

RoHS  
Compliant



## Description

This Series fuse is designed for barrier circuits in intrinsic safety applications relating to Hazardous Locations. Ranging from 40mA to 250mA, the Series provides overcurrent protection solutions to fit many Hazardous Location barrier applications.

## Features

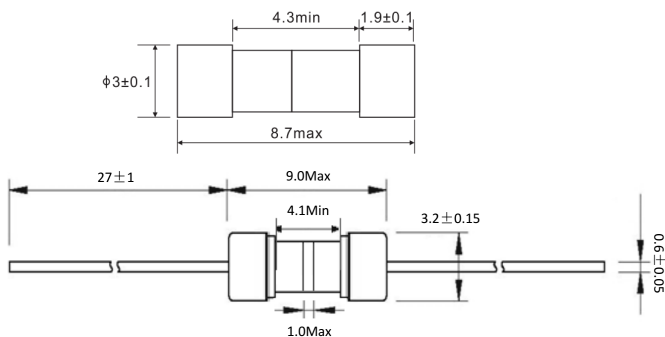
- Meets electrical performance specifications for intrinsically safe (EN60079-11) applications.
- Fast-acting, high interrupting rating of 4000A at 250V AC/DC.
- Ceramic tube, silver plated brass end cap construction.

## Specifications

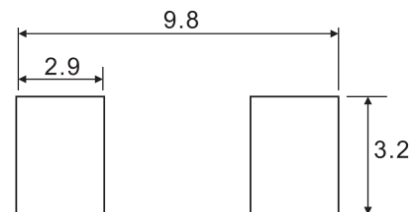
Operating Temperature	: -55°C to 125°C
Storage Conditions	: +10°C to +60°C
Relative humidity	: ≤ 75% yearly average without dew, maximum 30 days at 95%
Vibration Resistance	: 120 cycles in 1 direction at 1 min. each 10-55Hz, 3 directions (X, Y, Z) in total According to MIL-STD-202 Method 201A

## Mechanical Specifications

### Dimensions



## Recommended Land Pattern



Dimensions : Millimetres

## Electrical Specifications

### Time vs Current Characteristics Table

(measured with constant current power supply)

Rated Current	110 %	300%	1000%
40mA~250mA	>4h	<10s	<2ms

## Electrical characteristics

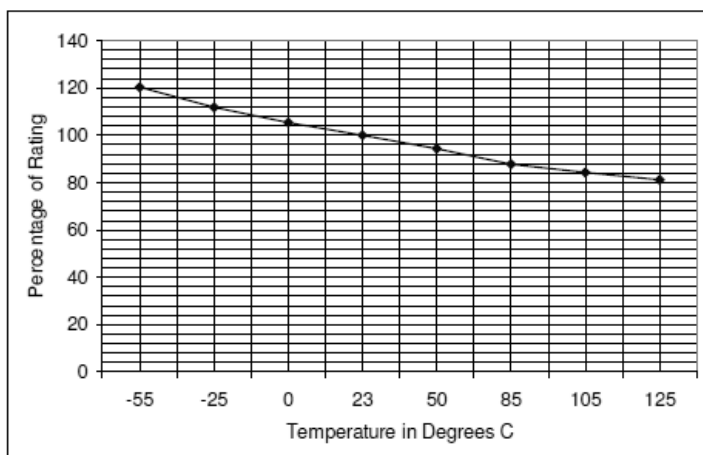
Electrical Characteristics at 25°C						
Amp Code	Rated Current	Max Voltage	Breaking Capacity	Typical Melting I <sup>2</sup> t (A <sup>2</sup> sec)	Typical Cold Resistance (mΩ)	Color Code
MP014098	40mA	250V AC 250V DC	4000A@250V AC 4000A@250V DC	0.00006	14.2	Grey
MP014099	50mA			0.00010	9.4	Red
MP014100	63mA			0.00012	8.8	Pink
MP014101	80mA			0.00018	5.1	Green
MP014102	100mA			0.00087	2.87	Yellow
MP014103	125mA			0.00134	2.2	Orange
MP014104	160mA			0.00166	2.05	Violet
MP014105	200mA			0.00237	1.01	Brown
MP014106	250mA			0.00530	0.71	Black

Notes: (1) DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25°C  
 (2) Typical Pre-arcing I<sup>2</sup>t are measured at 10I<sub>n</sub> current.

## Temperature Derating Curve

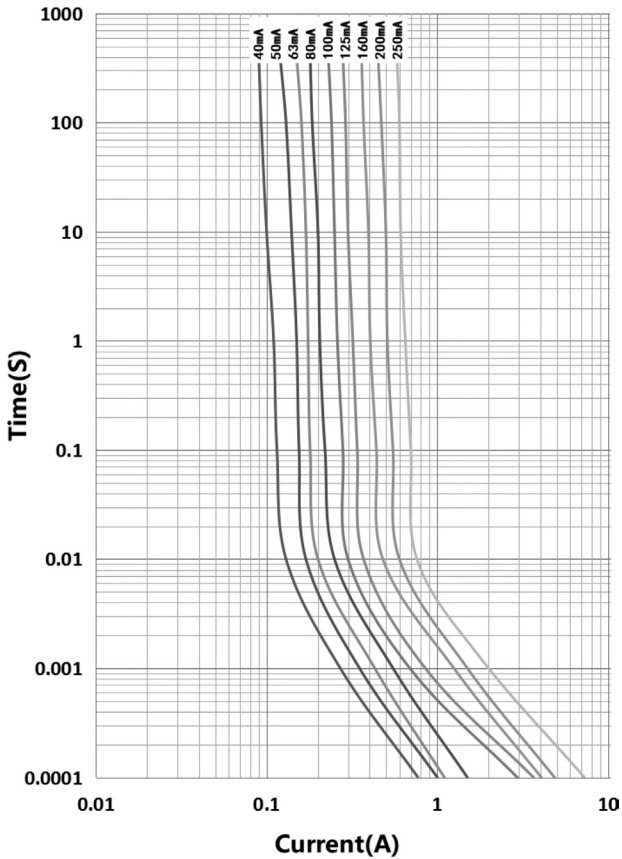
Normal ambient temperature: 23 ±3°C

Operating temperature: -55°C to 125°C, with proper correction factor applied



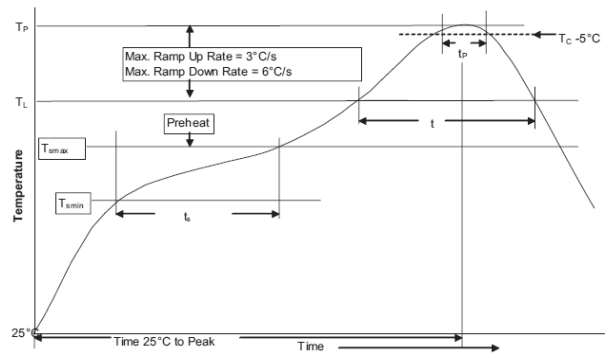
$$\text{Calculation for ideal fuse selection} = \frac{\text{Operating Current (A)}}{\text{Rating (\%} \times 0.75)}$$

## Average Time Current (I-T) Curves



## Soldering Parameters

- Infrared Reflow:
  - Temperature: 260°C
  - Time: 30sec Max.
  - Recommend reflow profile
- Wave Soldering Reservoir
  - Temperature: 260°C
  - Time in Reservoir: 10sec Max.



Profile Feature	Lead (Pb)free solder	
Average Ramp-UP Rate (T <sub>max</sub> to T <sub>p</sub> )	3°C/s Max.	
Preheat and soak	Temperature min.(T <sub>min</sub> )	150°C
	Temperature max.(T <sub>max</sub> )	200°C
	Time (T <sub>min</sub> to T <sub>max</sub> )(t <sub>s</sub> )	60~120s
Liquidous temperature(T <sub>L</sub> ) Time at liquidous(t <sub>L</sub> )	217°C 60~150s	
Peak package body temperature(T <sub>p</sub> )	260°C	
Time (t <sub>P</sub> ) within 5°C of the specified classification temperature (T <sub>c</sub> )	30s	
Average ramp-down rate (T <sub>p</sub> to T <sub>max</sub> )	6°C/s Max.	
Time (25°C to Peak Temperature)	8 Minutes Max.	

## Part Number Table

Description	Part Number
Surface Mount Barrier Network Fuses, 40mA, 250V AC/DC	MP014098
Surface Mount Barrier Network Fuses, 50mA, 250V AC/DC	MP014099
Surface Mount Barrier Network Fuses, 63mA, 250V AC/DC	MP014100
Surface Mount Barrier Network Fuses, 80mA, 250V AC/DC	MP014101
Surface Mount Barrier Network Fuses, 100mA, 250V AC/DC	MP014102
Surface Mount Barrier Network Fuses, 125mA, 250V AC/DC	MP014103
Surface Mount Barrier Network Fuses, 160mA, 250V AC/DC	MP014104
Surface Mount Barrier Network Fuses, 200mA, 250V AC/DC	MP014105
Surface Mount Barrier Network Fuses, 250mA, 250V AC/DC	MP014106

**Important Notice :** This data sheet and its contents (the "Information") belong to the members of the AVNET group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp Pro is the registered trademark of Premier Farnell Limited 2019.