Time-Lag SMD Fuses
0603

RoHS Compliant

Description

The SMD fuses stand out due to their ultra-small size and excellent electrical performance, reliability and quality. The solder-free design provides outstanding on-off and temperature cycling characteristics during operation and also makes our SMD fuses more heat and shock tolerant than typical subminiature fuses.

Applications

Industrial Products such as cellphones, DVD players, battery packs, hard disk drives and digital cameras

Features

- Rapid interruption of excessive current
- Compatible with reflow and wave soldering
- Ceramic and glass construction
- Excellent environmental integrity
- Non-resettable fuse design
- Lead-free and Halogen-free
- Designed to UL 248-14

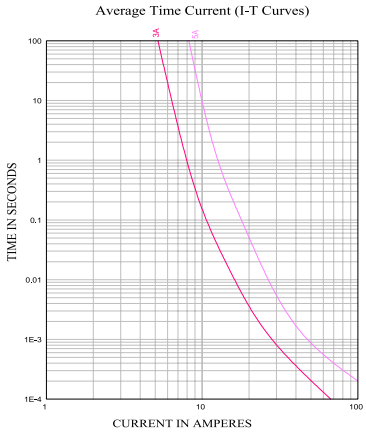
Specifications

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	: 24 cycles at 15 min. each 10-60Hz at 0.75mm amplitude 60-2000Hz at 10g acceleration

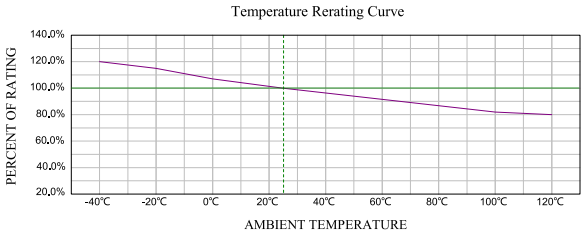
Electrical Characteristics

Part Number	Rated Current	Rated Voltage	Typical Voltage Drop (mV)	Breaking Capacity	Typical Melting I²t (A²sec)
MP001603	3A	DC32V	110	50A	0.3
MP001604	5A	DC32V	88	50A	2

Average Time Current (I-T) Curves



Temperature Derating Curve



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

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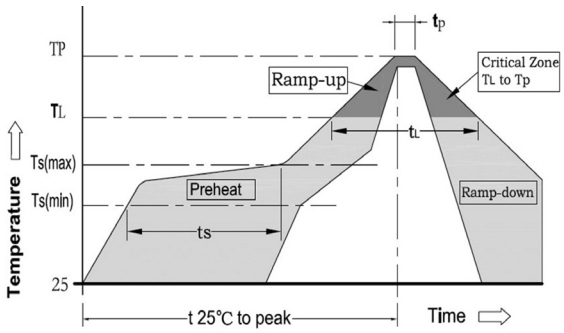
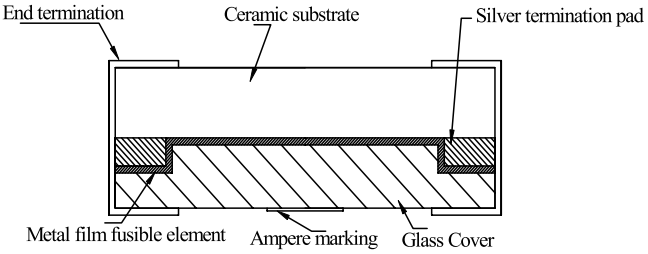
Soldering Parameters



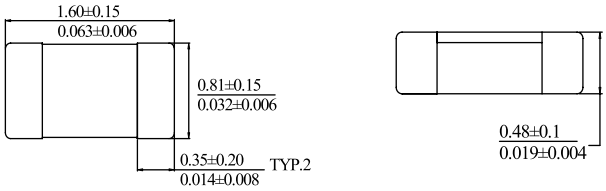
Profile Feature		Pb-Free Assembly
Average Ramp-UP Rate(Tsmax to Tp)		3°C/s Max.
Preheat	Temperature Min (Ts min)	150°C
	Temperature Max (Ts max)	200°C
	Time (Tsmin to Ts max)	60sec to 120sec
Peak Temperature (TP)		260°C
Time within 5°C of actual Peak Temperature(TP)		5sec
Melting tin time (TL)		20sec to 40sec
Ramp-Down Rate		6°C/s Max.
Time 25°C to Peak Temperature(TP)		8 minutes Max.

1. Infrared Reflow:
   - Temperature: 260°C
   - Time: 5sec Max.
   - Recommend reflow profile
2. Wave Soldering:
   - Reservoir Temperature: 260°C
   - Time in Reservoir: 10sec Max.
3. Hand Soldering
   - Temperature: 300°C
   - Time: 2sec Max.
   - Soldering iron avoid touch
   - Brass Cap.

Mechanical Specifications



Diagram



Dimensions : Millimetres

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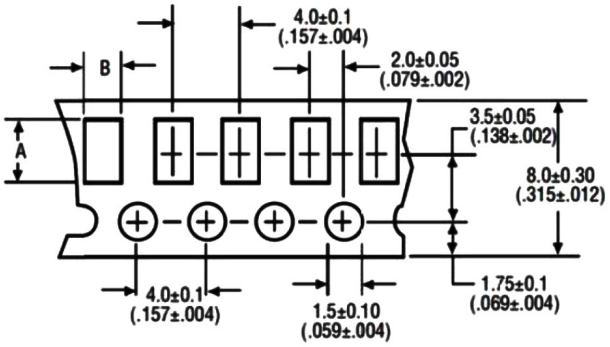
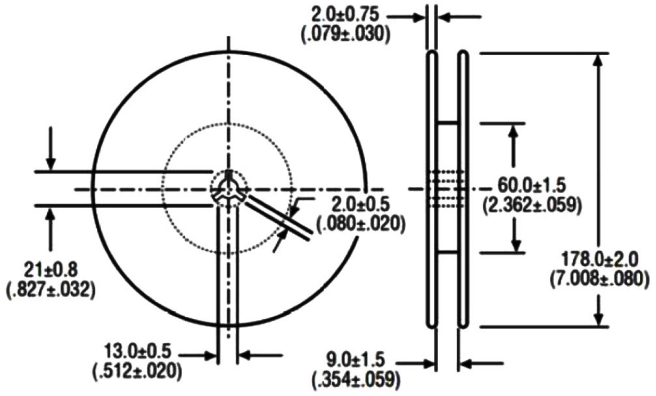
Diagram





Dimensions	
A	1.9 ±0.2 (0.075 ±0.008)
B	1.1 ±0.2 (0.043 ±0.008)

Dimensions : Millimetres (Inches)

Part Number Table

Description	Part Number
SMD Fuse, Time-Lag, 3A, 32V DC, 0603	MP001603
SMD Fuse, Time-Lag, 5A, 32V DC, 0603	MP001604