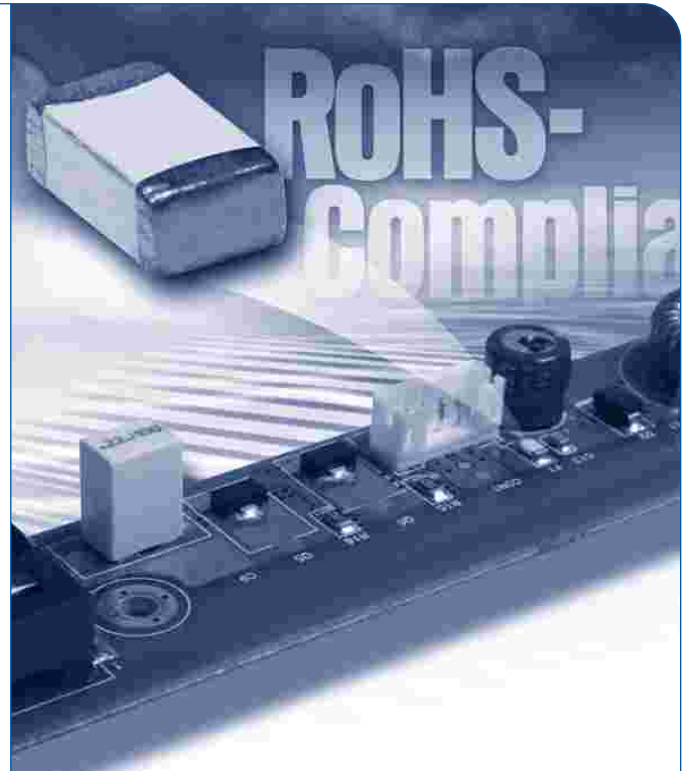


Slow Blow Fuses

RoHS-compliant Slow Blow Fuses feature industry standard 1206 chip sizes, high reliability and strong arc suppression characteristics. The fuse's monolithic, multilayer design helps provide some of the highest current ratings available in the 1206 footprint and enhances high temperature performance in a wide range of circuit protection designs. Designed for DC power applications of up to 63V_{DC} such as protection of power supplies, capacitor filter banks, LCD backlight inverters, electric motors and portable electronics.



Benefits

- Time delayed design prevents nuisance openings in pulsed and high inrush current applications
- Small size with high current ratings
- Strong arc suppression characteristics

Features

- RoHS compliant
- Monolithic multilayer design
- High temperature performance
- -55°C to +125°C operating temperature range

Applications

- Small motors systems
- Portable electronics
- Input power ports
- Power over Ethernet (POE)
- Test Equipment
- POL Converter Protection
- Computer drives
- Displays
- Printers

Table FS1 - Clear Time Characteristics for Slow Blow Fuses

| % of Current Rating | Clear time at 25°C | |
|---------------------|---------------------|---------------------|
| 100% | 4 hours (min.) | |
| 200% | 1 second (min.) | 120 seconds (max.) |
| 300% | 0.1 second (min.) | 3 seconds (max.) |
| 800% | 0.002 second (min.) | 0.05 seconds (max.) |

Table FS2 - Interrupt Ratings for Slow Blow Fuses

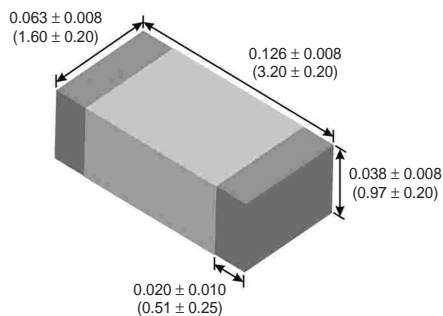
Interrupt Ratings:

| | |
|-----------|---------------------|
| 1A – 5.5A | 50A @ rated voltage |
| 6A – 8.0A | 60A @ rated voltage |

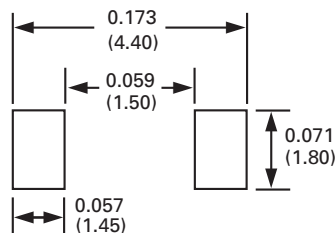
Table FS3 - Typical Electrical Characteristics, Dimensions and Recommended Pad Layout for Slow Blow Fuses

1206 (3216mm) Slow Blow Fuses

Shape and Dimensions
Inch (mm)



Recommended Pad layout
Inch (mm)



| Part Number | Typical Electrical Characteristics* | | | Voltage (V _{DC}) |
|----------------|-------------------------------------|-----------------------|--|----------------------------|
| | Rated Current (A) | Nominal Cold DCR (Ω)* | Nominal I ² t (A ² sec)† | |
| 1206SFS100F/63 | 1.0 | 0.360 | 0.11 | 63 |
| 1206SFS125F/63 | 1.25 | 0.200 | 0.22 | |
| 1206SFS150F/63 | 1.5 | 0.150 | 0.23 | |
| 1206SFS200F/63 | 2.0 | 0.082 | 0.63 | 32 |
| 1206SFS250F/32 | 2.5 | 0.070 | 0.90 | |
| 1206SFS300F/32 | 3.0 | 0.032 | 1.20 | |
| 1206SFS350F/32 | 3.5 | 0.028 | 1.60 | 24 |
| 1206SFS400F/32 | 4.0 | 0.024 | 2.20 | |
| 1206SFS450F/32 | 4.5 | 0.020 | 3.60 | |
| 1206SFS500F/32 | 5.0 | 0.016 | 5.30 | 24 |
| 1206SFS550F/24 | 5.5 | 0.014 | 6.40 | |
| 1206SFS600F/24 | 6.0 | 0.011 | 8.50 | |
| 1206SFS700F/24 | 7.0 | 0.010 | 10.00 | 24 |
| 1206SFS800F/24 | 8.0 | 0.009 | 16.90 | |

* Measured at 10% of rated current and 25°C
† Melting I²t at 0.001 sec clear time

Table FS4 - Environmental and Material Specifications for Slow Blow Fuses

Environmental Specifications

| | |
|------------------------------|---|
| Operating Temperature | -55°C to +125°C |
| Mechanical Vibration | Withstands 5-3000 Hz at 30 Gs when evaluated per Method 204 of MIL-STD-202 |
| Mechanical Shock | Withstands 1500 Gs, 0.5 millisecond half-sine pulses when evaluated per Method 213 of MIL-STD-202 |
| Thermal Shock | Withstands 100 cycles from -65°C to +125°C when evaluated per Method 107 of MIL-STD-202 |
| Resistance to Soldering Heat | Withstands 60 seconds at +260°C when evaluated per Method 210 of MIL-STD-202 |
| Solderability | Meets 95% minimum coverage requirement when evaluated per Method 208 of MIL-STD-202 |
| Moisture Resistance | Withstands 10 cycles when evaluated per Method 106 of MIL-STD-202 |
| Salt Spray | Withstands 48-hour exposure when evaluated per Method 101 of MIL-STD-202 |

Material Specifications

| | |
|---------------------------------|---------------------|
| Construction Body Material | Ceramic |
| Termination Material | Silver, Nickel, Tin |
| Fuse Element | Silver |
| Terminal Strength: Hanging test | 1.5kg, 30 seconds |

Figure FS1 - Thermal Derating Current

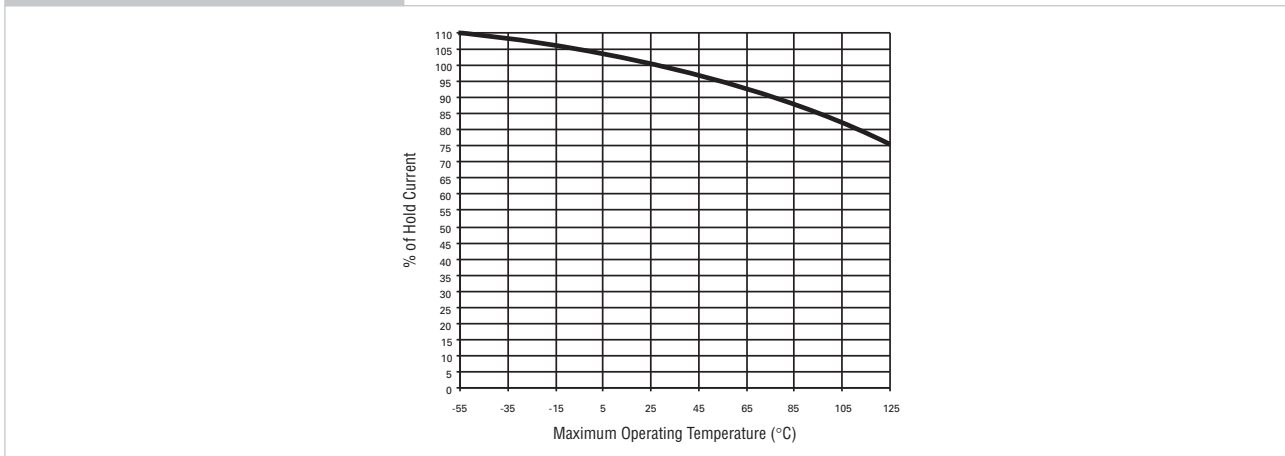


Table FS5 - Electrical and Packaging Specifications for Slow Blow Fuses

Electrical Specifications

Insulation Resistance after Opening: 20,000Ω minimum @ rated voltage. Fuse clearing under low voltage conditions may result in lower post-clearing insulation values. Under normal fault conditions Raychem fuses provide sufficient insulation resistance for circuit protection.

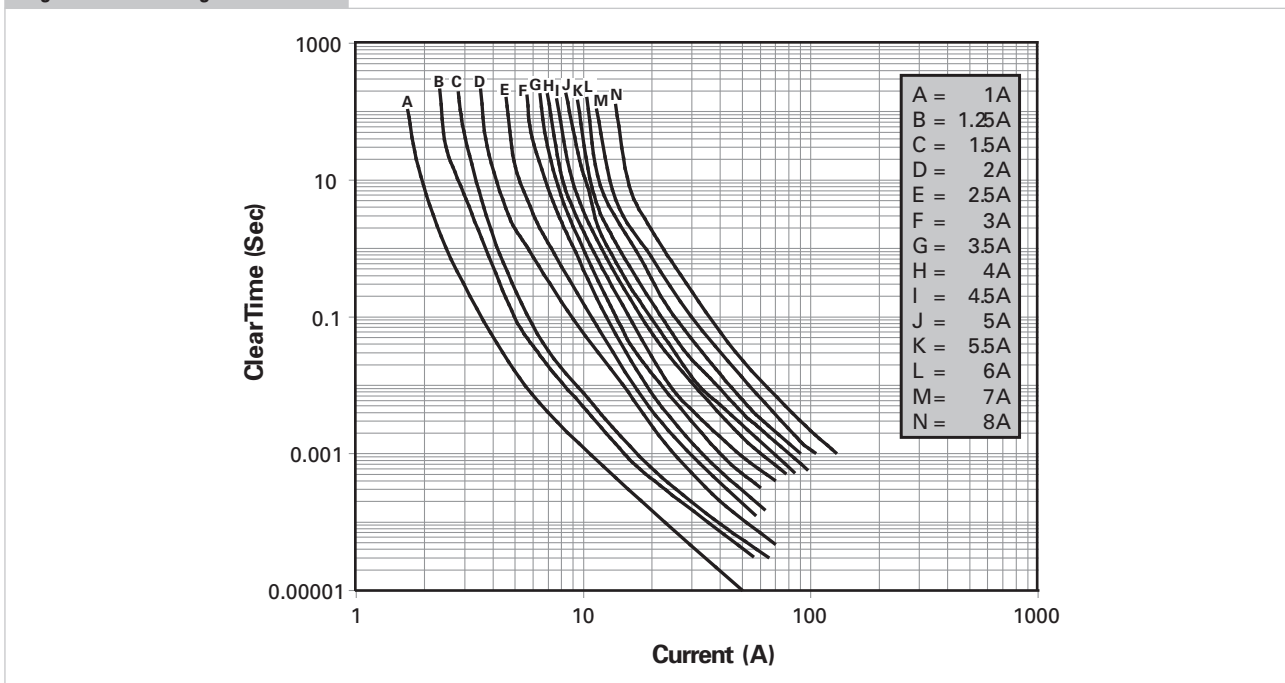
Current Carrying Capacity: Withstands 100% rated current at +25°C ambient for 4 hours when evaluated per MIL-PRF-23419

Packaging Specifications

| | |
|-------------|-------------------------------|
| Chip Size | Parts on 7-inch (178 mm) Reel |
| 1206 (3216) | 3,000 |

Figures FS2-FS3 - Family Average Clear Time

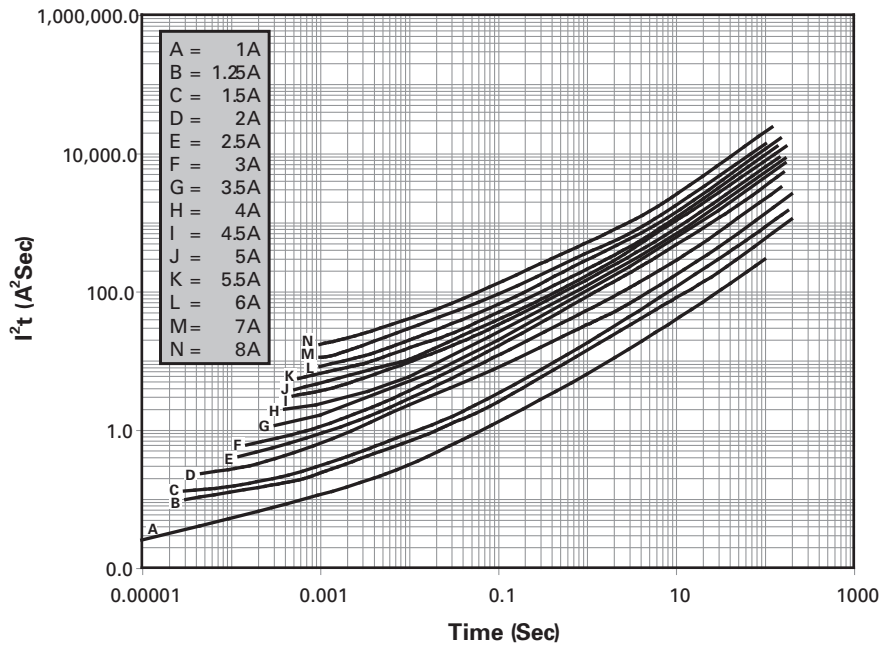
Figure FS2 - Average Clear Time



Figures FS2-FS3 - Family Average Clear Time

... Cont'd

Figure FS3 - I²T vs. Clear Time

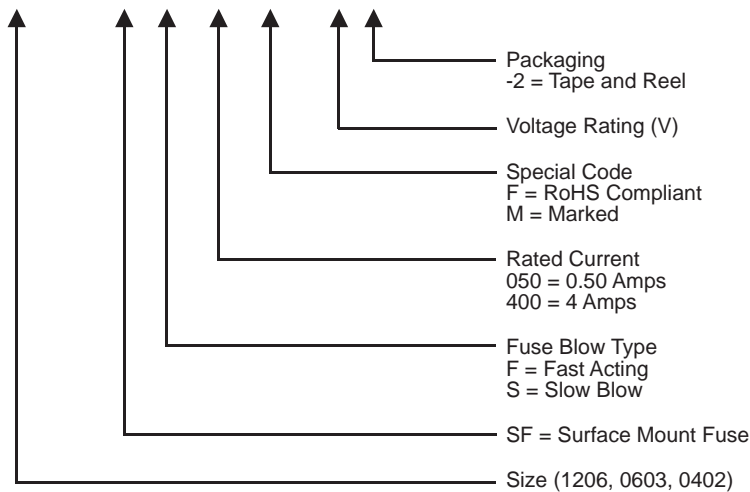


Agency Approvals for Slow Blow Fuses

UL File # E197536

Part Numbering System for Slow Blow Fuses

1206SFS400F/24-2



⚠ WARNING:

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