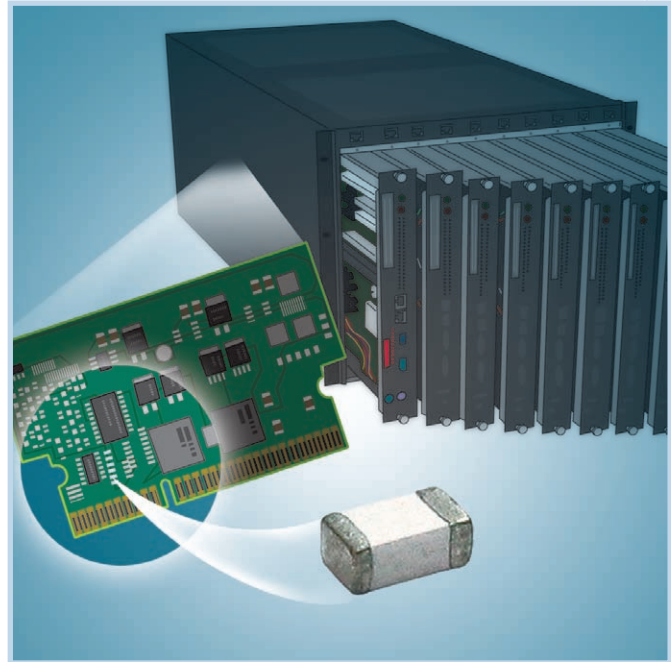




High-Current Rated Chip Fuses



The monolithic multilayer design helps to provide some of the highest current ratings available in the 1206 size 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, servers, communications equipment, voltage regulator modules, and other high-current, small size applications.



Benefits

- Glass ceramic monolithic structure provides stability in application cycling
- High-current rating in a small package allows more efficient use in system space
- Strong arc suppression in overcurrent conditions

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

- Communications equipment
- Voltage regulator modules
- Power supplies
- Servers

Table FH1 Clear Time Characteristics for High-Current Rated Chip Fuses

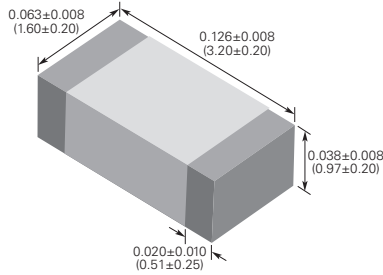
1206SFH Series

% of rated current	Clear time at 25°C
100%	4 hours (min.)
250%	5 seconds (max.)

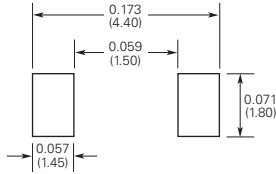
Table FH2 Typical Electrical Characteristics, Dimensions and Recommended Pad Layout for High-Current Rated Chip Fuses

1206 (3216mm) High-Current Rated Chip Fuses

Shape and Dimensions
Inch (mm)



Recommended Pad Layout
Inch (mm)



Typical Electrical Characteristics

Part Number	Rated Current (A)	Nominal Cold DCR (Ω)*	Nominal I ² t (A ² sec)†	Max. Interrupt Ratings	
				Voltage (V _{DC})	Current (A)
NEW 1206SFH100F/24	10	0.010	9	24	100
NEW 1206SFH120F/24	12	0.008	14	24	100
NEW 1206SFH150F/24	15	0.005	26	24	100
NEW 1206SFH200F/24	20	0.003	56	24	100

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

Figure FH1-FH2 Family Performance Curves

Figure FH1

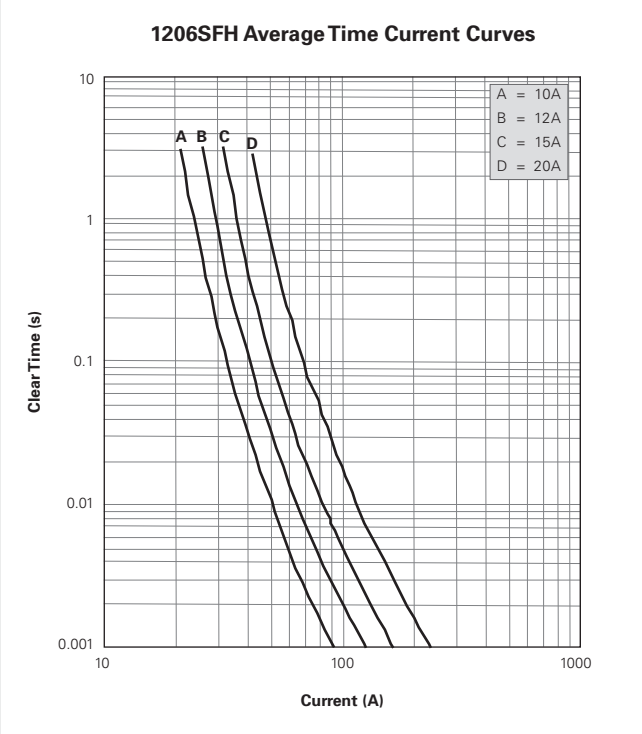


Figure FH2

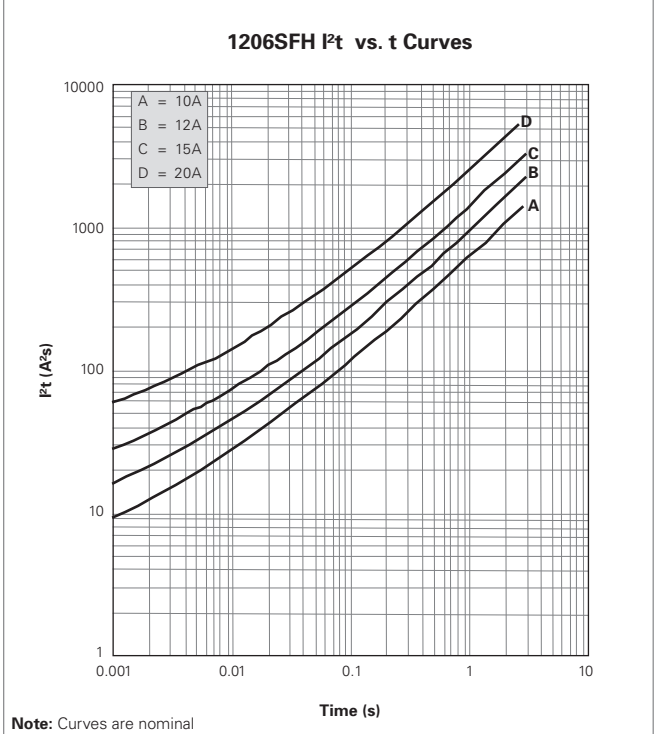
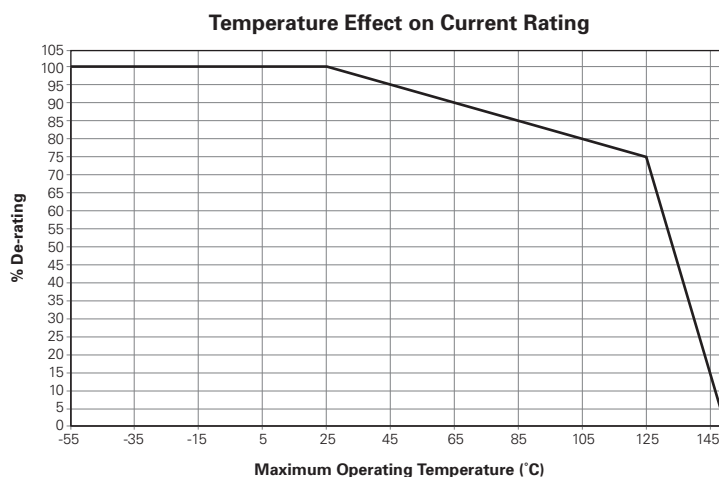


Table FH3 Environmental Specifications for High-Current Rated Chip Fuses

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

Table FH4 Material Specifications for High-Current Rated Chip Fuses

Construction body material	Ceramic
Termination material	Silver, Nickel, Tin
Fuse element	Silver

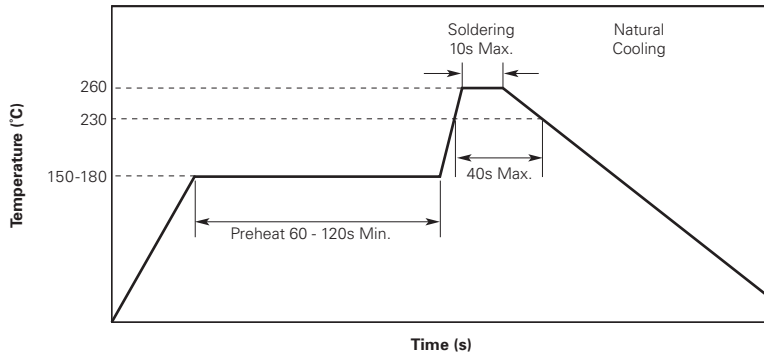
Figure FH3 Thermal Derating Current for High-Current Rated Chip Fuses

Table FH5 Electrical Specifications for High-Current Rated Chip Fuses

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.

Table FH6 Packaging Information for High-Current Rated Chip Fuses

Size	Reel Quantity (pcs)	Reel Diameter	Reel Width	Carrier Tape Size	Tape Type	Reels per Outside Shipment Box	Outside Shipment Boxes per Overpack
1206 (3216)	3,000	178mm white plastic	9.0 ± 0.5mm	8.00 ± 0.10mm	Plastic	5	5

Figure FH4 Recommended Soldering Temperature Profile for High-Current Rated Chip Fuses



Recommended conditions for hand soldering:

- Using hot air rework station that can reflow the solder on both terminations at the same time is strongly recommended, do not directly contact the chip termination with the tip of soldering iron.
- Preheating: 150°C, 60s (min).
Appropriate temperature (max) of soldering iron tip/soldering time (max): 280°C /10s or 350°C / 3s.
Maximum temperature of soldering iron tip/soldering time: 350°C /9s or 400°C / 8s.

Table FH7 Tape and Reel Material Characteristics for High-Current Rated Chip Fuses

Tolerance X ± 1mm; 0.X ± 0.5mm; 0.XX ± 0.2mm

Performance	Testing Method	Range	
		Min.	Max.
MVR	ASTM D1238	3.60	4.40
Vicat softening temperature	ASTM D1525	97.8	-
Elasticity at break	ASTM D638	50.0	-

Table FH8 Tape and Reel Specifications for High-Current Rated Chip Fuses

Mark	Dimension in inches (mm)	
	1206 (3216)	
E ₁	0.069±0.004	(1.75±0.10)
F	0.138±0.002	(3.50±0.05)
W	0.318±0.004	(8.00±0.10)
P ₁	0.157±0.004	(4.00±0.10)
P ₀	0.157±0.004	(4.00±0.10)
P ₂	0.079±0.002	(2.00±0.05)
D ₀	0.059±0.004	(1.50+0.10/-0.00)
D ₁	0.039 max	(1.00 max)
t	0.009±0.001	(0.23±0.02)
A ₀	0.071±0.004	(1.80±0.10)
B ₀	0.138±0.004	(3.50±0.10)
K ₀	0.050±0.004	(1.27±0.10)

Figure FH5 Tape Component Dimensions for High-Current Rated Chip Fuses

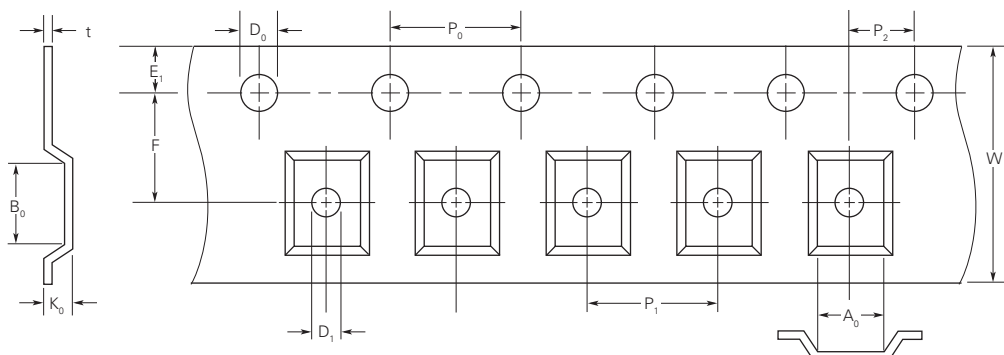
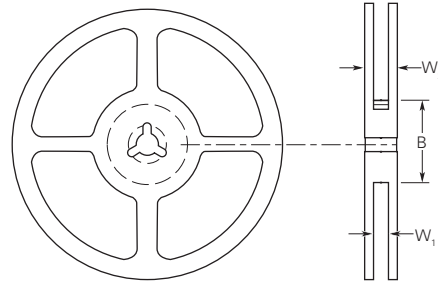


Figure FH6 Reel Dimensions for High-Current Rated Chip Fuses

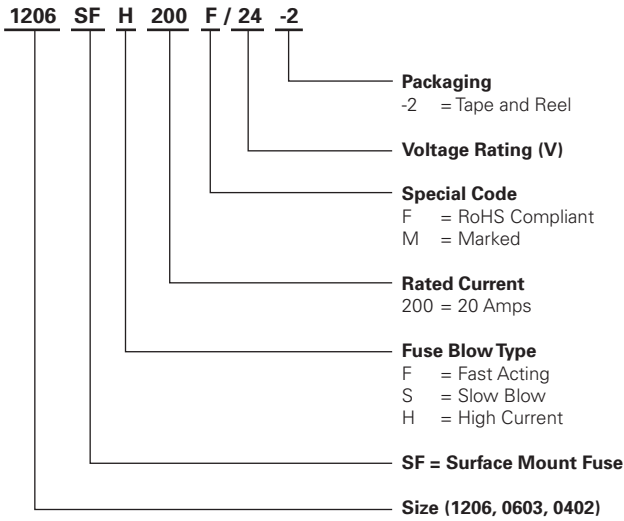
Dimension Description	Mark	Dimensions (mm)
Hub outer diameter	B	60
Reel inside width	W ₁	9
Reel outside width	W ₂	11.4
Tape width		8



Agency Approvals for High-Current Rated Chip Fuses

UL File # E197536

Part Numbering System for High-Current Rated Chip Fuses



Warning :

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