

RoHS
Compliant



Description

This series fast-acting fuse with high breaking capacity for use with printed circuit boards is used in a large variety of applications. This 5mm × 20mm device is constructed of a ceramic tube with electro-plated brass end caps. This series with 300V DC rating and 1000 Ampere breaking/300V AC rating and 1500A breaking/300V AC rating and 750A breaking, offers excellent quality and is 100% tested for cold resistance and precise length.

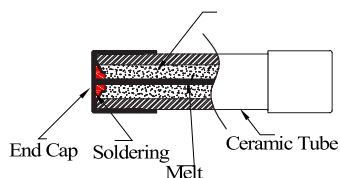
Features

- Miniature fuse with fast-acting, high breaking capacity
- 5mm × 20mm physical dimensions
- Ceramic tube, encapsulated design with nickel - plated brass end caps
- Optional axial leads are $\Phi 0.65\text{mm} \times 30\text{mm}$ at $<8\text{A}$, $\Phi 0.8\text{mm} \times 30\text{mm}$ at $8\text{A} \sim 12.5\text{A}$, $\Phi 1\text{mm} \times 30\text{mm}$ at $>15\text{A}$
- Protection against harmful over-currents in primary and secondary applications.

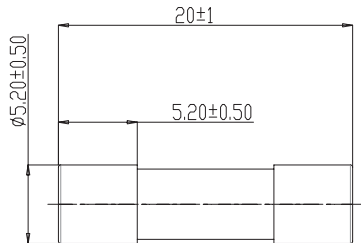
Specifications

Operating Temperature	: -55°C to 125°C
Storage Conditions	: +10°C to +60°C
Relative humidity	: $\leq 75\%$ yearly average without dew, maximum 30 days at 95%
Vibration Resistance	: 120 cycles in 1 direction at 1 min. each 10-55Hz, 3 directions(X, Y, Z) in total According to MIL-STD-202 Method 201A

Mechanical Specifications



Dimensions



Dimensions : Millimetres

Electrical Specifications

Time vs Current Characteristics Table

(measured with constant current power supply)

Rated Current	100 %	210 %	275 %	400 %	1000 %
0.2A-25A	>1h	<30 min	40ms - 20s	10ms - 1s	≤30ms

Electrical characteristics

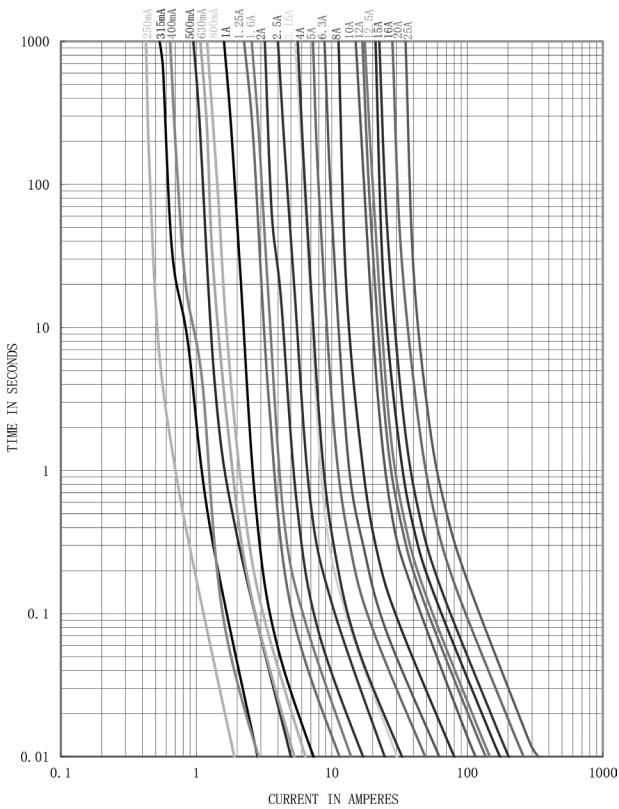
Electrical Characteristics at 25°C					
Amp Code	Rated Current	Rated Voltage	Nominal Melting I ² t (A ² sec)	Typical cold Resistance (mΩ)	Breaking Capacity
MP014107	1A	300V AC/ DC	0.49	391	1500A@300V AC 1000A@300V DC
MP014108	2A		2.68	101	
MP014109	3.15A		8.93	38	
MP014110	5A		23.7	23.2	
MP014111	6.3A		38.5	18.4	
MP014112	8A		64	14	
MP014113	10A		138	9.2	
MP014114	12.5A		225	7.2	
MP014115	16A		434	5.4	
MP014116	20A		732	4.1	

Notes: (1) Permissible continuous operating current is ≤100% at ambient temperature of 23°C (73.4°F)

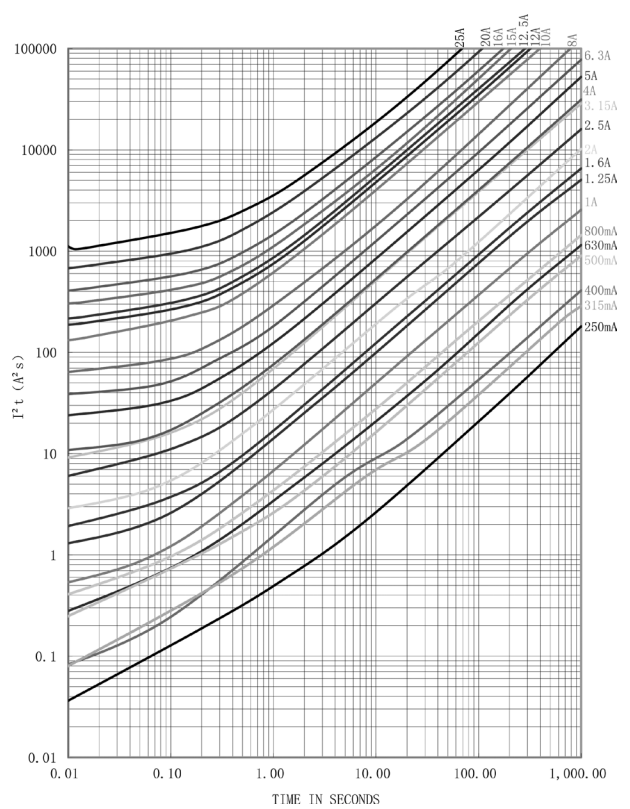
(2) Typical pre-arcing I²t are measured at 10I_n current.

(3) The cURus certification by 300V AC/DC; the TUV certification only by 300V AC.

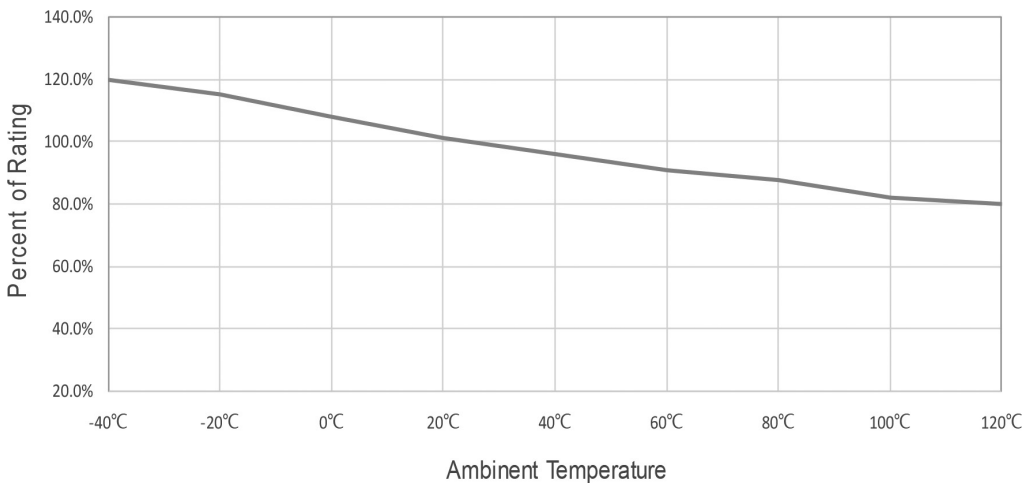
Average Time Current (I-T) Curves



I²T Curves



Temperature Derating Curve



$$\text{Calculation for ideal fuse selection} = \frac{\text{Operating Current (A)}}{\text{Rating} \times 0.75}$$

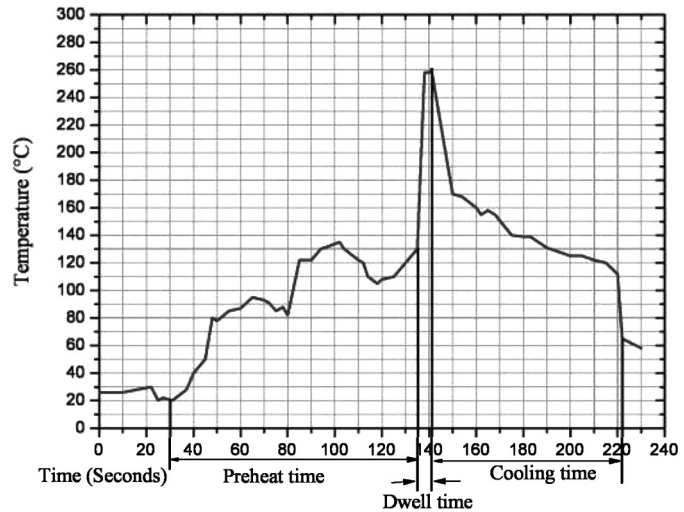
Soldering Parameters

260°C.≤5 sec (Wave Soldering)

350°C.≤3 sec (Hand Soldering)

Soldering Peak:

260°C - 10 sec (IEC 60068-20)



Part Number Table

Description	Part Number
Fast-Acting current fuse, Ceramic tube, 1A , 5.2mm × 20mm, 300V AC/DC	MP014107
Fast-Acting current fuse, Ceramic tube, 2A 300V, 5.2mm × 20mm, 300V AC/DC	MP014108
Fast-Acting current fuse, Ceramic tube, 3.25A 300V, 5.2mm × 20mm, 300V AC/DC	MP014109
Fast-Acting current fuse, Ceramic tube, 5A 300V, 5.2mm × 20mm, 300V AC/DC	MP014110
Fast-Acting current fuse, Ceramic tube, 6.3A 300V, 5.2mm × 20mm, 300V AC/DC	MP014111
Fast-Acting current fuse, Ceramic tube, 8A 300V, 5.2mm × 20mm, 300V AC/DC	MP014112
Fast-Acting current fuse, Ceramic tube, 10A 300V, 5.2mm × 20mm, 300V AC/DC	MP014113
Fast-Acting current fuse, Ceramic tube, 12.5A 300V, 5.2mm × 20mm, 300V AC/DC	MP014114
Fast-Acting current fuse, Ceramic tube, 16A 300V, 5.2mm × 20mm, 300V AC/DC	MP014115
Fast-Acting current fuse, Ceramic tube, 20A 300V, 5.2mm × 20mm, 300V AC/DC	MP014116

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