

SURFACE-MOUNT FUSES

Fast-Acting Chip Fuses

Fast-acting chip fuses help provide overcurrent protection for systems using DC power sources up to 63V_{DC}. The fuse's monolithic, multilayer design helps provide the highest hold current in the smallest footprint, reduce diffusion-related aging, improve product reliability and resilience, and enhance high-temperature performance in a wide range of circuit designs.

These RoHS-compliant surface-mount devices offer strong arc suppression characteristics and help facilitate the development of more reliable, high-performance consumer electronics such as laptops, multimedia devices, cell phones and other portable electronics.



BENEFITS

- Small size with high current ratings
- Temperature stability
- High reliability and resilience
- Strong arc suppression characteristics

FEATURES

- Lead-free and RoHS compliant
- Halogen free
(refers to: Br≤900ppm, Cl≤900ppm, Br+Cl≤1500ppm)
- Monolithic, multilayer design
- High-temperature performance
- -55°C to +125°C operating temperature range

APPLICATIONS

- Laptops
- Digital cameras
- Cell phones
- Printers
- DVD players
- Portable electronics
- Game systems
- LCD monitors
- Scanners

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Table FF1 – Clear Time Characteristics

| % of Rated Current | Clear Time at 25°C |
|--------------------|--------------------|
| 100% | 4 hrs (min) |
| 250% | 5 s (max) |
| 400% | 0.05 s (max) |

Table FF2 – Typical Electrical Characteristics, Dimensions and Recommended Pad Layout

0402 (1005mm) Fast-Acting Chip Fuses

Shape and Dimensions
in (mm)



Recommended Pad Layout
in (mm)



0603 (1608mm) Fast-Acting Chip Fuses

Shape and Dimensions
in (mm)



Recommended Pad Layout
in (mm)



1206 (3216mm) Fast-Acting Chip Fuses

Shape and Dimensions
in (mm)



Recommended Pad Layout
in (mm)



| Part Number | Typical Electrical Characteristics | | | Max Interrupt Ratings | |
|----------------|------------------------------------|-----------------------|--|----------------------------|-------------|
| | Rated Current (A) | Nominal Cold DCR (Ω)* | Nominal I ² t (A ² sec) [†] | Voltage (V _{DC}) | Current (A) |
| 0402SFF100F/24 | 1.00 | 0.120 | 0.0170 | 24 | 35 |
| 0402SFF150F/24 | 1.50 | 0.056 | 0.0490 | 24 | 35 |
| 0402SFF200F/24 | 2.00 | 0.035 | 0.0700 | 24 | 35 |
| 0402SFF300F/24 | 3.00 | 0.021 | 0.1250 | 24 | 35 |
| 0402SFF400F/24 | 4.00 | 0.014 | 0.2250 | 24 | 35 |

| Part Number | Typical Electrical Characteristics | | | Max Interrupt Ratings | |
|----------------|------------------------------------|-----------------------|--|----------------------------|-------------|
| | Rated Current (A) | Nominal Cold DCR (Ω)* | Nominal I ² t (A ² sec) [†] | Voltage (V _{DC}) | Current (A) |
| 0603SFF050F/32 | 0.50 | 0.485 | 0.0029 | 63 | 35 |
| 0603SFF075F/32 | 0.75 | 0.254 | 0.0064 | 63 | 35 |
| 0603SFF100F/32 | 1.00 | 0.147 | 0.0160 | 63 | 35 |
| 0603SFF150F/32 | 1.50 | 0.059 | 0.0300 | 63 | 35 |
| 0603SFF200F/32 | 2.00 | 0.044 | 0.0600 | 32 | 35 |
| 0603SFF250F/32 | 2.50 | 0.032 | 0.1150 | 32 | 35 |
| 0603SFF300F/32 | 3.00 | 0.025 | 0.1900 | 32 | 35 |
| 0603SFF350F/32 | 3.50 | 0.024 | 0.2950 | 32 | 35 |
| 0603SFF400F/32 | 4.00 | 0.018 | 0.4000 | 32 | 35 |
| 0603SFF500F/32 | 5.00 | 0.013 | 0.7000 | 32 | 35 |
| 0603SFF600F/24 | 6.00 | 0.010 | 1.1250 | 24 | 35 |

| Part Number | Typical Electrical Characteristics | | | Max Interrupt Ratings | |
|----------------|------------------------------------|-----------------------|--|----------------------------|-------------|
| | Rated Current (A) | Nominal Cold DCR (Ω)* | Nominal I ² t (A ² sec) [†] | Voltage (V _{DC}) | Current (A) |
| 1206SFF050F/63 | 0.50 | 0.730 | 0.0021 | 63 | 50 |
| 1206SFF075F/63 | 0.75 | 0.513 | 0.0052 | 63 | 50 |
| 1206SFF100F/63 | 1.00 | 0.220 | 0.0120 | 63 | 50 |
| 1206SFF150F/63 | 1.50 | 0.120 | 0.0250 | 63 | 50 |
| 1206SFF175F/63 | 1.75 | 0.100 | 0.0450 | 63 | 50 |
| 1206SFF200F/63 | 2.00 | 0.050 | 0.0700 | 63 | 50 |
| 1206SFF250F/32 | 2.50 | 0.035 | 0.1400 | 32 | 50 |
| 1206SFF300F/32 | 3.00 | 0.031 | 0.2200 | 32 | 50 |
| 1206SFF400F/32 | 4.00 | 0.022 | 0.3800 | 32 | 45 |
| 1206SFF500F/32 | 5.00 | 0.015 | 0.6000 | 32 | 45 |
| 1206SFF600F/32 | 6.00 | 0.013 | 1.0000 | 32 | 50 |
| 1206SFF700F/32 | 7.00 | 0.011 | 1.7500 | 32 | 50 |
| 1206SFF800F/32 | 8.00 | 0.008 | 2.5000 | 32 | 50 |
| 1206SFF600F/24 | 6.00 | 0.013 | 1.0000 | 24 | 45 |
| 1206SFF700F/24 | 7.00 | 0.011 | 1.7500 | 24 | 45 |
| 1206SFF800F/24 | 8.00 | 0.008 | 2.5000 | 24 | 45 |

* Measured at ≤10% of rated current and 25°C ambient temperature.

† Melting I²t at 0.001 sec clear time.

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Figures FF1-FF6 — Family Performance Curves

Figure FF1



Figure FF2



Note: Curves are nominal.

Figure FF3



Figure FF4



Note: Curves are nominal.

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Figures FF1-FF6 — Family Performance Curves

(Cont'd)



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