 3 sec.
	Radiation	Meets EN55032,FCC part 15, Class B. under 3dB margin
Safety & EMC	Conduction	Meets EN55032,FCC part 15,Class B. under 3dB margin
Requirement	Safety Standards	Meet all requirements of : UL62368-1, CSA C22.2NO.62368-1-14, IEC/EN60335-1,IEC/EN61558-2-16, IEC/EN62368-1, CE, VDE,UKCA, ENEC Mark UL certificate NO.E345767 VDE certificate NO.40056578
Reliability Requirement	MTBF	>200K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at 25deg.C Calculated in accordance with MIL-HDBK-217-F2
	Burn-In Test	The power supply is subject to a burn in test for 2~5hours under 230VAC input and DC full load at an ambient temperature of 30~45 degrees C
Net Weight	About 56 grams per product un	it
Guarantee	This product is in accordance wi	ith the European RoHS & REACH directives

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## **ONE OUTPUT 10W**



### MAIN FEATURES

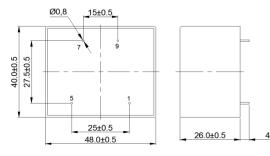
- 10W Small Compact Size PCB Mount
- Single Output
- Output Range : 3.3VDC 24VDC
- Input Range : 85VAC 265VAC/47 63Hz Or 120VDC 370VDC
- Very Low Standby Power Consumption < 0.10W
- Better Energetic Efficiency : Meet Requirements Of Energy Star
- Encapsulated Design And Same Footprint As El48 Transformer : Upgrade Your Application Without Redesign Of PCB

- Safety : Meets All Requirements of: IEC/EN61558-2-16, IEC/EN60950-1, IEC/EN60335-1, UL60950-1, IEC/EN62368-1,CAN/CSA22.2No.60950-1-07, CE, VDE, ENEC Mark
- Materials : Uses UL 94-V0 Plastic And Resin
- EMC : Conducted And Radiated Emission conform To EN55032, FCC Part 15, CLASS B, IEC/EN61000-3-2 CLASS A, EN61000-3-3 without any additional components.
- Immunity Conform To: EN61000-4-2, IEC/EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11

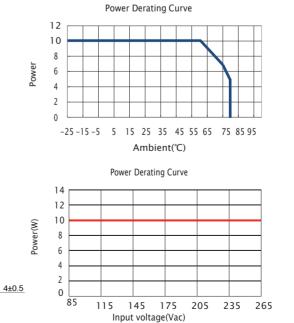
Part Number	Output Power (W)	Output Voltage (Vdc)	Output Current (mA)	Output Voltage Accuracy (%)	Max.Operating Ambient (°C)	Min. Part Efficiency(%)
47210		5	2000	± 3	-	74
47211		9	1100			80
47212		12	830		60	
47213	10	15	670	± 2	00	82
47214		18	560			02
47215		24	420			
47216		3.3	3000	± 4	50	72

#### **DIMENSIONS and PINOUT**

4 pins pins 1 & 5: AC or DC Input pin 7 : DC output +V pin 9 : DC output OV



View From Pins Side







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Model: 10 Watt		Specification
	Rated input Voltage	100~240Vac Or 140VDC-340VDC
	Input Voltage Range	85~265Vac Or 120VDC-370VDC
AC Input	AC Input Frequency Range	47Hz~63Hz
Characteristics	Rated AC Input Frequency	50/60Hz
	Input Current	0.4A Max@85Vac~265Vac@ DC output with full load
	Standby Power	0.1W Max(Meet Requirements Of Energy Star And EC Code Of Conduct)
	Output Voltage Accuracy	± 2% (9V,12V,15V,18V,24V Types), ± 3% (5V Type), ± 4%(3.3V Type)
	Output Voltage Line Regulation	±0.5%(9V,12V,15V,18V,24V Types), ±1%(3.3V and 5V Types )
	Output Voltage Load	± 1%(9V,12V,15V,18V,24V Types)
DC Output Characteristics	Regulation	± 3% (5V Type), ± 4%(3.3V Type)
	Ripple & Noise	Max180mVp-p@RatedACinput (Themeasuringwillbeterminatedwitha47uFALE-Capanda 0.1uF Cer-Cap. An oscilloscope set at 20MHz bandwidth)
	Efficiency	Meets Requirements Of Energy Star And EC Code Of Conduct
Protection Characteristics	Over Current Protection	The power supply shall automatic protection. The power supply shall auto-recovery normal operations after the deformation is removed. No excessive heat, odour, or plastic deformation shall occur with no safety hazard
	Output Short Circuit Protection	The power supply shall withstand a continuous output short without damage in 24 hours; The short may be applied before power on, or after power on; The power supply shall resume normal operation after the short is removed, no excessive heat, odour, or plastic deformation shall occur, no safety hazard
	Operation Temperature	-25°C ~ +Ta (see table)
	Operation Humidity	10~ 90% RH(No Condensing) @ DC output with full load
Environmental	Storage Temperature	-10'C to +35'C
	Storage Humidity	<75%RH
	Dielectric Strength	Primary to Secondary: 4000Vac 5mA, 3 sec .
	Radiation	Meeting EN55032,EN55014,FCC part 15, Class B.
	Conduction	Meeting EN55032,EN55014, FCC part 15,Class B.
Safety & EMC Requirement	Safety Standards	Meet all requirements of : UL60950-1, CAN/CSA22.2No.60950-1-07, IEC/EN60335-1,IEC/EN61558-2-16, IEC/EN62368- CE, VDE, ENEC Mark UL certificate NO.E345767 VDE certificate No.40044416
Reliability Requirement	MTBF	>200K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at 25deg.C Calculated in accordance with MIL-HDBK-217-F2
nequirement	Burn-In Test	The unit shall be burned in for 2~ 5hours under 230Vac input and DC with full load at an ambienttemperature of 30~45 degreesC
Net Weight	About 80 grams per product	t unit.
Guarantee	This product meet to RoHS s	standard

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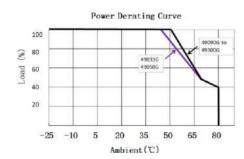


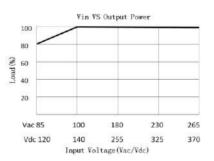
### **MAIN FEATURES**

- 20W Small Compact Size PCB Mount
- Single Output
- Output Range : 3.3VDC 30VDC
- Input Range: 85VAC 265VAC/47 63Hz
   Or120VDC 370VDC
- Very Low Standby Power
- Consumption = 0.15W
- High Energetic Efficiency: Meet RequirementsOf Energy Star And EC Code Of Conduct
- Encapsulated
   Design PCB Total
   Power Solution

- Safety: Meets with IEC/EN61558-2-16, IEC/EN60335-1, UL62368-1, IEC/EN62368-1, CSA C22.2NO.62368-1-14,CE,UKCA Mark
  - Materials: Uses UL 94-V0 Plastic And Resin
- EMC : Conducted And Radiated Emission conform To EN55032, FCC Part 15, CLASS B, IEC/EN61000-3-2 CLASS A, EN61000-3-3 without any additional components.
- Immunity Conform To:EN61000-4-2, IEC/EN61000-4-3, EN61000-4-4,EN61000-4-5, EN61000-4-6, EN61000-4-8,EN61000-4-11

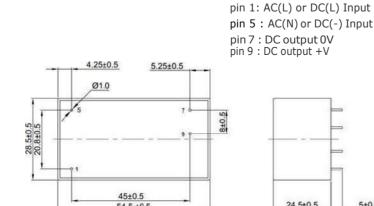
Part Number	Output Power (W)	Output voltage (Vdc)	Output current (mA)	Output Voltage Accuracy (%)	Ambient Temp. (°C)	Min. Part Efficiency (%)
49033G	13.5	3.3	4100	±3		75
49050G	19	5	3800		-	78
49090G		9	2200			81
49120G		12	1667 (1800 max)			82
49150G		15	1333 (1400 max)	±2	-25°C ~ +80°C	
49180G	20	18	1111 (1140 max)			83
49240G		24	833 (900 max)			
49300G		30	667(720 max)			





22

#### **DIMENSIONS and PINOUT**













Model: 20 Watt		Specification
	Rated input Voltage	100~240Vac Or 140VDC-340VDC
	Input Voltage Range	85~265Vac Or 120VDC-370VDC
AC Input	AC Input Frequency	47Hz~63Hz
Characteristics	Rated AC Input Frequency	50/60Hz
	Input Current	0.5A Max@85Vac~265Vac@DC output with full laod
	Standby Power	0.15W Max (Meets requirements Of Energy Star And EC Code Of Conduct)
		± 2% (9V, 12V, 15V, 18V, 24V Types)
	Output Voltage Accuracy	± 3% (3.3V Type, 5V Type)
	Output Voltage Line Regulation	± 1%
DC Output	Output Voltage Load	± 2% (9V, 12V, 15V, 18V, 24V Types)
Characteristics		
	Regulation	$\pm$ 3% (3.3V Type, 5V Type)
	Ripple & Noise	Max 180mVp-p @Rated AC input (The measuring will be terminated with a 47uF AL
		E-Cap and a 0.1uF Cer-Cap. An oscilloscope set at 20MHz bandwidth)
	Efficiency	Meets requirements Of Energy Star And EC Code Of Conduct
		The power supply shall automatic protection. The power supply shall auto-recovery normal
	Over Current Protection	operations after the deformation is removed. No excessive heat, odour, or plastic deformation
Protection		shall occur with no safety hazard
Characteristics		The power supply shall withstand a continuous output short without damage in 24 hours;
Characteristics	Output Short Circuit	The short may be applied before power on, or after power on; The power supply shall
	Protection	resume normal operation after the short is removed, no excessive heat, odour, or plastic
		deformation shall occur, no safety hazard
	Operation Temperature	-25°C~+80°C (Refer to "Derating Graph")
	Operation Humidity	10~ 90% RH (No Condensing) @ DC output with full load
Environmental	Storage Temperature	-10°C~ +35°C
	Storage Humidity	<75%RH
	Dielectric Strength	Primary to Secondary: 4000Vac 5mA, 3 sec .
	Radiation	Meeting EN55032, EN55014, FCC part 15, Class B.
Safety & EMC	Conduction	Meeting EN55032, EN55014, FCC part 15, Class B.
Requirement	Safety Standards	Meet all requirements of : UL62368-1, CSA C22.2NO.62368-1-14, IEC/EN60335-1,IEC/EN61558-2-16, IEC/EN62368-1, CE,UKCA, Mark UL certificate NO.E345767
		VDE certificate NO. 400xxxx >200K Hours @230VAC input at max operation temperature;
Reliability	MTBF	>550K Hours @230VAC input at 25deg.C
Requirement		Calculated in accordance with MIL-HDBK-217-F2
	Burn-In Test	The unit shall be burned in for 2~ 5hours under 230Vac input and DC with full load at an
		ambient temperature of 30~45 degrees C
	Physical Size	The units do not including PINs of input and output , and dimension is :
Mechanical	Physical Size	(L)54.5*(W)28.5*(H)24.5±0.5mm (see appearance drawing)
	Net Weight	Approximately 65 grams per product unit.
Guarantee	This product meets RoHS st	andard & REACH directives

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## **ONE OUTPUT 20W**

### **MAIN FEATURES**

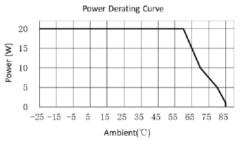
- 20W Small Compact Size PCB Mount
- Single Output
- Output Range : 3.3VDC 24VDC
- Input Range: 85VAC 265VAC/47 63Hz
   Or120VDC 370VDC
- Very Low Standby Power

Consumption = 0.1W

- Better Energetic Efficiency: Meet RequirementsOf Energy Star And EC Code Of Conduct
- Encapsulated Design PCB Total Power Solution

- Safety: Complies with IEC/EN61558-2-16, IEC/EN62368-1, IEC/EN60335-1, UL62368-1, CSA C22.2NO.62368-1-14, CE,UKCA.
  - Materials: Uses UL 94-V0 Plastic And Resin
- EMC : Conducted And Radiated Emission conform To EN55032, FCC Part 15, CLASS B, IEC/EN61000-3-2 CLASS A, EN61000-3-3 without any additional components.
- Immunity Conform To:EN61000-4-2, IEC/EN61000-4-3,EN61000-4-4, EN61000-4-5, EN61000-4-6,EN61000-4-8,EN61000-4-11

Part Number	Output Power (W)	Output voltage (Vdc)	Output current (mA)	Output Voltage Accuracy (%)	Max.Operating Ambient (°C)	Min. Part Efficiency (%)
47220	15	3.3	4500	± 4	50	82
47221		5	4000	± 4	50	02
47222		9	2200		60	85
47223	20	12	1700			
47224		15	1400	± 3		
47225		18	1100			
47226		24	840			

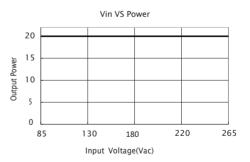


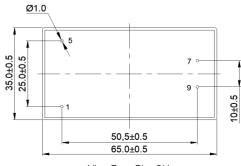
DIMENSIONS and PINOUT

4 pins pins 1 & 5: AC or DC Input pin 7 : DC output +V pin 9 : DC output OV















Mod	el: 20 Watt	Specification
Rated input Voltage		100~240Vac Or 140VDC-340VDC
	Input Voltage Range	85~265Vac Or 120VDC-370VDC
AC Input	AC Input Frequency	47Hz~63Hz
Characteristics	Rated AC Input Frequency	50/60Hz
	Input Current	0.6A Max@85Vac~265Vac@DC output with full load
	Standby Power	0.15W Max (Meets requirements Of Energy Star And EC Code Of Conduct)
		± 3% (9V, 12V, 15V, 18V, 24V Types)
	Output Voltage Accuracy	± 4% (3.3V Type, 5V Type)
	Output Voltage Line	± 2% (9V, 12V, 15V, 18V, 24VTypes)
	Regulation	± 3% (3.3V and 5V Types )
DC Output	Output Voltage Load	± 3% (9V, 12V, 15V, 18V, 24V Types)
Characteristics	Regulation	± 4% (3.3V Type, 5V Type)
		Max 180mVp-p @Rated AC input (The measuring will be terminated with a 47uF AL
	Ripple & Noise	E-Cap and a 0.1uF Cer-Cap. An oscilloscope set at 20MHz bandwidth)
	Efficiency	Meets requirements Of Energy Star And EC Code Of Conduct
	Over Current Protection	The power supply shall automatically protect. The power supply shall auto-recover normal
		operation after the deformation is removed. No excessive heat, odour, or plastic
		deformation shall occur, no safety hazard
Protection		The power supply shall withstand a continuous output short without damage in 24 hours;
Characteristics	Output Short Circuit	The short may be applied before power on, or after power on; The power supply shall
	Protection	resume normal operation after the short is removed, no excessive heat, odour, or plastic
		deformation shall occur, no safety hazard
	Operation Temperature	-25°C ~+50°C (operation temp. can be extended more than +50°C ,Refer to "Derating Graph")
	Operation Humidity	10~ 90% RH (No Condensing) @ DC output with full load
Environmental	Storage Temperature	-10°C~ +35°C
	Storage Humidity	<75%RH
	Dielectric Strength	Primary to Secondary: 4000Vac 5mA, 3 sec .
	Radiation	Meeting EN55032, FCC part 15, Class B
Safety & EMC	Conduction	Meeting EN55032, FCC part 15, Class B
Requirement	Safety Standards	Meet all requirements of : UL62368-1, CSA C22.2NO.62368-1-14, IEC/EN60335-1, IEC/EN61558-2-16, IEC/EN62368-1
Reliability	MTBF	>200K Hours @230VAC input at max operation temperature; >550K Hours @230VAC input at 25deg.C
Requirement		Calculated in accordance with MIL-HDBK-217-F2
	Burn-In Test	The unit shall be burned in for 2~ 5hours under 230Vac input and DC with full load at an
		ambient temperature of 30~45 degrees C
	Physical Size	The units do not including PINs of input and output , and dimension is :
Mechanical		(L)65*(W)35*(H)24.5±0.5mm (see appearance drawing)
	Net Weight	Approximately 92 grams per product unit.
Guarantee	This product meets RoHS st	andard

 $\label{eq:main_series} \textit{Myrra reserve the right to change specifications in this document without notice}$ 

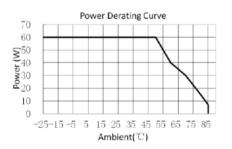
## **ONE OUTPUT 60W**

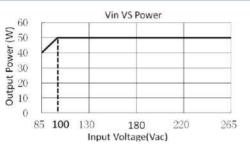
### MAIN FEATURES

- Small Compact Size PCB Mount
- Single Output
- Output Range : 5VDC 24VDC
- Input Range: 85VAC 265VAC/47 63Hz Or 120VDC - 370VDC
- Very Low Standby Power Consumption = 0.1W
- Better Energetic Efficiency: Meet Requirements Of Energy Star And EC Code Of Conduct
- Encapsulated Design PCB Total Power Solution

- Safety: Complies with IEC/EN61558-2-16, IEC/ EN62368-1, IEC/EN60335-1, UL62368-1, CSA C22.2NO.62368-1-14, CE,UKCA.
- Materials: Uses UL 94-V0 Plastic And Resin
- EMC : Conducted And Radiated Emission conform To EN55032, FCC Part 15, CLASS B, IEC/EN61000-3-2 CLASS A, EN61000-3-3 without any additional components.
- Immunity Conform To:EN61000-4-2, IEC/EN61000-4-3, EN61000-4-4,EN61000-4-5,EN61000-4-6, EN61000-4-8 EN61000-4-11

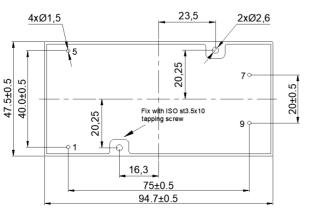
Part Number	Output Power (W)	Output Voltage (Vdc)	Output Current (mA)	Output Voltage Accuracy (%)	Max.Operating Ambient (°C)	Min. Part Efficiency (%)
47261	50	5	10000	± 5		82
47262	60	9	6600			
47263		12	5000		50	
47264		15	4000	± 3	30	85
47265		18	3300			
47266		24	2500			



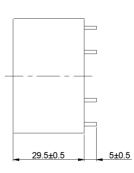


#### **DIMENSIONS and PINOUT**

4 pins pins 1 & 5: AC or DC Input pin 7 : DC output +V pin 9 : DC output OV







@ pending certification

View From Pins Side







Model: 60 Watt		Specification			
	Rated input Voltage	100~240Vac Or 140VDC-340VDC			
	Input Voltage Range	85~265Vac Or 120VDC-370VDC			
AC Input	AC Input Frequency Range	47Hz~63Hz			
Characteristics	Rated AC Input Frequency	50/60Hz			
	Input Current	1.5A Max@85Vac~265Vac@DC output with full load			
	Standby Power	0.15W Max (Meet Requirements Of Energy Star And EC Code Of Conduct)			
	Output Voltage Accuracy	± 3% (9V, 12V, 15V, 18V, 24V Types) ± 5% (5V Type)			
	Output Voltage Line	± 3% (9V, 12V, 15V, 18V, 24V Types)			
	Regulation	± 5% ( 5V Types )			
DC Output	Output Voltage Load	± 3%(9V,12V,15V,18V,24V Types)			
Characteristics	Regulation	± 5% (5V Type)			
	Ripple & Noise	Max 200mVp-p @Rated AC input (The measuring will be terminated with a			
	Efficiency	47uF AL E-Cap and a 0.1uF Cer-Cap. An oscilloscope set at 20MHz bandwidth)			
	Efficiency	See table (Meet Requirements Of Energy Star And EC Code Of Conduct)			
	Ourse Connect Destantion	The power supply shall automatic protection. The power supply shall auto-recovery			
	Over Current Protection	normal operation after the deformation is removed. No excessive heat, odour, or plastic			
Protection		deformation shall occur, no safety hazard			
Characteristics	Output Shart Circuit	The power supply shall withstand a continuous output short without damage in 2			
	Output Short Circuit	hours ; The short may be applied before power on, or after power on; The power supp			
	Protection	shall resume normal operation after the short is removed, no excessive heat, odour,			
		or plastic deformation shall occur, no safety hazard			
	Operation Temperature	-25°C ~ + 50°C (operation temp. can be extended more than +50°C ,Refer to "Derating Graph")			
Environmental	Operation Humidity	10~ 90% RH (No Condensing) @ DC output with full load			
	Storage Temperature	-10°C~ +35°C			
	Storage Humidity	<75%RH			
	Dielectric Strength	Primary to Secondary : 4000Vac 5mA, 3 sec.			
Safety & EMC	Radiation	Meeting EN55032, FCC part 15, Class B			
Requirement	Conduction	Meeting EN55032, FCC part 15, Class B			
	Safety Standards	Meet all requirements of : UL62368-1, CSA C22.2NO.62368-1-14, IEC/EN60335-1, IEC/EN61558-2-16, IEC/EN62368-1			
Reliability	MTBF	>200K Hours @230VAC input at max operation temperature;			
Requirement		>550K Hours @230VAC input at 25deg.C Calculated in accordance with MIL-HDBK-217-F2			
		The unit shall be burned in for 2~ 5hours under 230Vac input and DC with full load at			
	Burn-In Test	an ambient temperature of 30~45 degrees C			
	Net Weight	Approximately 245 grams per product unit.			
Guarantee	This product meet to RoHS	This product meet to RoHS standard			

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## 65W LED Driver



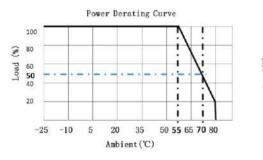
### MAIN FEATURES

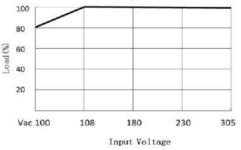
- 65W Small Compact Size- Metal housing design
- Constant Current Mode Output
- Built-in active PFC Function:>0.95
- Output Range : 6VDC 48VDC
- Input Range: 100VAC 305VAC/47- 63Hz
- Very Low Standby Power Consumption<0.5W
- IP65 Rating For Indoor Or Outdoor Installations
- 3 In 1 Dimming(1V to 10Vdc or 10V PWM Signal or resistance)

- Safety: Complies with IEC/EN61347-1, IEC/ EN61347-2-13, UL8750 CALSS 2, CSA C22.2NO.250.13-12,CE,UKCA,IP65
- Materials: Uses UL 94-V0 Resin
- EMC : Conducted And Radiated Emission conform To EN55015,FCC Part 15, CLASS B, IEC/EN61000-3-2 CLASS C, EN61000-3-3 without any additional components.
- Immunity Conform To:EN61000-4-2, IEC/EN61000-4-3, EN61000-4-4,EN61000-4-5,EN61000-4-6, EN61000-4-8 EN61000-4-11

Part Number	Output Power (W)	Output Voltage (Vdc)	Output Current (mA)	Input Range	Max.Operating Ambient (°C)	Min. Part Efficiency (%)
49120K	48	6.0 ~12	4000			>86%
49240K		12 ~24	2700			>88%
49360K	1	21.5 ~36	1800	100Vac – 305Vac	-25°C ~ +70°C	>89%
49420K	65	25 ~42	1550			>90%
49480K		32 ~48	1350			>90%

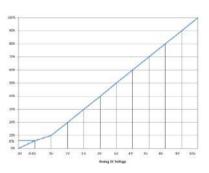
#### DERATING GRAPH



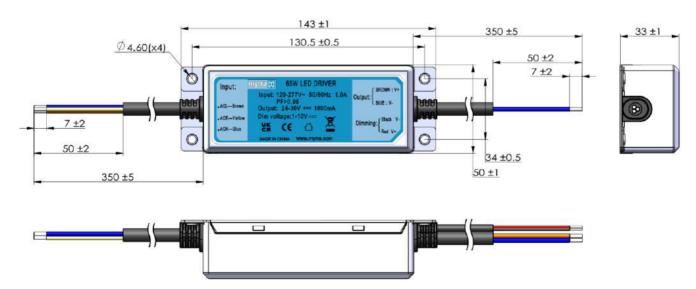


Vin VS Output Power

#### DIMMING GRAPH



DIMENSIONS









**Power Supplies** 

Model: 65 Watt		Specification				
Rated input Voltage		120~277Vac				
	Input Voltage Range	100~305Vac				
	AC Input Frequency Range	47Hz~63Hz				
AC Input	Rated AC Input Frequency	50/60Hz				
Characteristics	Input Current	1.0A Max@108Vac~305Vac@DC output with full load				
	Standby Power	0.5W Max (Meet Requirements Of Energy Star And EC Code Of Conduct)				
	Total Harmonic Distortion	≤20% @output load≥75%				
	Leakage Current	<0.75mA@277Vac				
	Max.No.of PSU on 16A circuit breaker	26 units(circuit breaker of type B)/26 units(circuit breaker of type C)at 230VAC.				
	Output Voltage Range	See table				
	Output Voltage Line Regulation	± 5%				
DC Output	Output Voltage Load	± 5%				
Characteristics	Regulation					
	Ripple & Noise	Max 10%Ip-p@ 120Vac ~277Vac (The measuring will be terminated with a 47uF AL E-Cap and a 0.1uF Cer-Cap. An oscilloscope set at 20MHz bandwidth).				
	Efficiency	See table (Meet Requirements Of Energy Star And EC Code Of Conduct)				
	Over Voltage Protection	The LED driver shall automatic protection(hiccup mode). The LED driver shall auto-recover normal operation after the deformation is removed. No excessive heat, odour, or plastic				
		deformation shall occur, no safety hazard.				
		The power supply shall withstand a continuous output short without damage in				
Protection	Output Short Circuit	hours ; The short may be applied before power on, or after power on; The power supp				
Characteristics	Protection	shall resume normal operation after the short is removed, no excessive heat, odour,				
		or plastic deformation shall occur, no safety hazard				
	Over Temperature Protection	Hiccup mode, recovers automatically after fault condition is removed.				
	Operation Temperature	-25°C~+70′C (Refer to "Derating Graph")				
	Operation Humidity	10~ 90% RH (No Condensing) @ DC output with full load				
Environmental	Storage Temperature	-10°C~ +35°C				
	Storage Humidity	<75%RH				
	Dielectric Strength	Input to Output 3kVAC,5mA,1 min(3.75kVAC,3s @at the mass production stage) Input to Ground 1.5kVAC, 5mA,1 min				
Safety & EMC	Radiation	Output to Ground 500VAC ,5mA,1 min Meeting EN55015, FCC part 15, Class B				
Requirement						
	Conduction	Meeting EN55015, FCC part 15, Class B Meet all requirements of :				
	Safety Standards	IP65; UL8750 CLASS2; CSA C22.2NO.250.13-12;IEC/EN61347-1;IEC/EN61347-2-13; CE, UKCA Mark				
Reliability	MTBF	>200K Hours @230VAC input at max operation temperature;				
Reliability		>550K Hours @230VAC input at 25deg.C				
Requirement		Calculated in accordance with MIL-HDBK-217-F2 The unit shall be burned in for 2~ 5hours under 230Vac input and DC with full load at				
	Burn-In Test	an ambient temperature of $30^{\circ}45$ degrees C				
	Net Weight	Approximately 450 grams per product unit.				

Myrra reserve the right to change specifications in this document without notice

# **100W Industrial Power Supply**

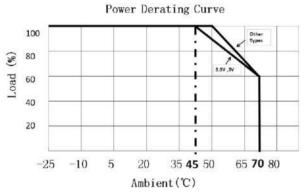


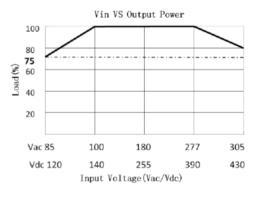
### MAIN FEATURES

- 100W Small Compact Size
- Built-in active PFC Function:>0.92
- Output Range : 3.3VDC 48VDC
- Input Range: 85VAC 305VAC/47- 63Hz
- Very Low Standby Power Consumption<0.3W
- Safety: Complies with IEC/EN62368-1, IEC/ EN60335-1, IEC/EN61558-2-16, UL62368-1, CSA C22.2NO.62368-1-14, CE, UKCA
- EMC : Conducted And Radiated Emission conform To EN55032,FCC Part 15, CLASS B, IEC/EN61000-3-2 CLASS C, EN61000-3-3 without any additional components.
- Immunity Conform To:EN61000-4-2, IEC/EN61000-4-3, EN61000-4-4,EN61000-4-5,EN61000-4-6, EN61000-4-8 EN61000-4-11

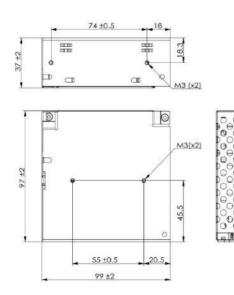
I	Part Number	Output Power (W)	Output Voltage (Vdc)	Output Current (A)	Input Range	Operating Ambient (°C)	Min. Part Efficiency (%)
	49033N	66	3.3	20		-25°C ~ +70°C	>75%
	49050N	90	5.0	18			>87%
	49120N	102	12	8.5	85Vac – 305Vac		>90%
	49150N	105	15		(120Vdc – 430Vdc) -25°C		>90%
	49240N	108	24	4.5			>90%
	49360N	108	36	2.8			>90%
	49480N	110	48	2.3			>90%

### DERATING GRAPH





DIMENSIONS











Model: 100 Watt		Specification				
	Rated input Voltage	100~277Vac				
	Input Voltage Range	85~305Vac				
	AC Input Frequency Range	47Hz~63Hz				
AC Input	Rated AC Input Frequency	50/60Hz				
Characteristics	Input Current	2.0A Max@85Vac~305Vac@DC output with full load				
	Standby Power	0.3W Max (Meet Requirements Of Energy Star And EC Code Of Conduct)				
	Leakage Current	<0.75mA@305Vac				
	Output Voltage Range - ADJ	Refer to P/N specification				
	Output Voltage Accuracy	± 2%				
	Output Voltage Line	± 270				
	Regulation	±0.5%				
DC Output	Output Voltage Load	±1%				
Characteristics	Regulation					
	Ripple & Noise	Max 180mVp-p@ Rated AC input, at nominal line (The measuring will be terminated with a 47 $\mu$ F AL E-Cap and a 0.1 $\mu$ F Ceramic-Cap. An oscilloscope set at 20MHz bandwidth)				
	Dynamic Response	The output voltage shall not exceed <u>+</u> 10% rated output voltage @ 50% <> 100 % Load change, 1Α/μS, 1KHz 50% duty cycle.				
	Efficiency	See table (Meet Requirements Of Energy Star And EC Code Of Conduct)				
	Over Current Protection	The power supply shall automatic protection. The power supply shall auto-recovery normal operations after the deformation is removed. No excessive heat, odour, or plastic deformation shall occur with no safety hazard				
		The power supply shall withstand a continuous output short without damage in 24				
	Output Short Circuit	hours ; The short may be applied before power on, or after power on; The power supply				
Protection	Protection	shall resume normal operation after the short is removed, no excessive heat, odour,				
Characteristics		or plastic deformation shall occur, no safety hazard				
	Over Temperature Protection	Hiccup mode, recovers automatically after fault condition is removed.				
	Operation Temperature	-25°C ~ + 70'C (Refer to "Derating Graph")				
	Operation Humidity	10~ 90% RH (No Condensing) @ DC output with full load				
Environmental	Storage Temperature	-10°C~ +35°C				
	Storage Humidity	<75%RH				
	Dielectric Strength	Input to Output 4kVAC,5mA,1 min Input to Ground 2kVAC,10mA,1 min				
Safety & EMC	Dediction	Output to Ground 1.25kVAC ,10mA,1 min				
Requirement	Radiation	Meeting EN55032, FCC part 15, Class B				
	Conduction	Meeting EN55032, FCC part 15, Class B				
	Safety Standards	Meet all requirements of : UL62368-1,CSA C22.2 NO.62368-1-14, IEC/EN62368-1,IEC/EN60335-1,IEC/EN61558-2-16 CE, UKCA Mark				
Reliability	MTBF	>200K Hours @230VAC input at max operation temperature;				
Requirement		>550K Hours @230VAC input at 25deg.C				
Nequilement		Calculated in accordance with MIL-HDBK-217-F2 The unit shall be burned in for 2~ 5hours under 230Vac input and DC with full load at				
	Burn-In Test	an ambient temperature of 30~45 degrees C				
	Net Weight	Approximately 260 grams per product unit.				
Guarantee	This product meet to RoHS sta					

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## **Customs Solutions**

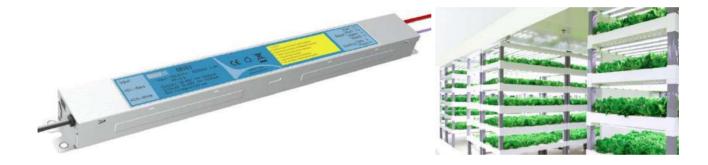
### Open Frame type AC/DC Power Supplies 100W to 500W

Efficiency up to 90% Built-in Active PFC Function



### Grow Lights - LED Driver 100W ~ 200W

Efficiency up to 89% IP65 Rating, Isolated 3 In 1 dimming: 0 ~ 10Vdc,PWM,Resistor Built-in Active PFC Function



Industrial DIN RAIL AC/DC Power Supplies 100W ~ 200W Efficiency up to 90% Built-in Active PFC Function



## Application notes for 47000/48000/49XXXX Series



1 – Storage Guide: Encapsulated type product: Storage temperature: -10°C to +35°C, Storage humidity: <75%RH Non-encapsulated type product: Storage temperature: +5°C to +35°C, Storage humidity: <75%RH

2 – Shelf life Guide :

#### **Encapsulated type product:**

To ensure best power supply reliability and life, the customer shall limit the power supply shelf life to no longer than 6 months after delivery. The maximum recommended period before the power supply shall be powered is 18 months from the power supply date code.

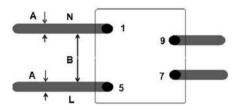
#### Non-encapsulated type product:

To ensure best power supply reliability and life, the customer shall limit the power supply shelf life to no longer than 6 months after delivery. The maximum recommended period before the power supply shall be powered is 12 months from the power supply date code.

#### 3 – General Storage Conditions:

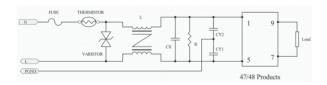
MYRRA power supplies should be stored in their original packaging before use. In the warehouse, there should not be harmful gas, inflammable, explosive products, corrosive chemical products, strong mechanical vibration, shock and strong magnetic field effects. The package box should be stored above ground by at least 20cm height, and 50cm away from any wall, thermal source, and vent.

#### 4- Safety and recommend wiring : linewidth A≥2mm, B≥5mm.



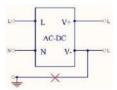
#### 5- Recommended circuit for applications requiring higher EMC performance :

The 47/48 series are already certified as compliant to EN55022 and EN55014 CLASS B for emc. For this compliance no additional external components are required. Should a more stringent emc performance be required the circuit below can be proposed

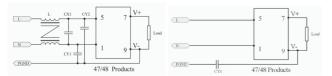


#### 6 - Application of the connection to ground :

This application is not supported for by Myrra SMPS products



### The following proposed circuit may assist :



Fuse: recommended parameters : 5A to 10A/250Vac, Time-lag type. THERMISTOR: recommended parameters : 2A, 5Ω, 1.8W to 5A D10,2.5Ω, 2.4W. Varistor: recommended parameters : 14D471,300Vac, maximum energy 118 Joule. L is a common mode inductor : recommended parameters : 10mH to 30mH CX is a X2 capacitor : recommended parameters : 0.1uF to 0.22uF/275Vac CY1 and CV2 are Y capacitors : recommended parameters : 1000pF to 2200pF/400V R is a resistor : recommended parameters : 1.0MΩ to 3.0 MΩ.

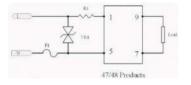
L : is a common mode inductor, the recommended parameters: 10mH to 30mH CX1 : is an X2 capacitor, the recommended parameters : 0.1uF to 0.22uF/275Vac

CY1 and CY2 are Y capacitors, the recommended parameters : 1000pF to 2200pF/400V



#### 7 – High surge circuit :

The 47 / 48 Series is tested and certified for a surge level in accordance with IEC61000-4-5 as standard without requiring any additional external components. To extend the surge level to 6KV the external circuit below can be proposed.



VR1 is a varistor, the recommended parameters : 14D471, 300Vac, maximum energy 118 Joule. R1 is a wire-wound resistor, the recommended parameters : 10R/1W to 10R/3W, resistance wire  $\Phi 0.1$  to 0.23mm. F1 is a fuse, the recommended parameters : 6.3A to 10A/250Vac, Time-lag type.

The information contained in this document is subject to change without notice.

## **Modified and Custom Solutions**

### **TECHNICAL SERVICES :**

- Alternative DC Output Voltages
- Single, Dual or Triple Output Voltages
- Addition of Signal Pins for AC OK, Remote on/off, sense etc.
- Alternative Power Rating
- Revised 'Hold-up' timing to suit System needs
- Customer specific product 'Branding/Labelling'
- Specific Power Supply Manufacturing Functional Test Profile
- Integrating the Power Supply on the System PCB
- Alternative Power Supply Housing
- Revised DC Output Filtering

### **CUSTOMER SERVICES :**

- Existing Designs for Modified Standards
- Flexible Manufacturing Batch Sizes
- European Stock-holding locations
- European Engineering and Logistics Support
- Country Specific Distribution Partners
- Manufacturing dynamics for Volume Fluctuations
- Myrra Quality Controlled Design and Manufacturing
- Fast Sample Service

## Contact us for your Power Needs ......contact@myrra.com





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