Version No.:20150601
Spec. No.: SFA-R1032

规格承认书

Specification for approval

产品名称：**R1032**系列慢断型表面贴装保险丝　　**250Vac**

Product Type: R1032 Series *Time-Lag Surface Mount Fuse 250Vac*

1.产品特性及应用范围 / Description, Features and Applications

本产品适用于各类电子设备电路初、次级电路板的过流保护，广泛应用于固态照明、电池充电、消费电子、电子镇流器、LED AC/DC电源供应、网络通信、医疗仪器及工业控制器等领域。

Descriptions：

R1032 series slow-blow 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：

- Time-Lag (Slow-Blow)
- 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.安规认证标准及编号 / Standards and Agency Approvals

2.1执行标准：遵循 UL 248-14。

Standards：In accordance with UL 248-14.

2.2认证范围 Certification：

安规标准 Agency	认证范围 Ampere Range	证书编号 Agency File Number
UL	50mA ~ 7A	E340427(JDYX2)
cUL	50mA ~ 7A	E340427(JDYX8)

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2.3 Catalogue No.，● Approved / ○ Pending

Catalog No.	Ampere Rating	Voltage Rating	Breaking Capacity	Nominal Cold Resistance (Ohms)	I²TMelting Integral(A².S)	Agency Approvals	
R1032.0200	200mA	75VAC 125VAC 250VAC	50A@300VAC 50A@250VAC 200A@125VAC	0.920	0.125	○	○
R1032.0250	250mA			0.860	0.145	○	○
R1032.0300	300mA			0.620	0.162	○	○
R1032.0315	315mA			0.550	0.189	○	○
R1032.0375	375mA			0.470	0.200	○	○
R1032.0400	400mA			0.380	0.238	○	○
R1032.0500	500mA			0.320	0.275	○	○
R1032.0600	600mA			0.285	0.470	○	○
R1032.0630	630mA			0.256	0.566	○	○
R1032.0700	700mA			0.208	0.805	○	○
R1032.0750	750mA			0.175	1.240	○	○
R1032.0800	800mA			0.155	1.880	○	○
R1032.1100	1A			0.148	3.500	○	○
R1032.1125	1.25A			0.102	4.760	○	○
R1032.1150	1.5A			0.085	6.305	○	○
R1032.1160	1.6A			0.075	6.505	○	○
R1032.1200	2A			0.044	8.950	○	○
R1032.1250	2.5A			0.043	16.025	○	○
R1032.1300	3A			0.033	21.560	○	○
R1032.1315	3.15A			0.029	22.750	○	○
R1032.1350	3.5A			0.027	27.050	○	○
R1032.1400	4A			0.025	31.808	○	○
R1032.1500	5A			0.019	40.250	○	○
R1032.1600	6A			0.018	67.245	○	○
R1032.1630	6.3A			0.017	73.550	○	○
R1032.1700	7A			0.015	76.280	○	○

- *: 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

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示例 Example:

1A	
①	②

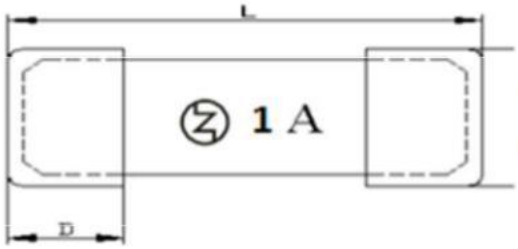
①	制造厂商标识/ Trade Mark:
②	额定电流/Rated Current (A): ___A或 or ___mA

注意 */ Note*:

注:对于标示的大小和位置没有规定 */ Note: Size and position of the markings shall not be provided.*

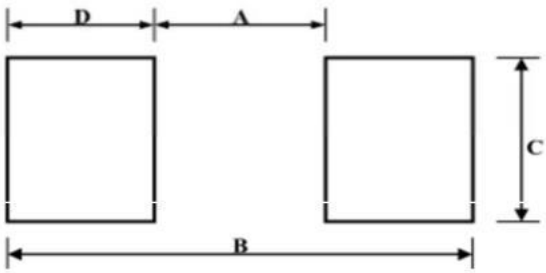
4.结构及尺寸 / Dimensions and Structure

单位：毫米 */ Unit: mm*



L (mm)	W (mm)	T(mm)	D (mm)
10.25±0.20	3.20±0.15	3.20±0.15	1.75±0.15

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.材料明细 / Material Details

编号 NO.	零件名称 Part Name	材 质 Material
○ 1	端帽 End caps	黄铜镀金 Au Plated Brass Cap
○ 2	主体 Body	陶瓷管 Non-Transparent Square Ceramic Tube
○ 3	熔丝 Fuse element	合金 Cu-Ag Alloy wire

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6.产品特性 / Product Characteristics

编号 NO.	项目 Item	内容 Content	参考标准 Reference standards
1	产品标识 Product Marking	Brand, Ampere Rating	Marking standards
2	工作温度 Operating Temperature	-55°C to 125°C	IEC60068-2-1/2
3	可焊性 Solderability	T=240°C±5°C , t=3sec±0.5sec, Coverage≥95%	MIL-STD-202, Method 208
4	耐焊接热 Resistance to Soldering Heat	10 sec at 260°C	MIL-STD-202, Method 210, Test condition B
5	绝缘阻抗 Insulation Resistance (after Opening)	10,000 ohms minimum	MIL-STD-202, Method 302, Test Condition A
6	热冲击 Thermal Shock	5 cycles, -65°C / +125°C, 15 minutes at each extreme	MIL-STD-202, Method 107, Test Condition B
7	机械冲击 Mechanical Shock	100G's peak for 6 milliseconds, 3cycles	MIL-STD-202, Method 213, Test I
8	振动试验 Vibration	0.03"amplitude, 10-55 Hz in 1 min. 2hrs each XYZ=6hrs	MIL-STD-202, Method 201
9	耐湿性 Moisture Resistance	10 cycles	MIL-STD-202, Method 106
10	盐雾试验 Salt Spray	5% salt solution, 48hrs	MIL-STD-202, Method 101, Test Condition B

7.电气特性 / Electrical Characteristics

7.1 实验条件：Test Condition

所有测试环境温度为 25±5℃。

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

7.2 分断能力 Interrupting Rating：

保险丝承受分断能力：50A@250Vac，200A@125Vac.

Breaking Capacity: 50A@250Vac，200A@125Vac.

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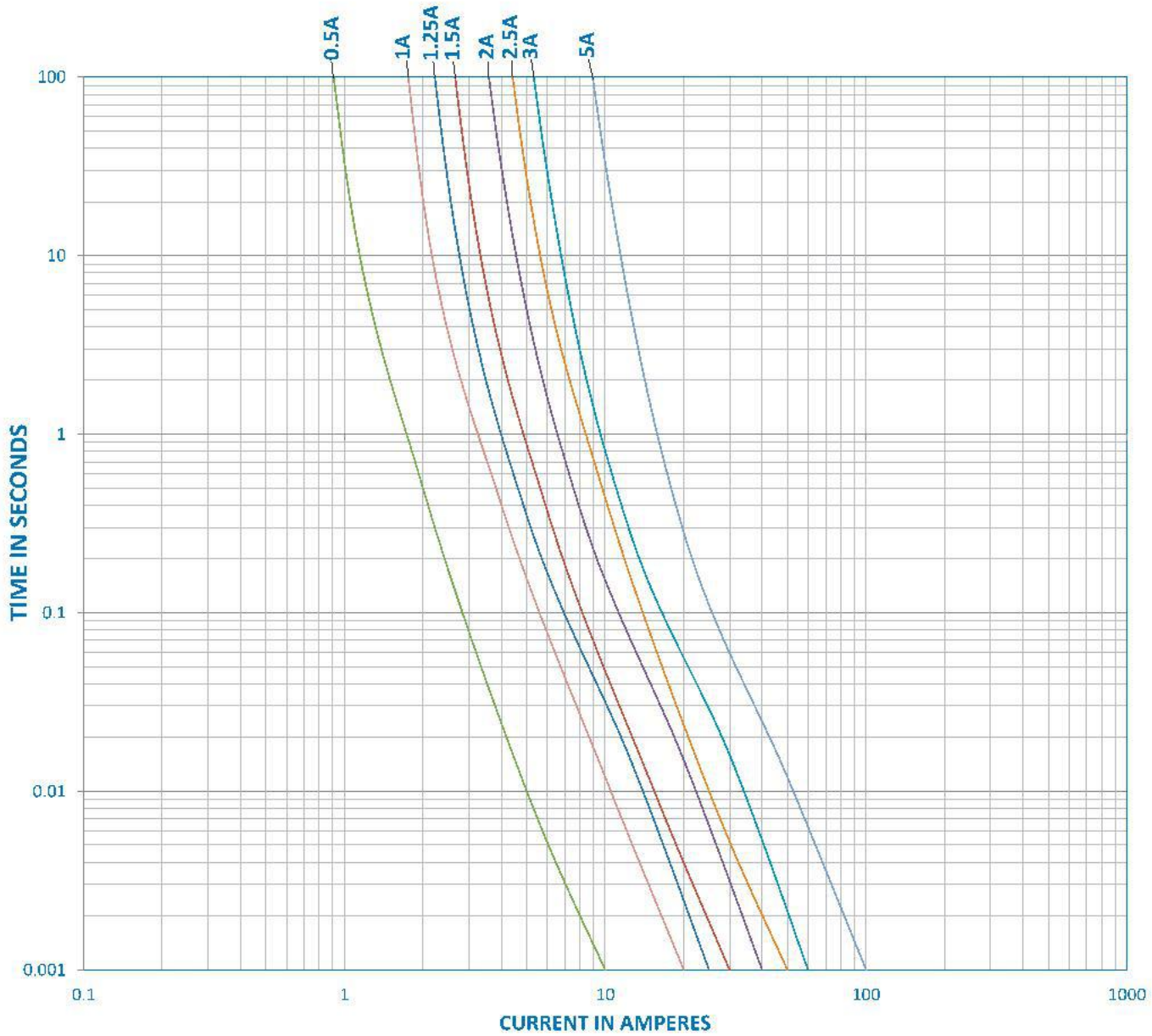
7.3熔断时限　/ Operating Characteristics

额定电流的% % of Ampere Rating(In)	熔断时间 Blowing Time
100% * In	大于 4小时(4 hours Min)
200% * In	小于 120秒 (120 sec Max)

7.4 平均时间电流曲线图　/ Average Time Current Curves



8.环境特性　**/ Environmental Characteristic**

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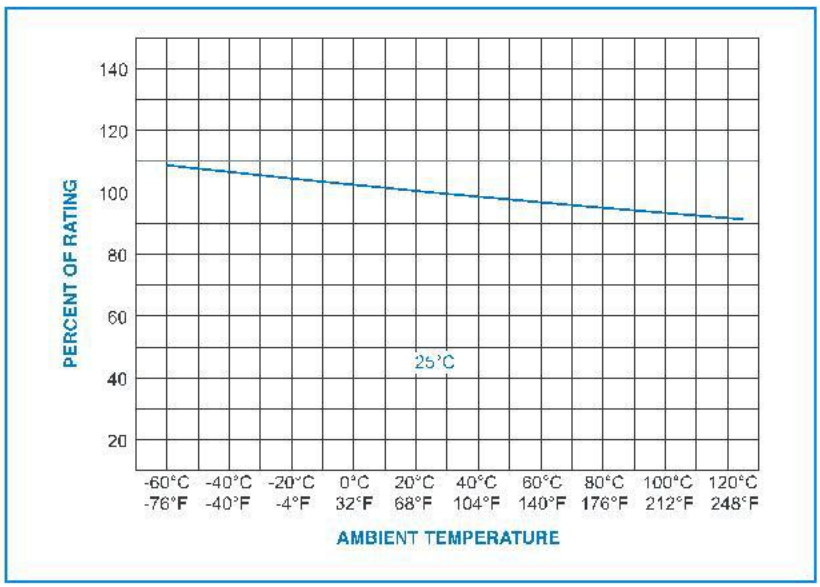
若操作环境温度超出 25±5℃范围，在选用保险丝规格时，需考虑操作环境温度对保险丝的影响，请参照如下：温度-电流曲线图。

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:



9.建议焊接参数 / Recommended Soldering Parameters

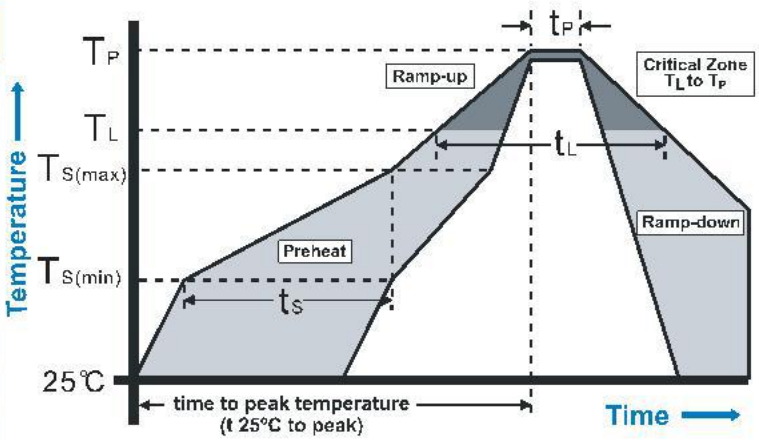
A. 波峰/回流焊参数 / Wave /Reflow Soldering Parameters:

锡膏工艺 / Solder paste process.

锡炉温度 / Solder Pot Temperature: 260℃ Max

焊接时间 / 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



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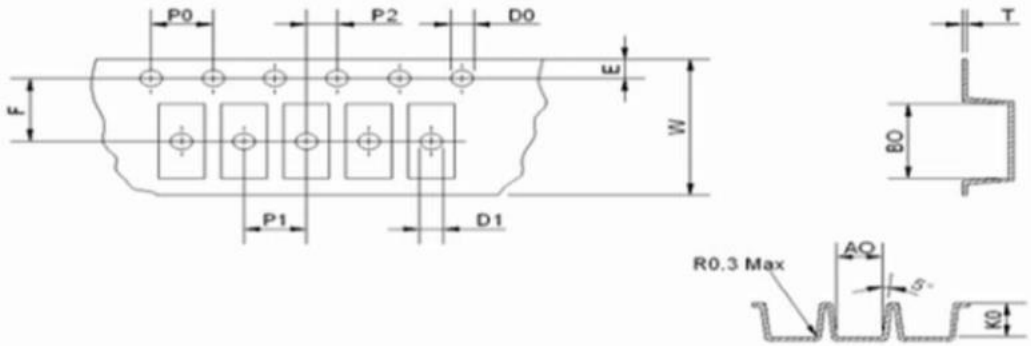
B．手工焊参数　/ Hand-Solder Parameters:

烙铁温度　/ Solder Iron Temperature: 300±5℃

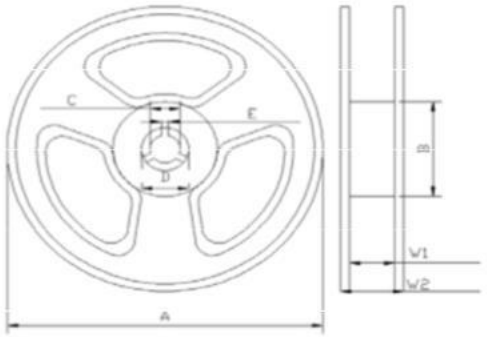
焊接时间　/ Heating Time: 1~2 s Max

10.包装　/ 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

11.其他　/ Others

11.1　如果在使用中有超出本规格书的要求，须经双方协商确认。

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

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