1. Description, Features and Applications

Descriptions:

The B1245Cs series fast-acting square Surface Mount fuses are designed for high-end cloud computing servers, telecom base station power supplies, blockchain servers, and new energy vehicle battery management systems, 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 plated.

Features:

- Fast acting
- High current rating available
- Low temperature de-rating
- Tape and Reel for automatic placement
- Small size(12.5mm*4.5mm)
- Wide operating temperature range(-55℃ to 125℃)
- RoHS compliant, Halogen Free
- Conflict free metals

Applications:

- Telecom base station power supplies
- Cloud computing
- Block chain server
- Battery Management System

2. Standards and Agency Approvals

2.1 Standards for safety: UL248-1 & CSA C22.2 No. 248.1-11, UL248-14 & CSA C22.2 No. 248.14-00.

2.2 Certification:

Agency	Ampere Range	Agency File Number
㊊	100mA ~ 100A	E502159 (JFHR2)
c㊊	100mA ~ 100A	E502159 (JFHR8)

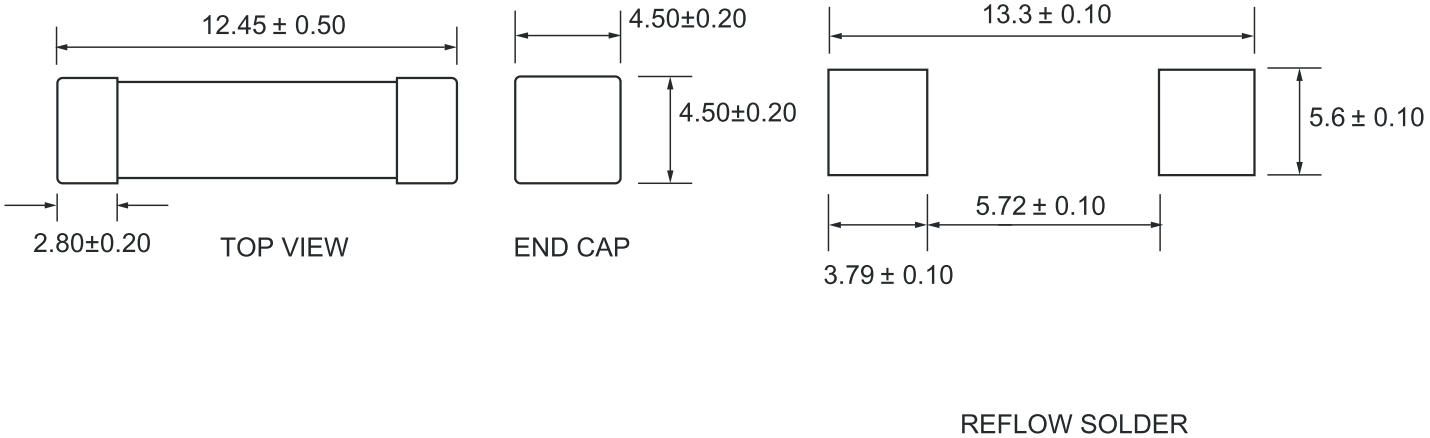
2.3 Catalogue No.，● Approved / ○ Pending

Catalog No.	Ampere Rating	Voltage Rating	Breaking Capacity	Nominal Cold Resistance (mΩ)	I^2TMelting Integral($A^2.S$)	Agency Approvals	
						UL	cUL
B1245CsA(	1A	32-72VDC 125-250Vac	1KA@32-72VDC 500A@125Vac 200A@250Vac	75	0.87	●	●
B1245CsA(	2A			50	3.8	●	●
B1245CsA(	5A			18	23	●	●
B1245CsA1	10A			8.05	91	●	●
B1245CsA1	15A			4.50	203	●	●
B1245CsA2	20A			3.30	360	●	●
B1245CsA2	25A			2.25	563	●	●
B1245CsA3	30A			1.98	810	●	●
B1245CsA4	40A			1.20	1360	●	●
B1245CsA5	50A			0.99	1949	●	●
B1245CsA6	60A			0.79	2887	●	●
B1245CsA8	80A			0.55	5270	●	●
B1245CsA1(	100A			0.33	8080	●	●

- 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;

3. Dimensions and Structure

Unit: mm



4. 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/Tin Alloy wire

5. Product Characteristics

NO.	Item	Content	Reference standards
1	Product Marking	Ampere Rating	marking standards
2	Operating Temperature	-55 ℃ to 125 ℃	–55 ℃ to 125 ℃ with proper derating
3	Solderability	T=240 ℃±5 ℃ , t=3sec±0.5sec, Coverage≥95%	MIL-STD-202, Method 208
4	Resistance to Soldering Heat	10 sec at 260 ℃	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 ℃ / +125 ℃, 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

6. Electrical Characteristics

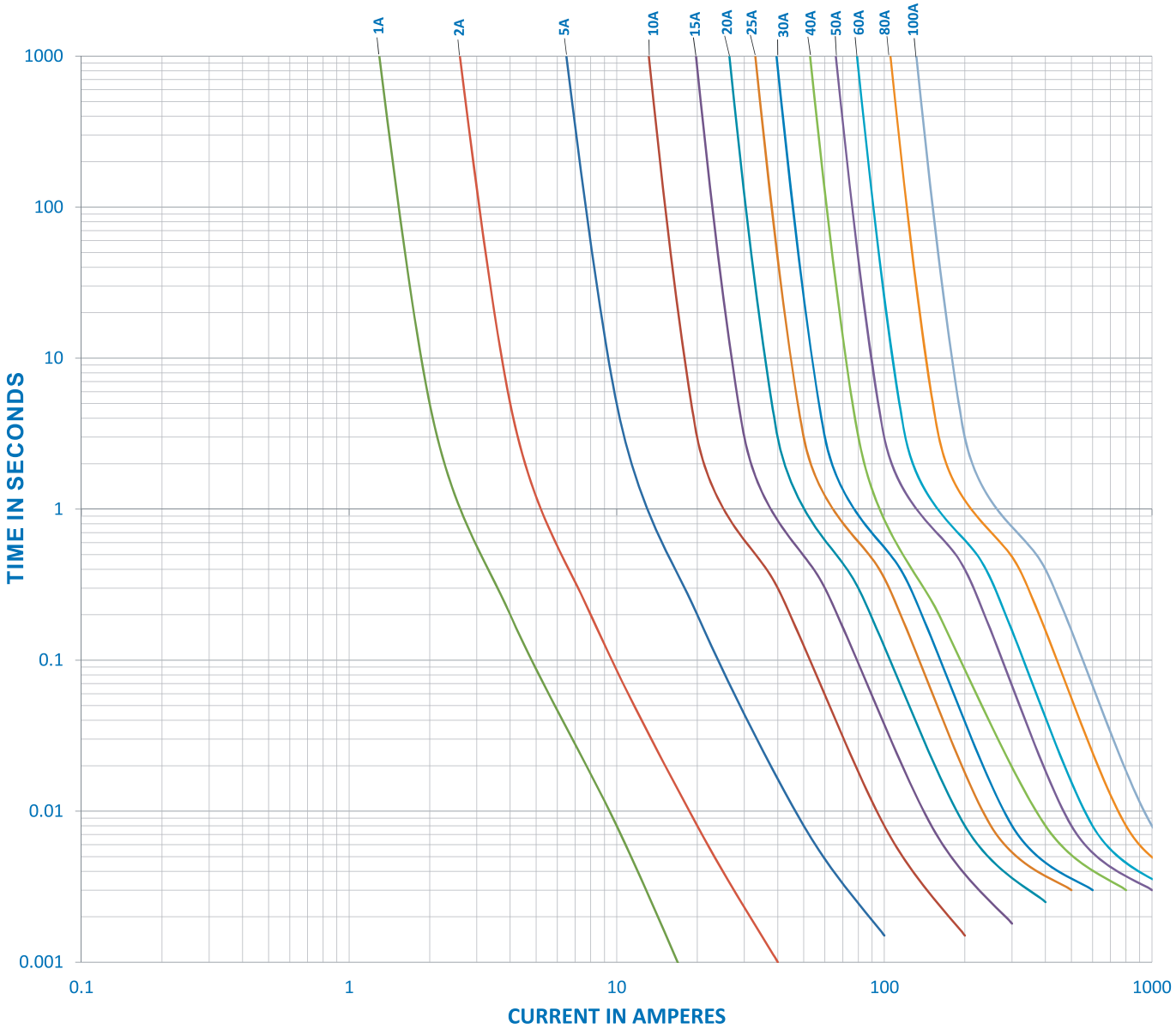
6.1 Test Condition 25±5 ℃。

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

6.2 Operating Characteristics

% of Ampere Rating(In)	Blowing Time
100% * In	(4 hours Min)
300% * In	(10 sec Max)

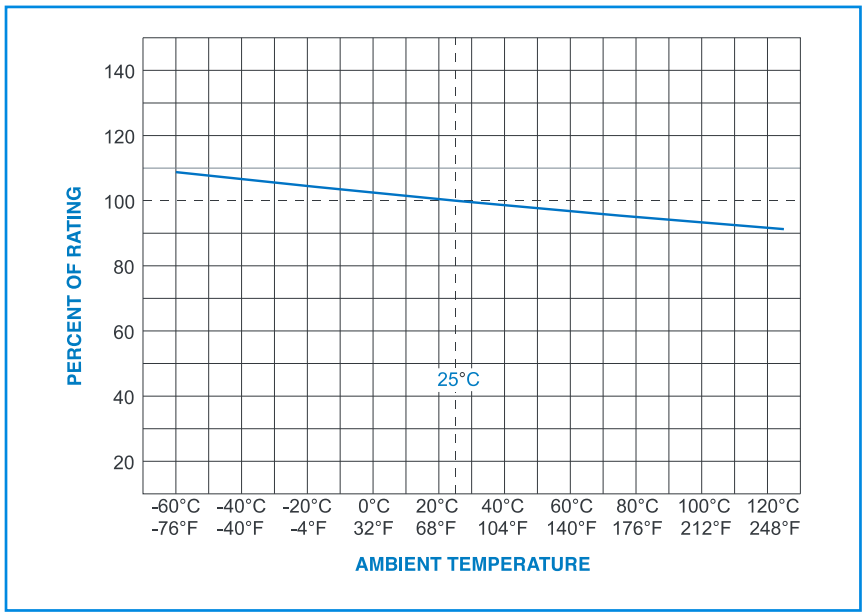
6.3 Average Time Current Curves



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

Reflow Condition		Pb-Free assembly
Average ramp-up rate (Ts(max)to Tp)		5 ℃ /second max.
Preheat	Temperature Min (Ts(min))	150 ℃
	Temperature Max (Ts(max))	200 ℃
	Time (Min to Max) (ts)	60-180 seconds
Reflow	Temperature (T_L)	220 ℃
	Time Max (t_L)	60-150 seconds
Peak Temperature(Tp)		260 ℃ max
Time within 5 ℃ of actual peak Temperature (tp)		20-40 seconds
Ramp-down Rate		5 ℃/second max
Time 25 ℃ to peak Temperature (Tp)		8 minutes max
Maximum operating temperature		260 ℃ (Tp<3s)