Specification for approval

Product Type: 1032F Series 1032/1025 Fast-Acting

Surface Mount Fuse 300V250V125V72V

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RoHS Compliance REACH Compliance Halogen Free

1. Description, Features and Applications

Descriptions:

R1032 series Fast-Acting square Surface Mount fuses are ceramic tube/end cap constructions, RoHS compliant, Halogen Free and lead(Pb) exempts of the requirements of RoHS Directive(2002/95/EC), with U.S. (UL/CSA) safety agency approvals. Provide board level primary and secondary circuit protection in a wide variety of applications. With excellent inrush current withstanding capability, excellent reliability for thermal and mechanic shock, also have a high reliability and stable solder ability, end caps are available in gold/silver/nickel plated.

Features:

- Fast-Acting (Fast-Acting)
- Wide range of current rating available
- Low temperature de-rating
- Tape and Reel for automatic placement
- Small size(10.2mm*3.2mm)
- Wide operating temperature range
- RoHS compliant
- Conflict free metals

Applications:

- LED lighting
- LCD backlight inverter
- PC server
- Wireless base station
- Digital camera
- Notebook PC
- Portable Devices
- Cooling fan system
- White goods
- Industrial equipment
- Battery devices
- Power supply
- Storage system
- Game console
- Medical equipment
- LCD/PDP devices
- Networking devices
- Telecom system
- Office equipment
- Automotive devices

2. Standards and Agency Approvals

2.1 Standards：In accordance with UL 248-14.

2.2 Certification：

Agency	Ampere Range	Agency File Number
UL	200mA ~ 40A	E340427(JDYX2)
cUL	200mA ~ 40A	E340427(JDYX8)

2.3 Catalogue No.，● Approved / ○ Pending

Catalog No.	Ampere Rating	Voltage Rating	Breaking Capacity	Nominal Cold Resistance (Ohms)	I^2TMelting Integral($A^2.S$)	Agency Approvals	
						®	®
1032F.0200	200mA			2.550	0.079	●	●
1032F.0250	250mA			1.630	0.208	●	●
1032F.0300	300mA			1.102	0.367	●	●
1032F.0315	315mA			1.040	0.347	●	●
1032F.0375	375mA			0.621	0.601	●	●
1032F.0400	400mA			0.600	0.630	●	●
1032F.0500	500mA			0.551	0.98	●	●
1032F.0600	600mA			0.360	1.95	●	●
1032F.0630	630mA			0.351	2.00	●	●
1032F.0700	700mA			0.190	3.53	●	●
1032F.0750	750mA			0.186	3.63	●	●
1032F.0800	800mA			0.180	3.81	●	●
1032F.1100	1A			0.177	3.98	●	●
1032F.1125	1.25A			0.112	7.04	●	●
1032F.1150	1.5A			0.072	11.52	●	●
1032F.1160	1.6A	250V/AC/DC		0.071	12.43	●	●
1032F.1200	2A	125V/AC/DC	500A@72V	0.054	14.20	●	●
1032F.1250	2.5A	300VAC/DC	200A@125V250V	0.041	28.02	●	●
1032F.1300	3A	72V/DC	200A@300V	0.032	45.1	●	●
1032F.1315	3.15A			0.031	45.3	●	●
1032F.1350	3.5A			0.024	63.1	●	●
1032F.1400	4A			0.022	64.0	●	●
1032F.1500	5A			0.015	111.0	●	●
1032F.1600	6A			0.013	143.3	●	●
1032F.1630	6.3A			0.012	144.6	●	●
1032F.1700	7A			0.0083	146.2	●	●
1032F.1800	8A			0.0080	160	●	●
1032F.2100	10			0.0053	168	●	●
1032F.2120	12A			0.0045	177	●	●
1032F.2150	15A			0.0038	327	●	●
1032F.2160	16A			0.0032	328	●	●
1032F.2200	20A			0.0024	710	●	●
1032F.2250	25A			0.0018	1162	●	●
1032F.2300	30A			0.0014	1750	●	●
1032F.2400	40A			0.0012	1760	●	●

- *: These catalog no. cold resistance and I2t value are pending due to fuse elements shall be customized;
- DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25℃;
- Typical Pre-arching I2t are calculated at 10*In Current or 8ms;
- Min Interrupting Rating: 1.35*In.

3. Product Marking

The fuses shall have the following markings

Example:

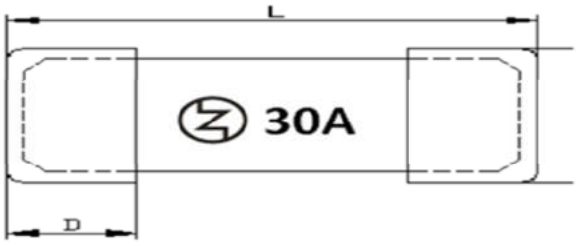
30A	
①	②

①	Trade Mark:	
②	Rated Current (A):	___A or ___mA

Note: Size and position of the markings shall not be provided.

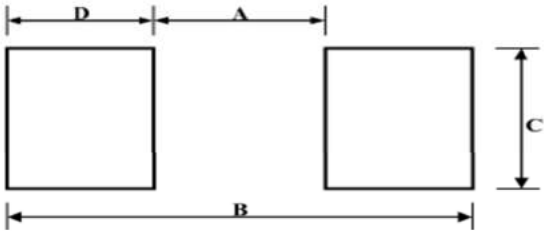
4. Dimensions and Structure

Unit: mm



L (mm)	W (mm)	T (mm)	D (mm)
10.25±0.20	3.20±0.15	3.20±0.15	1.90±0.10

Recommended pad layout



Dimensions	A(mm)	B (mm)	C(mm)	D(mm)
Spec	5.72±0.3	12.6±0.3	3.43±0.3	3.25±0.3

5. Material Details

NO.	Part Name	Material
①	End caps	Au Plated Brass Cap
②	Body	Non-Transparent Square Ceramic Tube
③	Fuse element	Cu-Ag Alloy wire

6. Product Characteristics

NO.	Item	Content	Reference standards
1	Product Marking	Brand, Ampere Rating	marking standards
2	Operating Temperature	-55°C to 125°C	–55°C to 125°C with proper derating
3	Solderability	T=240°C±5°C , t=3sec±0.5sec, Coverage≥95%	MIL-STD-202, Method 208
4	Resistance to Soldering Heat	10 sec at 260°C	MIL-STD-202, Method 210, Test condition B
5	Insulation Resistance (after Opening)	10,000 ohms minimum	MIL-STD-202, Method 302, Test Condition A
6	Thermal Shock	5 cycles, -65°C / +125°C, 15 minutes at each extreme	MIL-STD-202, Method 107, Test Condition B
7	Mechanical Shock	100G's peak for 6 milliseconds, 3cycles	MIL-STD-202, Method 213, Test I
8	Vibration	0.03"amplitude, 10-55 Hz in 1 min. 2hrs each XYZ=6hrs	MIL-STD-202, Method 201
9	Moisture Resistance	10 cycles	MIL-STD-202, Method 106
10	Salt Spray	5% salt solution, 48hrs	MIL-STD-202, Method 101, Test Condition B

7.Electrical Characteristics

7.1 Test Condition

All electrical test is to be conducted with the ambient air at a temperature of 25±5℃.

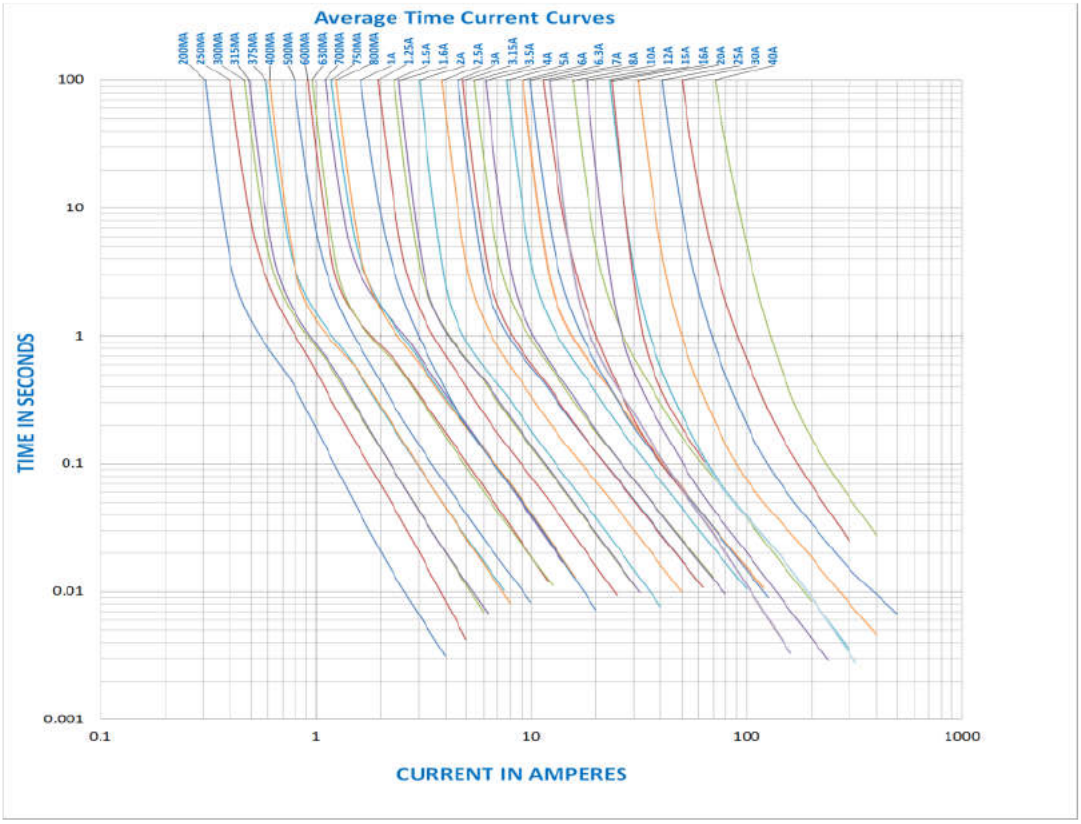
7.2 Interrupting Rating:

Breaking Capacity: 200A@125V 250V 300V 500A@72V

7.3 Operating Characteristics

% of Ampere Rating(In)	Blowing Time
100% * In	(4 hours Min)
200% * In	(120 sec Max)

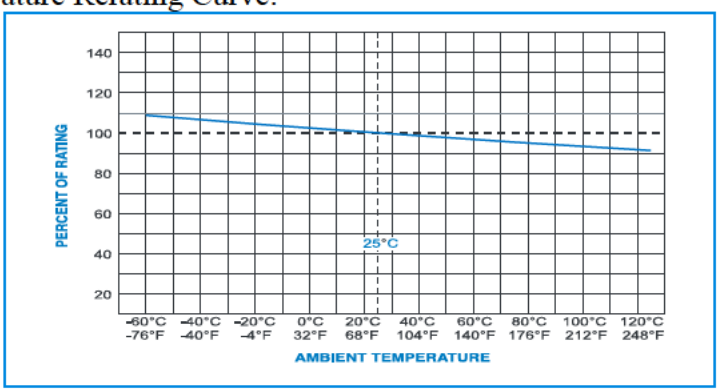
7.4 Average Time Current Curves



7. Environmental Characteristic

When choosing the fuse's specification, if the operating environmental temperature beyond the scope from 20~30℃, engineer should consider the environmental temperature's affection to fuses.

Please refer: Temperature Rerating Curve:



8. Recommended Soldering Parameters

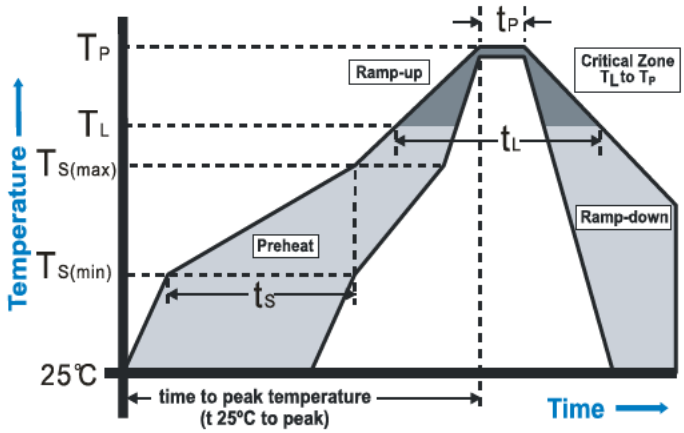
A. Wave /Reflow Soldering Parameters:

Solder paste process.

Solder Pot Temperature: 260°C Max

Solder Dwell Time: 5 seconds max

Reflow Condition		Pb-Free assembly
Average ramp-up rate (Ts(max)to Tp)		5°C /second max.
Preheat	Temperature Min (Ts(min))	150°C
	Temperature Max (Ts(max))	200°C
	Time (Min to Max) (ts)	60-120 seconds
Reflow	Temperature (T_L)	220°C
	Time Max (t_L)	60 seconds
Peak Temperature(Tp)		260°C max
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (Tp)		8 minutes max



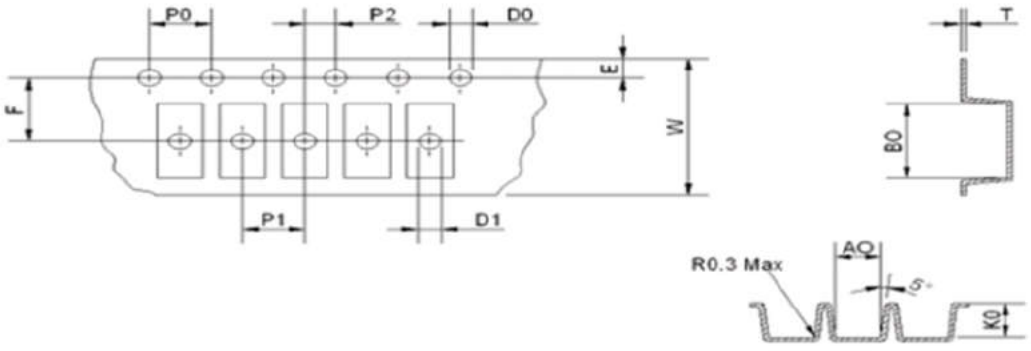
B. Hand-Solder Parameters:

Solder Iron Temperature: 300±5℃

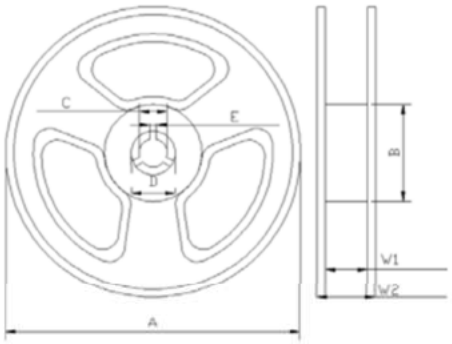
Heating Time: 1~2 s Max

9. Packaging

2000 pieces of fuses on 24mm tape-and-reel on 13 inch (330mm) reel



Symbol	A0(mm)	B0(mm)	E(mm)	F(mm)	W(mm)	K0(mm)
Spec.	3.50±0.10	10.60±0.15	1.75±0.10	11.50±0.10	24.00±0.30	3.50±0.10
Symbol	**P0(mm)**	**P1(mm)**	**P2(mm)**	**D0(mm)**	**D1(mm)**	**T(mm)**
Spec.	4.00±0.10	8.00±0.10	2.00±0.10	1.50+0.10/-0	1.50+0.10/-0	0.35±0.05



Type	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	W1(mm)	W2(mm)
Spec	330.0±2.0	100.0±1.5	13.0±0.5	21.0±0.5	2.2±0.2	24.5±1.5	28.5±2.0

10. / Others

In the event that an impropriety is found beyond this specification, it shall be fixed by mutual agreement between the parties.