

SURFACE-MOUNT FUSES

Slow-Blow Chip Fuses

Available in industry standard 1206 and 0603 chip sizes, Littelfuse slow-blow chip fuses help provide overcurrent protection on systems that experience large and frequent current surges as part of their normal operation.

The slow-blow chip fuse's monolithic, multilayer design helps provide some of the highest current ratings available in the 1206 and 0603 footprints and enhances high-temperature performance in a wide range of circuit protection designs. The devices' small size, high reliability and strong arc suppression characteristics make them suitable for overcurrent protection of power supplies, capacitor filter banks, Liquid Crystal Display (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

- Lead-free materials 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

- Small motors systems
- Portable electronics
- Input power ports
- Power over Ethernet (PoE)
- Test equipment
- POL converter protection
- Computer drives
- Displays
- Printers

Surface Mount Fuses

Slow-Blow Chip Fuses

Table FS1 — Clear Time Characteristics

0603SFS Series

% of Rated Current	Clear Time at 25°C	
100%	4 hrs (min)	—
200%	1 s (min)	120 s (max)
300%	0.1 s (min)	3 s (max)
800% (1.0A-1.5A)	0.0005 s (min)	0.05 s (max)
800% (2.0A-5.0A)	0.001 s (min)	0.05 s (max)

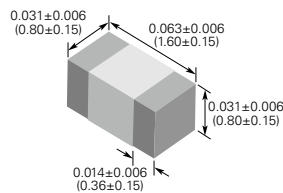
1206SFS Series

% of Rated Current	Clear Time at 25°C	
100%	4 hrs (min)	—
200%	1 s (min)	120 s (max)
300%	0.1 s (min)	3 s (max)
800% (1.0A-1.5A)	0.0016 s (min)	0.05 s (max)
800% (2.0A-8.0A)	0.002 s (min)	0.05 s (max)

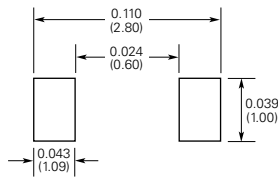
Table FS2 — Typical Electrical Characteristics, Dimensions and Recommended Pad Layout

0603 (1608 mm) Slow-Blow Chip Fuses

Shape and Dimensions
in (mm)

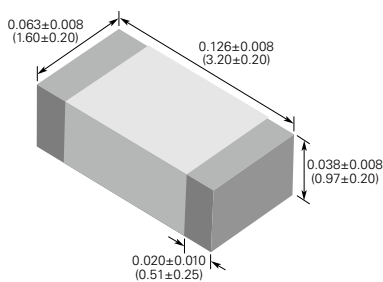


Recommended Pad Layout
in (mm)

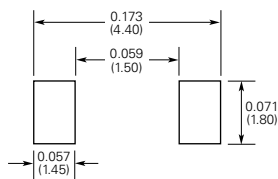


1206 (3216 mm) Slow-Blow Chip Fuses

Shape and Dimensions
in (mm)



Recommended Pad Layout
in (mm)



Part Number	Typical			Max	
	Electrical Characteristics			Interrupt Ratings	
	Rated Current (A)	Nominal Cold DCR (Ω)*	Nominal I ² t (A ² sec)†	Voltage (V _{DC})	Current (A)
0603SFS100F/32	1.0	0.200	0.093	32	50
0603SFS150F/32	1.5	0.100	0.18	32	50
0603SFS200F/32	2.0	0.052	0.32	32	50
0603SFS250F/32	2.5	0.041	0.63	32	50
0603SFS300F/32	3.0	0.031	0.87	32	50
0603SFS350F/32	3.5	0.021	1.20	32	50
0603SFS400F/32	4.0	0.017	2.30	32	50
0603SFS450F/32	4.5	0.015	2.70	32	50
0603SFS500F/32	5.0	0.013	3.20	32	50
PSR-27781	6.0	0.010	4.00	32	80
PSR-27893	7.0	0.008	5.00	32	80
PSR-28024	8.0	0.006	7.00	32	80

Part Number	Typical			Max	
	Electrical Characteristics			Interrupt Ratings	
	Rated Current (A)	Nominal Cold DCR (Ω)*	Nominal I ² t (A ² sec)†	Voltage (V _{DC})	Current (A)
1206SFS100F/63	1.0	0.360	0.11	63	50
1206SFS125F/63	1.25	0.200	0.22	63	50
1206SFS150F/63	1.5	0.150	0.23	63	50
1206SFS200F/63	2.0	0.088	0.63	63	50
1206SFS250F/32	2.5	0.065	0.90	32	50
1206SFS300F/32	3.0	0.034	1.20	32	50
1206SFS350F/32	3.5	0.028	1.60	32	50
1206SFS400F/32	4.0	0.024	2.20	32	50
1206SFS450F/32	4.5	0.020	3.60	32	50
1206SFS500F/32	5.0	0.016	5.30	32	50
1206SFS550F/24	5.5	0.014	6.40	24	50
1206SFS600F/24	6.0	0.011	8.50	24	60
1206SFS700F/24	7.0	0.010	10.00	24	60
1206SFS800F/24	8.0	0.009	16.90	24	60

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

† Melting I²t at 0.001 sec clear time.

Figures FS1-FS6 — Family Performance Curves



Figure FS3



Figure FS4



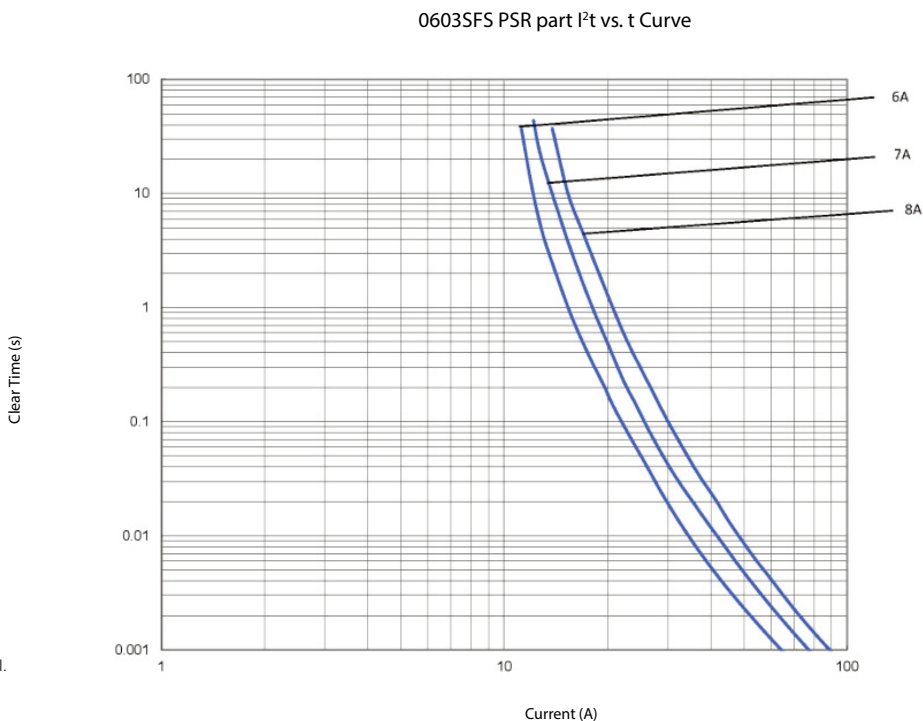
Note: Curves are nominal.

➔ Please go to page 108 for more information about Slow-Blow Chip Fuses.

Figure FS5



Figure FS6



Note: Curves are nominal.

Notice: Littelfuse products are not designed for, and shall not be used for, any purpose (including, without limitation, automotive, military, aerospace, medical, life-saving, life-sustaining or nuclear facility applications, devices intended for surgical implant into the body, or any other application in which the failure or lack of desired operation of the product may result in personal injury, death, or property damage) other than those expressly set forth in applicable Littelfuse product documentation. Warranties granted by Littelfuse shall be deemed void for products used for any purpose not expressly set forth in applicable Littelfuse documentation. Littelfuse shall not be liable for any claims or damages arising out of products used in applications not expressly intended by Littelfuse as set forth in applicable Littelfuse documentation. The sale and use of Littelfuse products is subject to Littelfuse Terms and Conditions of Sale, unless otherwise agreed by Littelfuse.