

RoHS
Compliant



Description

The high Current Fuse is designed for the purpose of external short circuit protection of the lithium ion battery of medium sizes, such as a power tool and an electric assistant bicycle. Though it was a surface mount type, it was small and realized high current rating, because a fuse element and a terminal adopt the structure of one.

Features

- Small size with high current rating for short circuit protection
- Ceramic body with ceramic base filler
- Surface mount type and small size of 7.7mm×6mm
- Suitable for automatic mounting
- Operating Temperature: -55°C to +125°C
- Storage Conditions: +10°C to +60°C
- Vibration Resistance: 24 cycles at 15 min. each (60068-6)
- Lead-free material

Electrical Characteristics

| Part Number | Rated Current | Max. Voltage | Typical Melting I ² t(A ² sec) | Typical Cold Resistance (mΩ) | Breaking Capacity |
|-------------|---------------|----------------------------|--|------------------------------|--|
| MP012930 | 40A | 72V DC 80V DC 63V DC | 400 | 1.25 | 1000A@63V DC 1000A@72V DC 1000A@80V DC |
| MP012931 | 50A | | 820 | 0.90 | |
| MP012932 | 60A | | 1100 | 0.80 | |
| MP012933 | 70A | | 2800 | 0.58 | |
| MP012934 | 80A | | 1800 | 0.65 | |
| MP012935 | 90A | | 2200 | 0.60 | |
| MP012936 | 100A | | 3900 | 0.46 | |

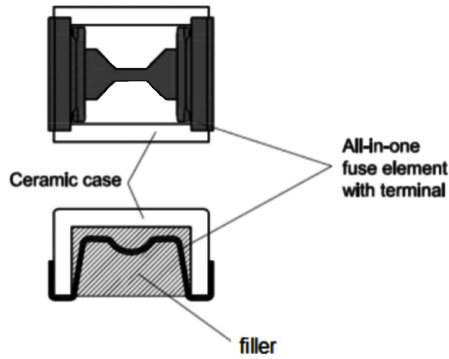
Note: (1) DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25°C
(2) Typical Pre-arcing I²T are measured at 10In current.

Time VS Current Characteristics Table

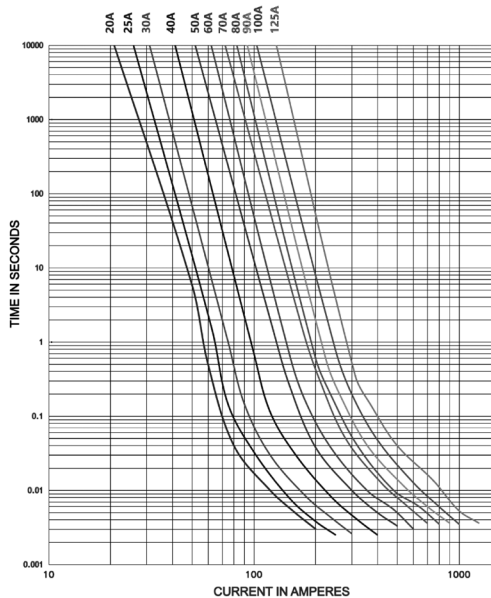
(Measured with constant current power supply)

| Rated Current | 100% | 250% |
|---------------|------|------|
| 40A to 100A | >4H | <60s |

Construction

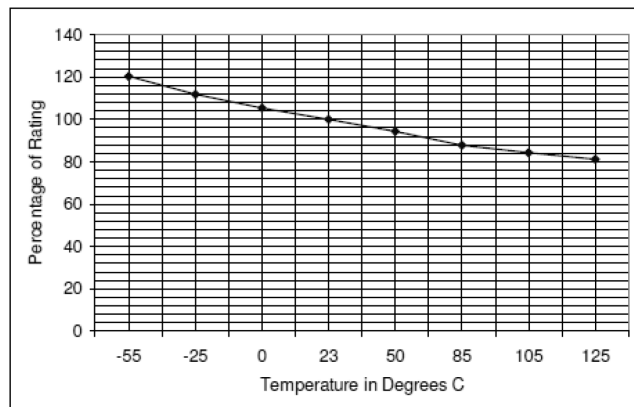


Average Time Current (I-T) Curves



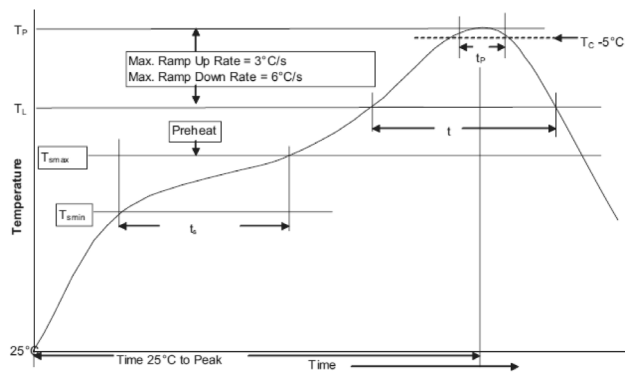
Temperature Derating Curve

Normal ambient temperature: 23°C ±3°C
 Operating temperature: -55°C to 125°C, with proper correction factor applied



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

Soldering Parameters

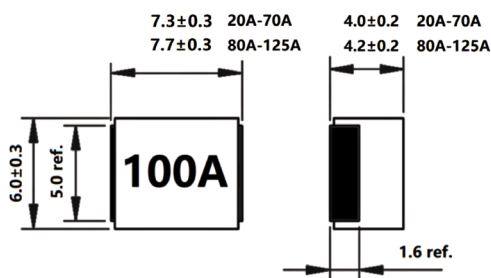


1. Infrared Reflow: Temperature: 260°C
 Time: 30sec Max.
 Recommend reflow profile
2. Wave Soldering
 Reservoir
 Temperature: 260°C
 Time in Reservoir: 10sec Max.

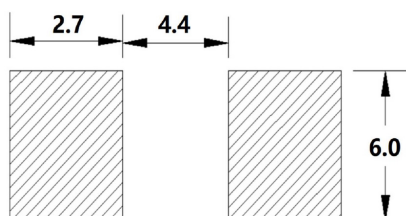
Newark.com/multicomp-pro
 Farnell.com/multicomp-pro
 sg.element14.com/b/multicomp-pro

| | | |
|--|--|-----------|
| Profile Feature | Lead (Pb) free solder | |
| Average Ramp-UP Rate (T _{sm} to T _p) | 3°C/s Max. | |
| Preheat and soak | Temperature min.(T _{sm}) | 150°C |
| | Temperature max.(T _{sm}) | 200°C |
| | Time (T _{sm} to T _{sm})(ts) | 60 ~ 120s |
| Liquidous temperature (TL) Time at liquidous (tL) | 217°C 60~150s | |
| Peak package body temperature (T _p) | 260°C | |
| Time (tP) within 5°C of the specified classification temperature (T _c) | 30s | |
| Average ramp-down rate (T _p to T _{sm}) | 6°C/s Max. | |
| Time (25°C to Peak Temperature) | 8 Minutes Max. | |

Diagram



Recommended Land Pattern



Part Number Table

| Description | Part Number |
|--------------------------------|-------------|
| Square Fuse, Fast Acting, 40A | MP012930 |
| Square Fuse, Fast Acting, 50A | MP012931 |
| Square Fuse, Fast Acting, 60A | MP012932 |
| Square Fuse, Fast Acting, 70A | MP012933 |
| Square Fuse, Fast Acting, 80A | MP012934 |
| Square Fuse, Fast Acting, 90A | MP012935 |
| Square Fuse, Fast Acting, 100A | MP012936 |

Dimensions : Millimetres

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