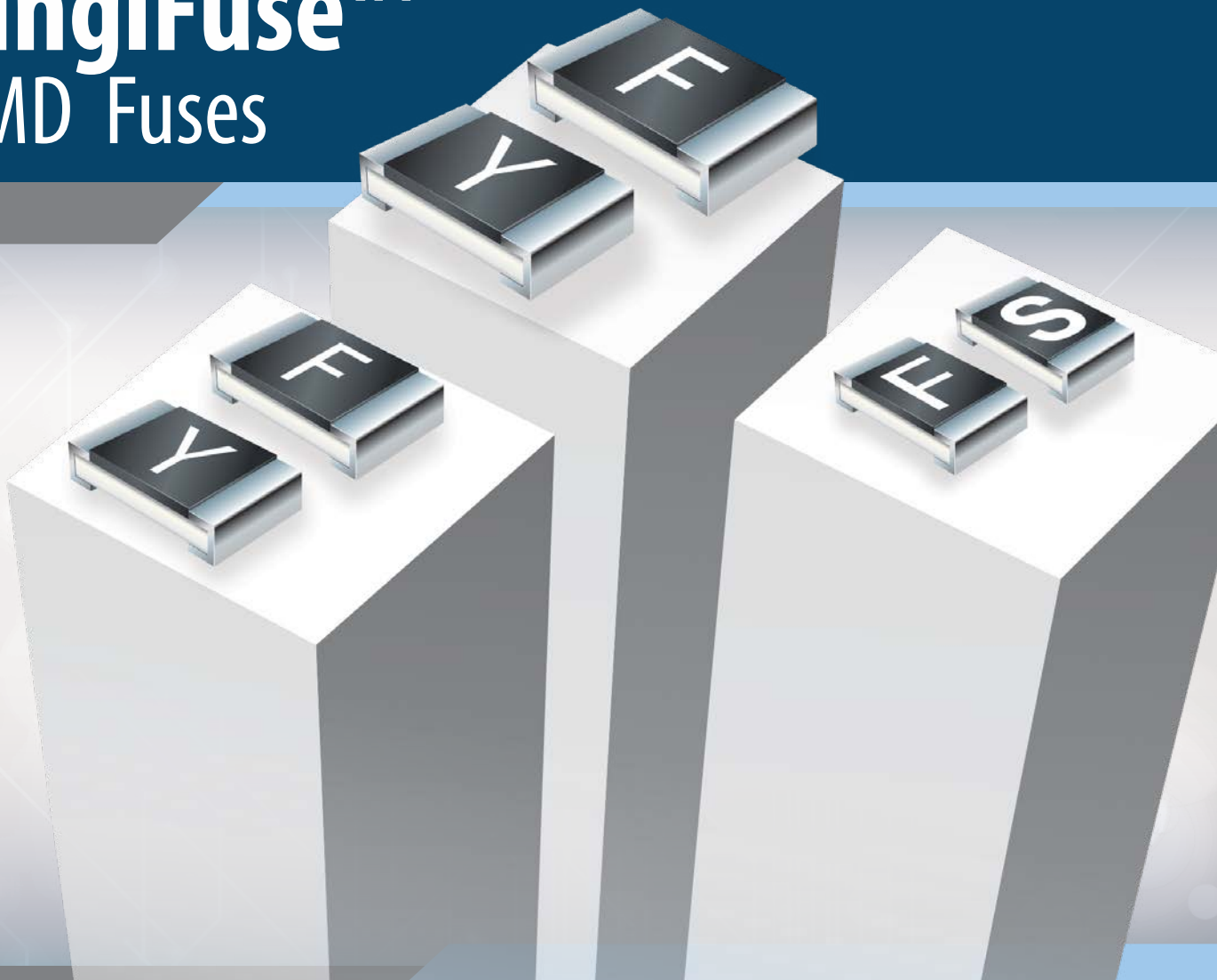




SinglFuse™

SMD Fuses



BOURNS®

Bourns® SinglFuse™ Introduction

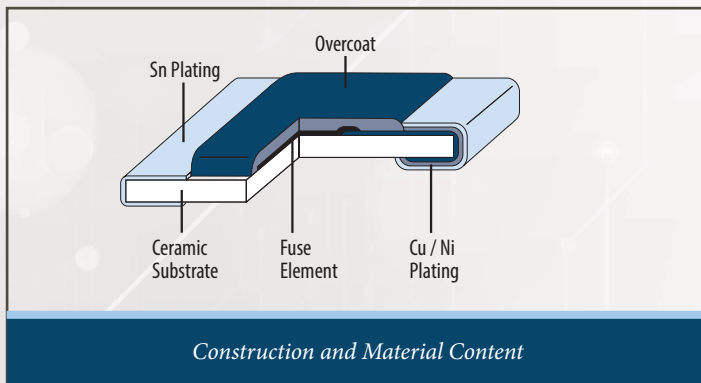


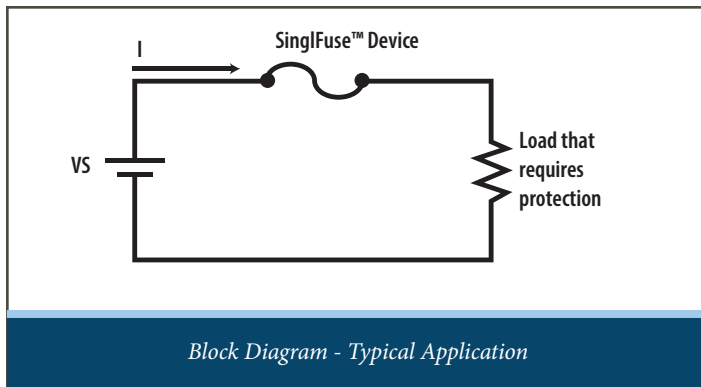
INTRODUCTION

Bourns' SinglFuse™ family of thin film chip fuses provides effective overcurrent protection in surface mountable footprint sizes of 0402 (1005 metric), 0603 (1608 metric), and 1206 (3216 metric), and includes the fusing types of fast acting, fast acting precision, slow blow, and time lag. This comprehensive line of thin film chip fuses is applicable for such diverse applications as LCD monitors, digital cameras, cell phones, industrial controllers and rechargeable battery packs. Bourns® SinglFuse™ thin film chip fuses are designed to protect against a wide range of overcurrent events – hence the fuses range in current ratings from 315 mA up to 7.0 A and are RoHS compliant* and halogen free**.

FEATURES AND BENEFITS

- Single blow fuses for overcurrent protection
- Wide range of rated currents and fusing times in 3 sizes
- Thin film construction
- Surface mount packaging for automated assembly
- UL listed
- RoHS* compliant and halogen free**





HOW TO ORDER

SF- 0402 FP 050 -2	
SinglFuse™ Product Designator	_____
SMD Footprint 0402 (1005 metric) size 0603 (1508 metric) size 1206 (3216 metric) size	_____
Fuse Blow Type F – Fast Acting FP – Fast Acting Precision S – Slow Blow SP – Time Lag	_____
Rated Current 0315 – 700 (315 mA – 7.00 A)	_____
Packaging Type -2 = Tape & Reel	_____

*RoHS Directive 2002/95/EC Jan.27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

** Bourns is using the definition that appears to be the prevalent definition used as the industry standard at this time.
The Bourns definition of “halogen-free” is:
Bromine (Br) content: ≤ 900 ppm; Chlorine (Cl) content: ≤ 900 ppm;
Total Br + Cl content: ≤ 1500 ppm.



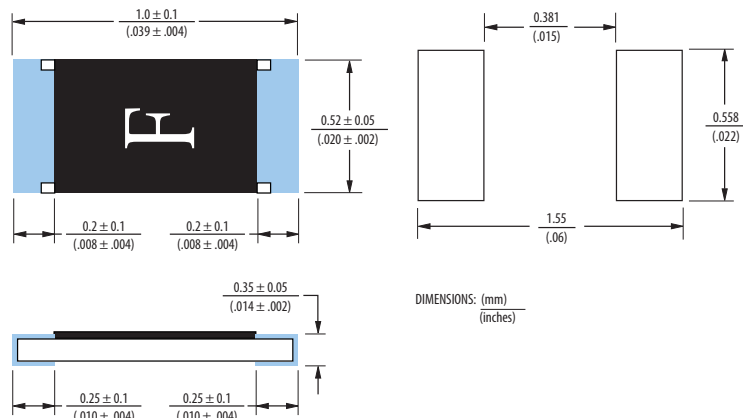
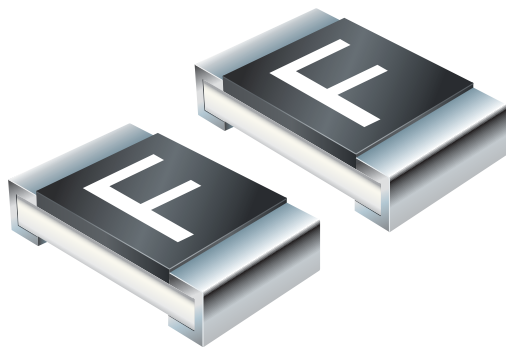
Applications



- Portable memory
- Cell phones
- LCD Monitors
- PDAs
- Set-top boxes
- Disk drives
- Battery chargers
- Rechargeable battery packs
- Digital cameras
- Industrial controllers
- DVD players
- Video game consoles
- VR/AR headsets
- Wearables
- Wireless headphones



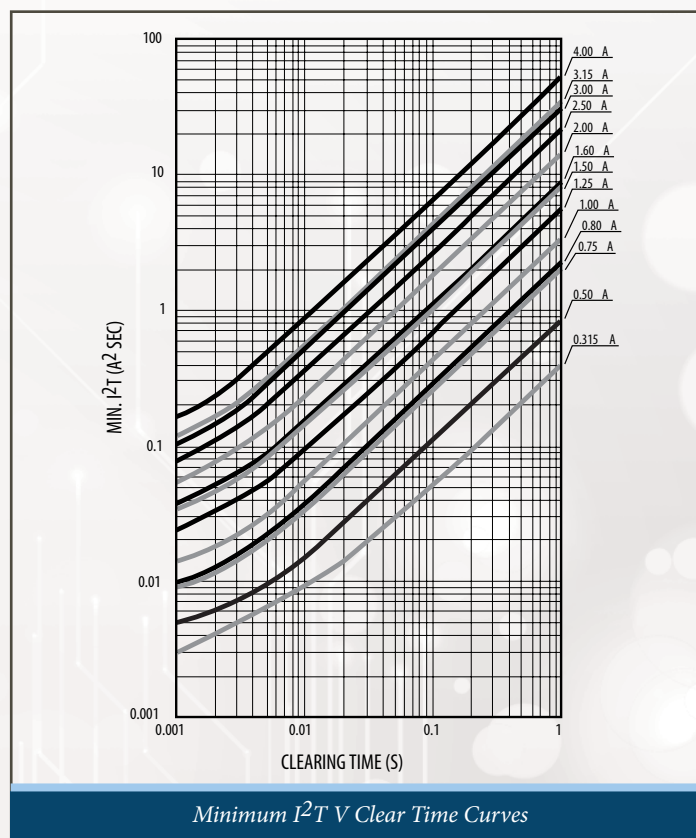
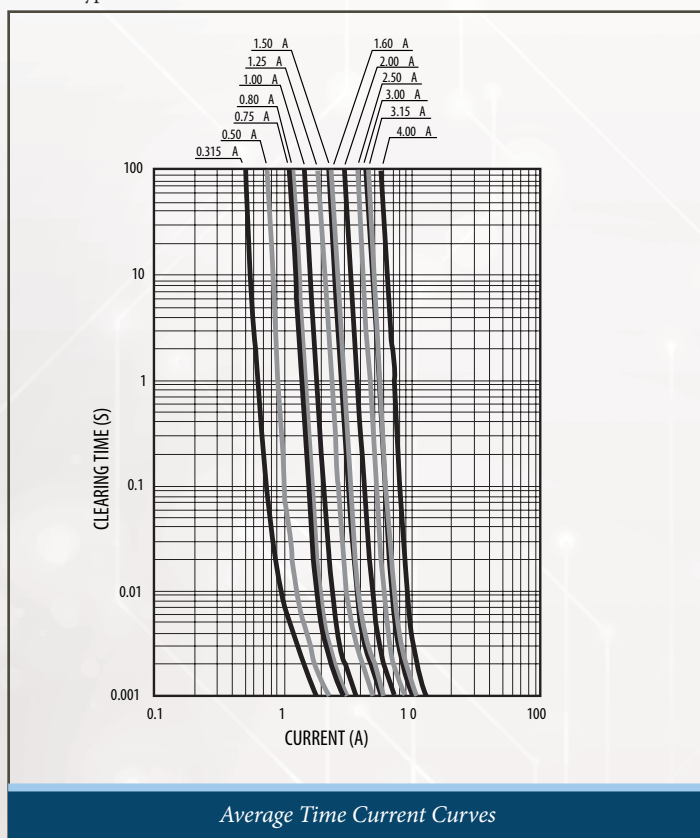
SF-0402F Series – Fast Acting Surface Mount Fuse



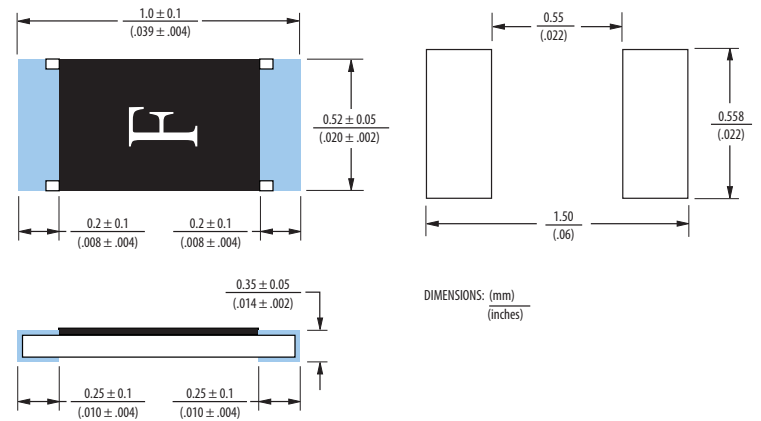
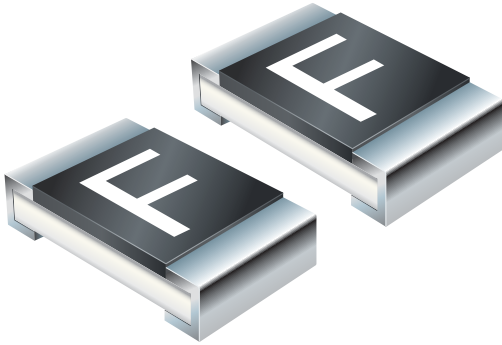
Model	Rated Current	Fusing Time	Resistance Tolerance ±25 % (mohm) Typ.*	Rated Voltage	Breaking Capacity	Typical I^2t (A ² s)**
SF-0402F0315	0.315 A	Open within 1 min. at 200 % rated current	690	DC 32 V	DC 32 V 35 A	0.00203
SF-0402F050-2	0.50 A		340			0.00317
SF-0402F075-2	0.75 A		140			0.0049
SF-0402F080-2	0.80 A		100			0.00532
SF-0402F100-2	1.00 A		95			0.00724
SF-0402F125-2	1.25 A		57			0.01344
SF-0402F150-2	1.50 A		45			0.01356
SF-0402F160-2	1.60 A		44			0.01672
SF-0402F200-2	2.00 A		33			0.01983
SF-0402F250-2	2.50 A		25			0.03763
SF-0402F300-2	3.00 A		19			0.05427
SF-0402F315-2	3.15 A		18			0.06304
SF-0402F400-2	4.00 A		12			0.0896

*Resistance value was measured with less than 10 % of rated current.

**Typical I^2t value measured at 10x rated current.



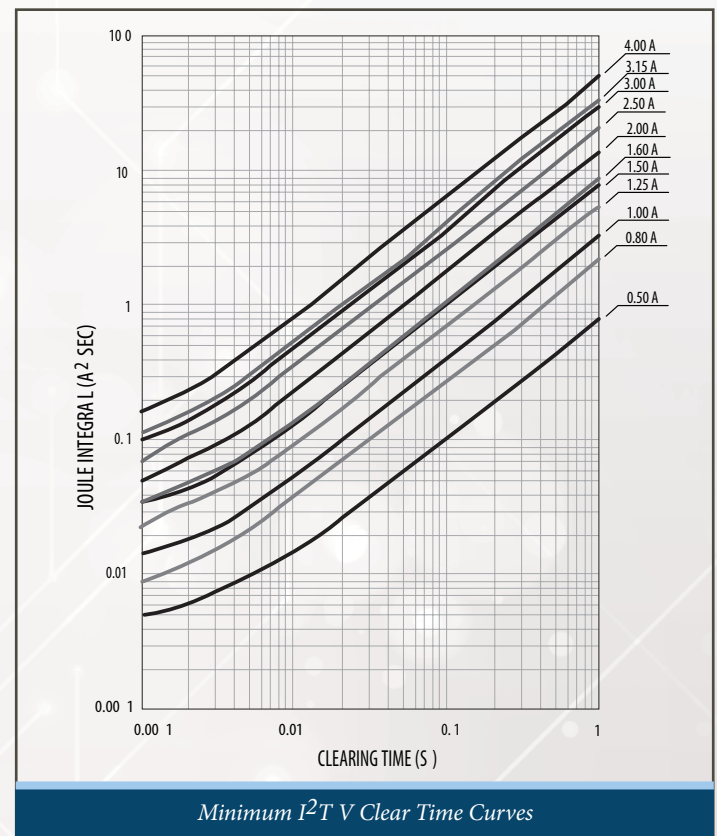
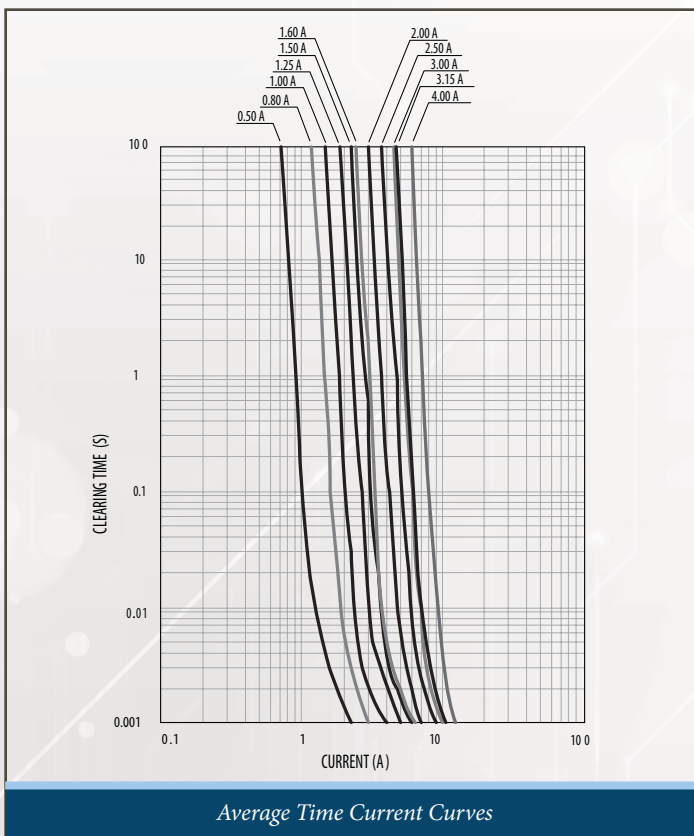
SF-0402FP Series – Fast Acting Precision Surface Mount Fuse



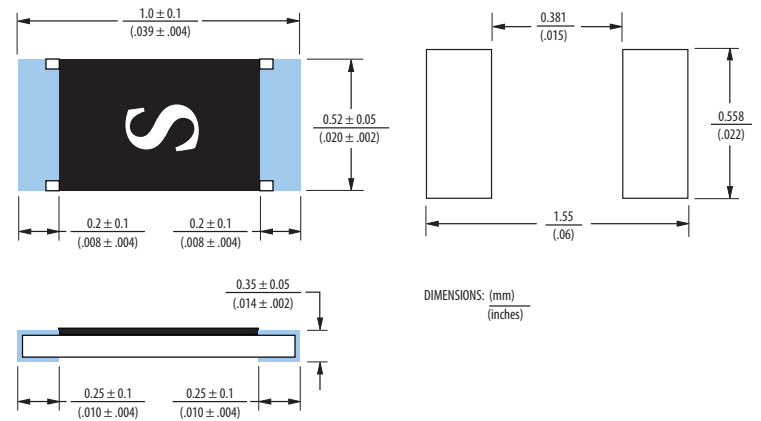
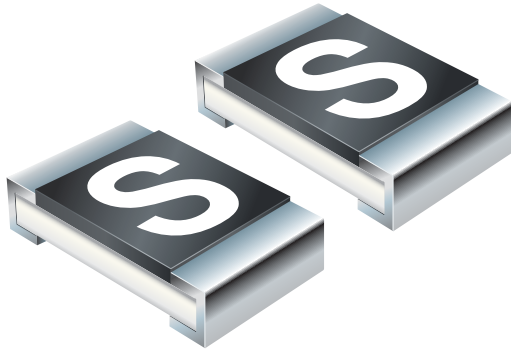
Model	Rated Current	Fusing Time	Resistance Tolerance ±25 % (mohm) Typ.*	Rated Voltage	Breaking Capacity	Typical I^2t (A ² s)**
SF-0402FP050	0.50 A	Open within 5 sec. at 200 % rated current	380	DC 32 V	DC 32 V 35 A	0.00317
SF-0402FP080	0.80 A		120			0.00532
SF-0402FP100	1.00 A		95			0.00724
SF-0402FP125	1.25 A		67			0.01344
SF-0402FP150	1.50 A		51			0.01356
SF-0402FP160	1.60 A		46			0.01672
SF-0402FP200	2.00 A		33			0.01983
SF-0402FP250	2.50 A		22.5			0.03763
SF-0402FP300	3.00 A		20			0.05427
SF-0402FP315	3.15 A		19			0.06304
SF-0402FP400	4.00 A		16			0.08960

*Resistance value was measured with less than 10 % of rated current.

**Typical I^2t value measured at 10x rated current.



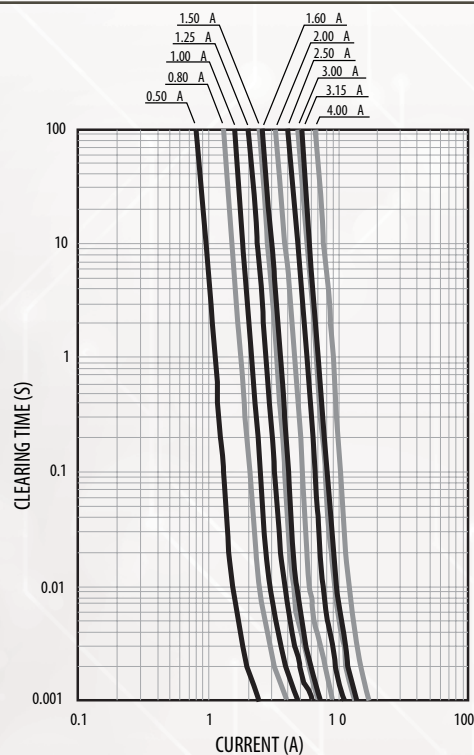
SF-0402S Series – Slow Blow Surface Mount Fuse



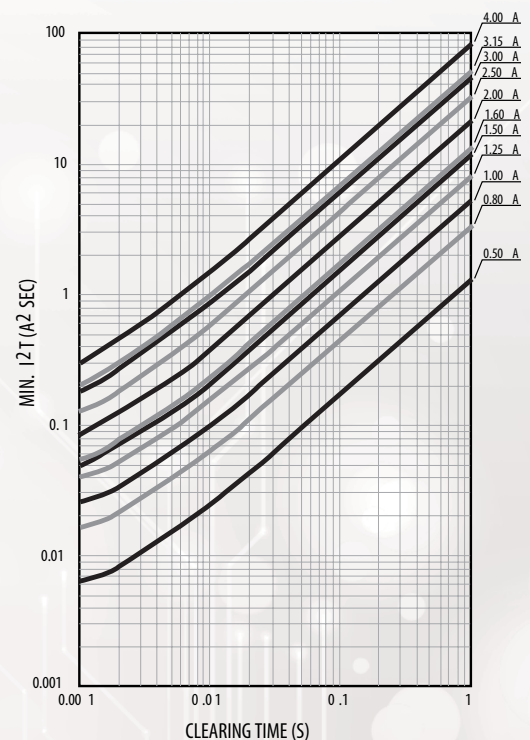
Model	Rated Current	Fusing Time	Resistance Tolerance $\pm 25\%$ (mohm) Typ.*	Rated Voltage	Breaking Capacity	Typical I^2t (A ² s)**
SF-0402S050-2	0.50 A	Open within 5 sec. at 250 % rated current	235	DC 24 V	DC 24 V 35 A	0.00370
SF-0402S080-2	0.80 A		86			0.00947
SF-0402S100-2	1.00 A		64			0.01479
SF-0402S125-2	1.25 A		45			0.02310
SF-0402S150-2	1.50 A		35			0.02400
SF-0402S160-2	1.60 A		32			0.03734
SF-0402S200-2	2.00 A		24			0.04040
SF-0402S250-2	2.50 A		19			0.06760
SF-0402S300-2	3.00 A		15			0.09860
SF-0402S315-2	3.15 A		14			0.10868
SF-0402S400-2	4.00 A		10.5			0.11450

*Resistance value was measured with less than 10 % of rated current.

**Typical I^2t value measured at 10x rated current.

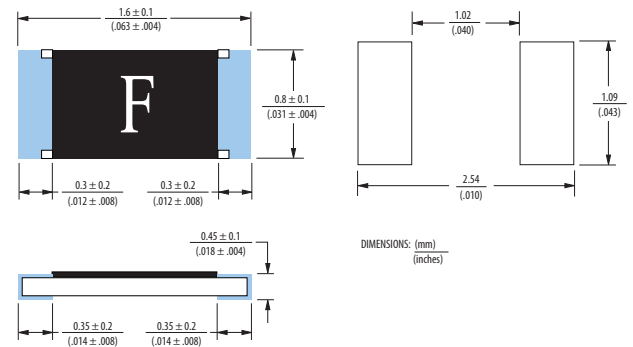
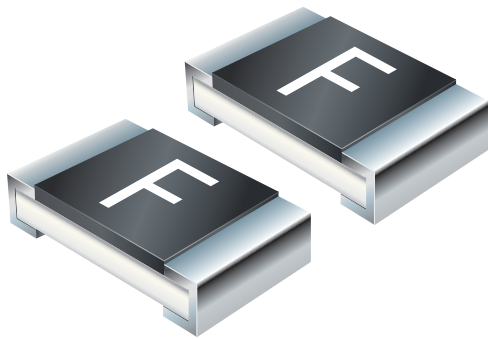


Average Time Current Curves



Minimum I^2T V Clear Time Curves

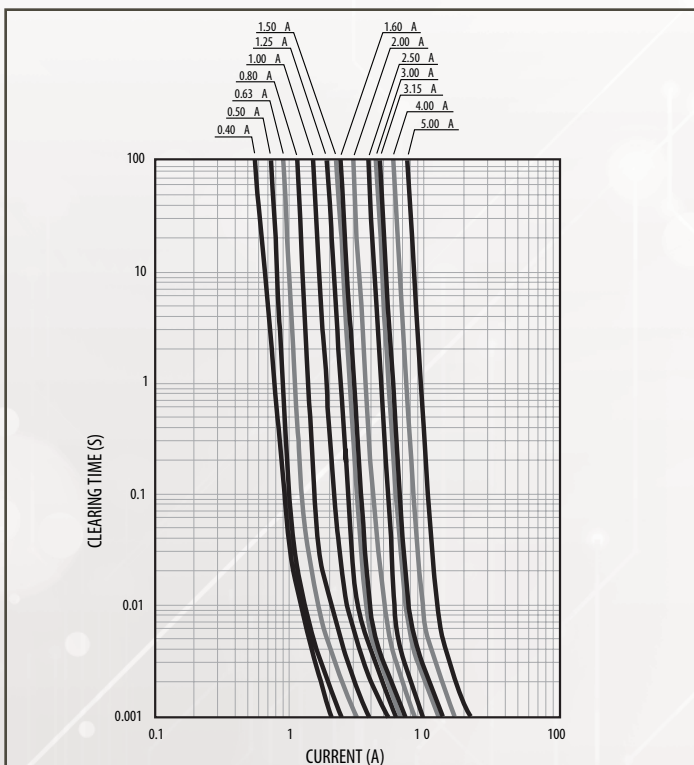
SF-0603F Series – Fast Acting Surface Mount Fuse



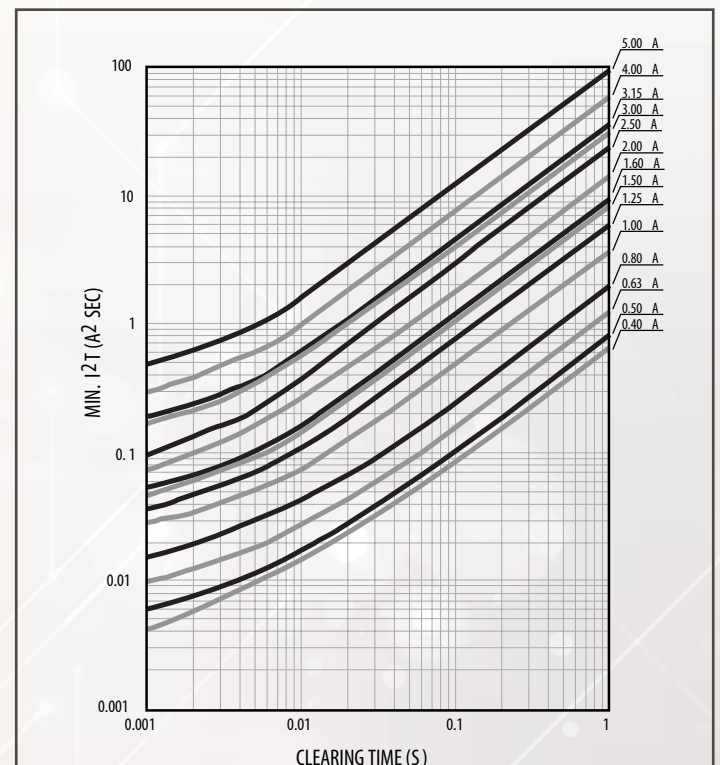
Model	Rated Current	Fusing Time	Resistance Tolerance ±25 % (mohm) Typ.*	Rated Voltage	Breaking Capacity	Typical I^2t (A ² s)**
SF-0603F040-2	0.40 A	Open within 1 min. at 200 % rated current	496	DC 50 V	DC 50 V 50 A	0.004
SF-0603F050-2	0.50 A		290			0.005
SF-0603F063-2	0.63 A		205			0.007
SF-0603F080-2	0.80 A		132	DC 32 V	DC 32 V 50 A	0.014
SF-0603F100-2	1.00 A		84			0.016
SF-0603F125-2	1.25 A		63			0.027
SF-0603F150-2	1.50 A		50.5			0.037
SF-0603F160-2	1.60 A		45			0.041
SF-0603F200-2	2.00 A		34			0.044
SF-0603F250-2	2.50 A		24.5			0.055
SF-0603F300-2	3.00 A		20			0.082
SF-0603F315-2	3.15 A		19			0.089
SF-0603F400-2	4.00 A		13			0.239
SF-0603F500-2	5.00 A		11			0.433

*Resistance value was measured with less than 10 % of rated current.

**Typical I^2t value measured at 10x rated current.

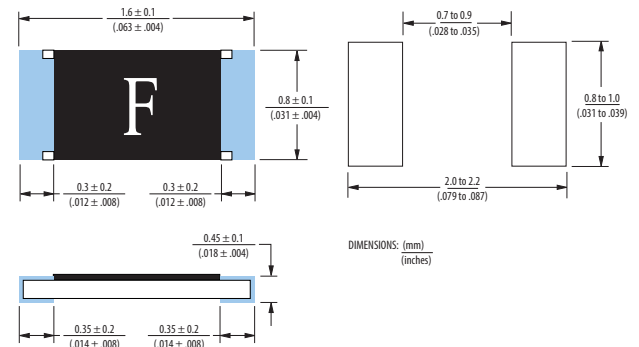
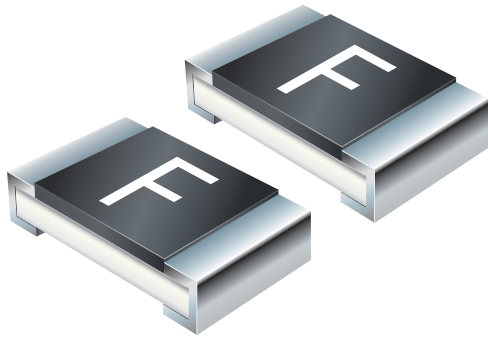


Average Time Current Curves



Minimum I^2t V Clear Time Curves

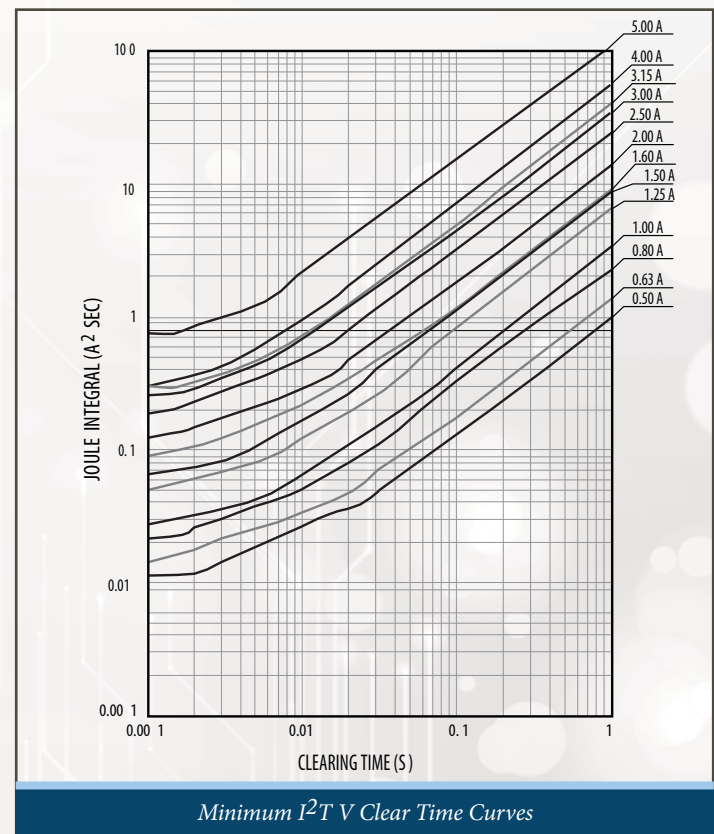
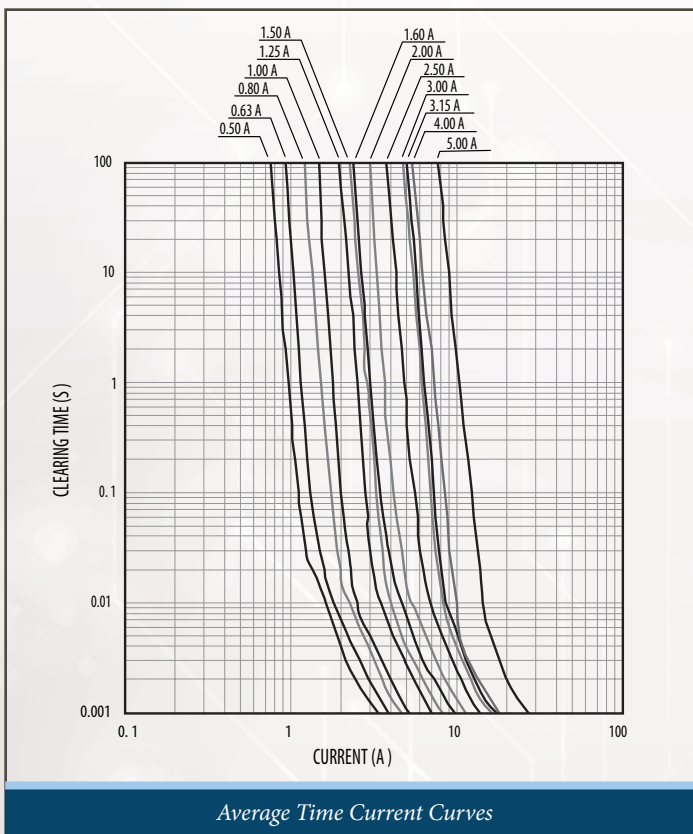
SF-0603FP Series – Fast Acting Precision Surface Mount Fuse



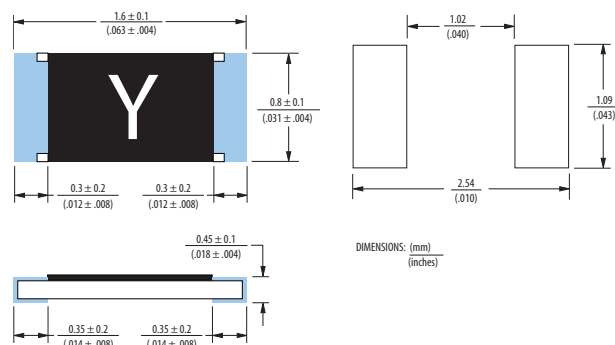
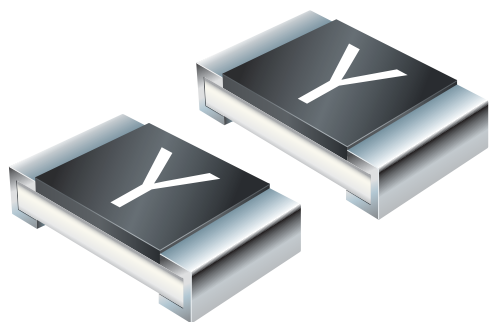
Model	Rated Current	Fusing Time	Resistance Tolerance ±25 % (mohm) Typ.*	Rated Voltage	Breaking Capacity	Typical I^2t (A ² s)**
SF-0603FP050	0.50 A	Open within 5 sec. at 200 % rated current	260	DC 50 V	DC 50 V 50 A	0.088
SF-0603FP063	0.63 A		218	DC 32 V	DC 32 V 50 A	0.0125
SF-0603FP080	0.80 A		132			0.0206
SF-0603FP100	1.00 A		84.5			0.0211
SF-0603FP125	1.25 A		63			0.0472
SF-0603FP150	1.50 A		50.5			0.0623
SF-0603FP160	1.60 A		46			0.0817
SF-0603FP200	2.00 A		32			0.1176
SF-0603FP250	2.50 A		25.5			0.1807
SF-0603FP300	3.00 A		20			0.3177
SF-0603FP315	3.15 A		19			0.3615
SF-0603FP400	4.00 A		13			0.5348
SF-0603FP500	5.00 A		10			0.7726

*Resistance value was measured with less than 10 % of rated current.

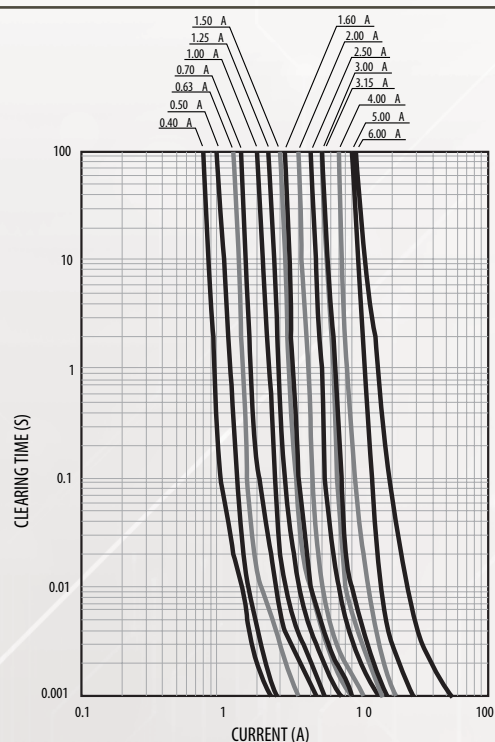
**Typical I^2t value measured at 10x rated current.



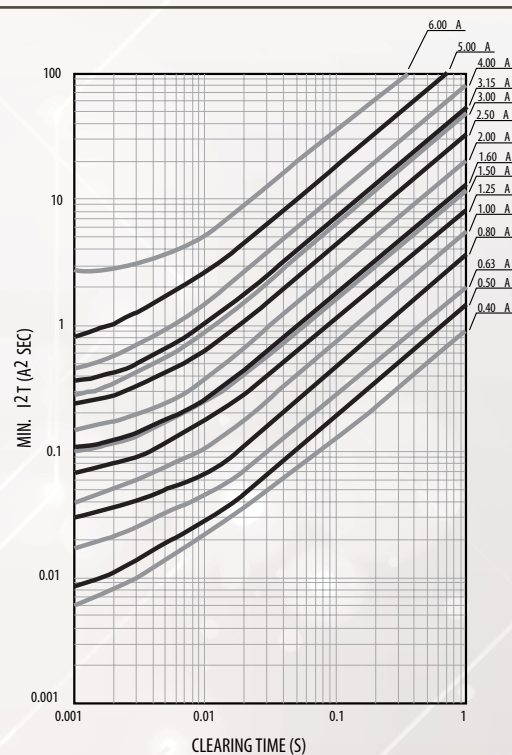
SF-0603S Series – Slow Blow Surface Mount Fuse



Model	Rated Current	Fusing Time	Resistance Tolerance ±25 % (mohm) Typ.*	Rated Voltage	Breaking Capacity	Typical I^2t (A ² s)**
SF-0603S040-2	0.40 A	Open within 5 sec. at 250 % rated current	350	DC 50 V	DC 32 V / AC 35 V 50 A	0.004
SF-0603S050-2	0.50 A		232			0.009
SF-0603S063-2	0.63 A		150			0.017
SF-0603S070-2	0.70 A		148			0.023
SF-0603S080-2	0.80 A		113	DC 32 V	DC 32 V / AC 35 V 50 A	0.024
SF-0603S100-2	1.00 A		67			0.026
SF-0603S125-2	1.25 A		50			0.057
SF-0603S150-2	1.50 A		42			0.081
SF-0603S160-2	1.60 A		40			0.086
SF-0603S200-2	2.00 A		27			0.115
SF-0603S250-2	2.50 A		19.5			0.200
SF-0603S300-2	3.00 A		16			0.210
SF-0603S315-2	3.15 A		15			0.279
SF-0603S400-2	4.00 A		11			0.326
SF-0603S500-2	5.00 A		8			0.622
SF-0603S600-2	6.00 A		6			2.700

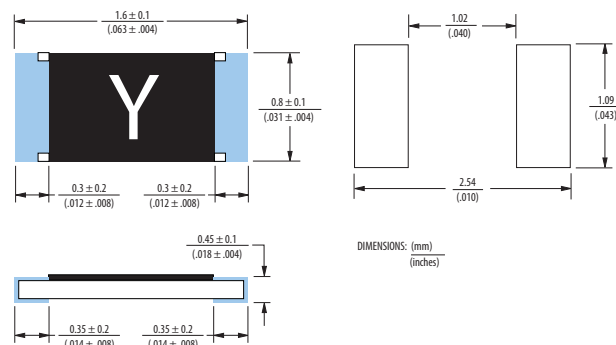
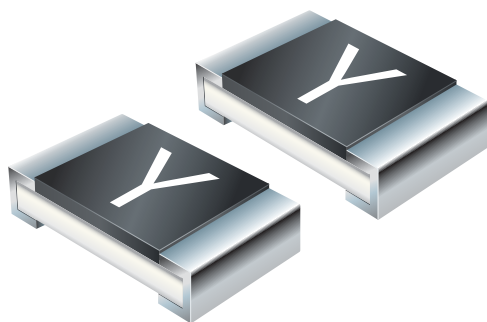


Average Time Current Curves



Minimum I^2t V Clear Time Curves

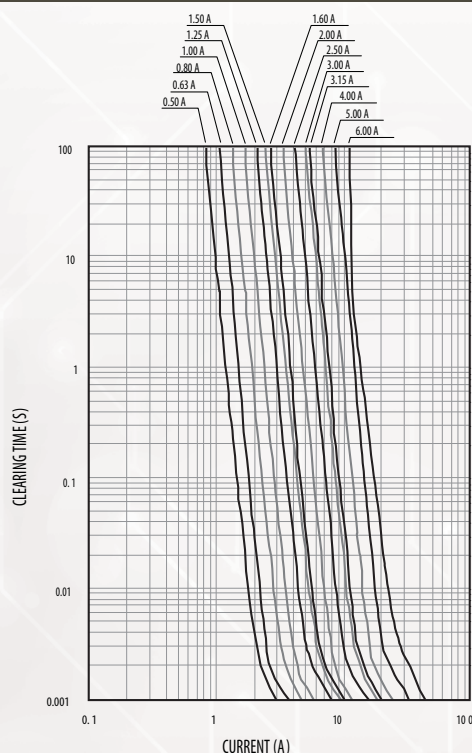
SF-0603SP Series – Time Lag Surface Mount Fuse



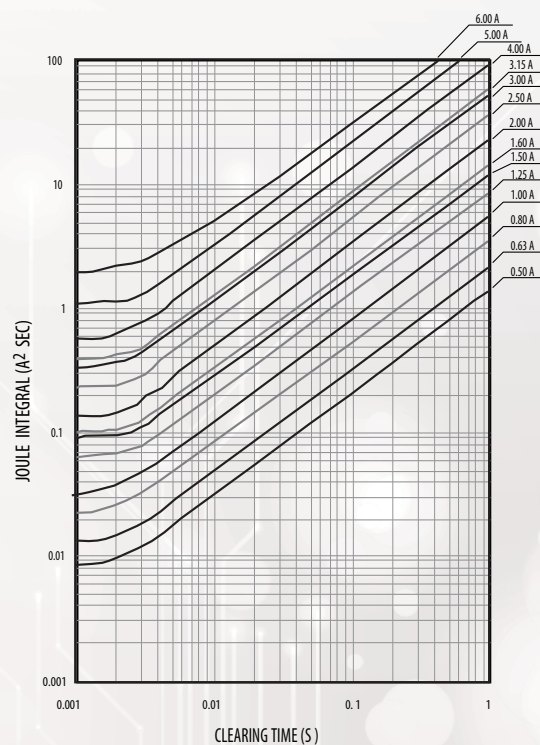
Model	Rated Current	Fusing Time	Resistance Tolerance $\pm 25\%$ (mohm) Typ.*	Rated Voltage	Breaking Capacity	Typical I^2t (A ² s)**
SF-0603SP050	0.50 A	Open within 1 - 120 sec. at 200 % rated current	264	DC 50 V	DC 50 V 50 A	0.009
SF-0603SP063	0.63 A		200	DC 32 V	DC 32 V 50 A	0.014
SF-0603SP080	0.80 A		143			0.023
SF-0603SP100	1.00 A		83			0.036
SF-0603SP125	1.25 A		54			0.056
SF-0603SP150	1.50 A		42			0.081
SF-0603SP160	1.60 A		40			0.092
SF-0603SP200	2.00 A		28			0.145
SF-0603SP250	2.50 A		21.5			0.229
SF-0603SP300	3.00 A		18			0.332
SF-0603SP315	3.15 A		16			0.365
SF-0603SP400	4.00 A		13			0.574
SF-0603SP500	5.00 A		9.5			0.927
SF-0603SP600	6.00 A		6			1.860

*Resistance value was measured with less than 10 % of rated current.

**Typical I^2t value measured at 10x rated current.

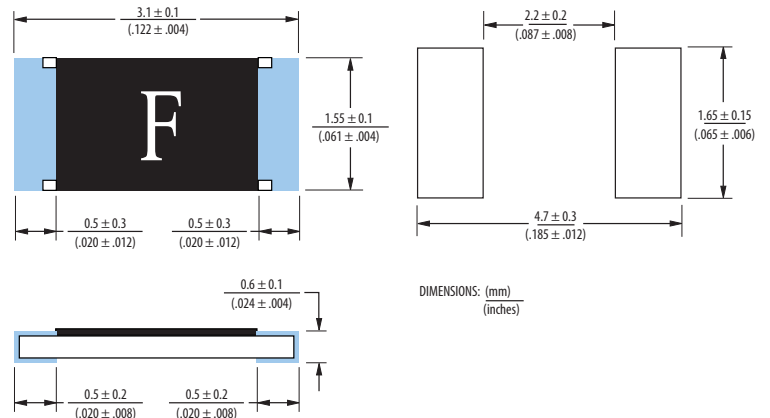
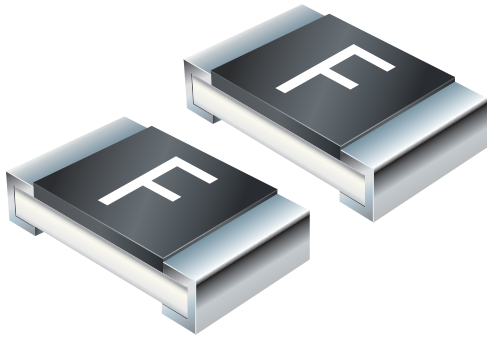


Average Time Current Curves



Minimum I^2t V Clear Time Curves

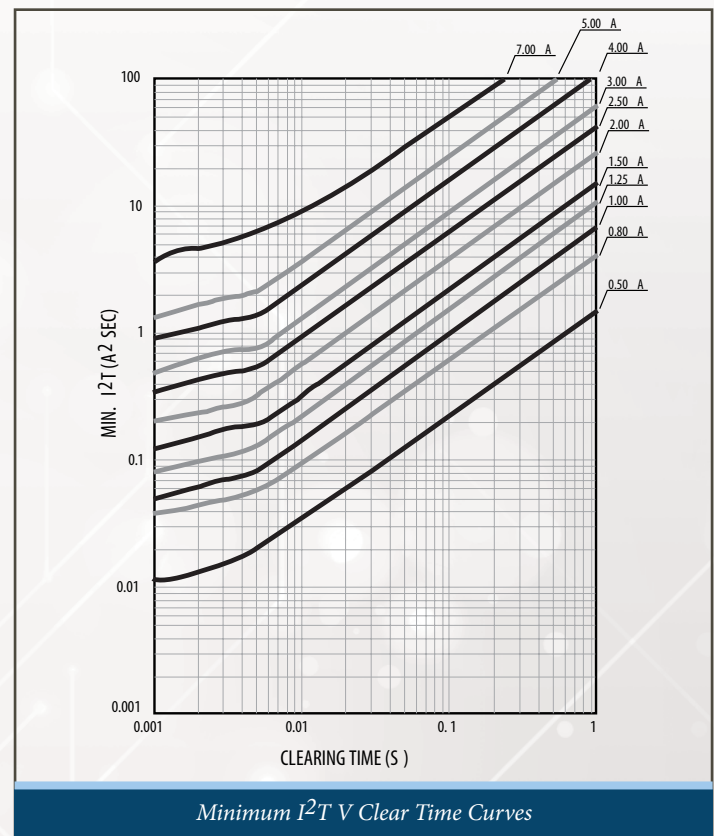
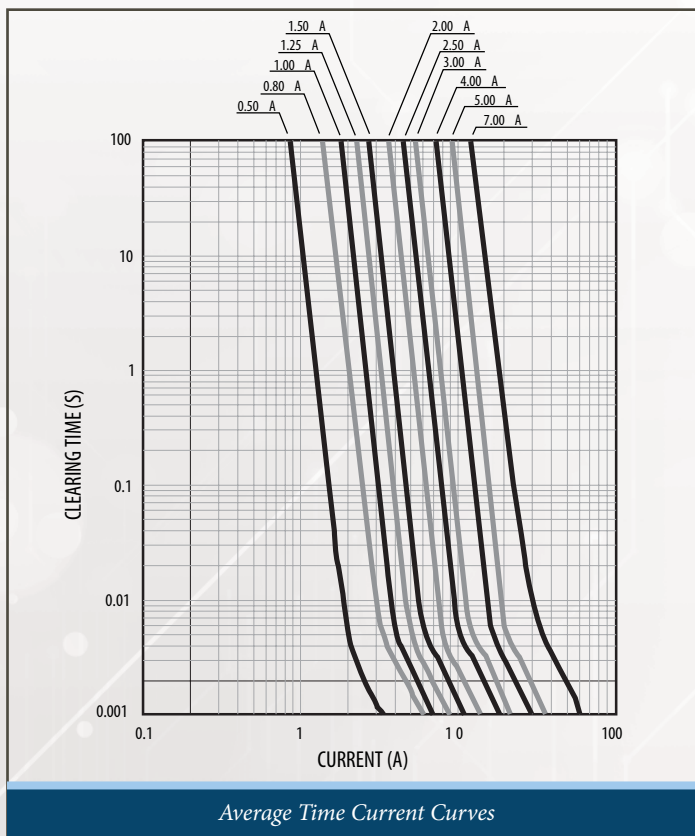
SF-1206F Series – Fast Acting Surface Mount Fuse



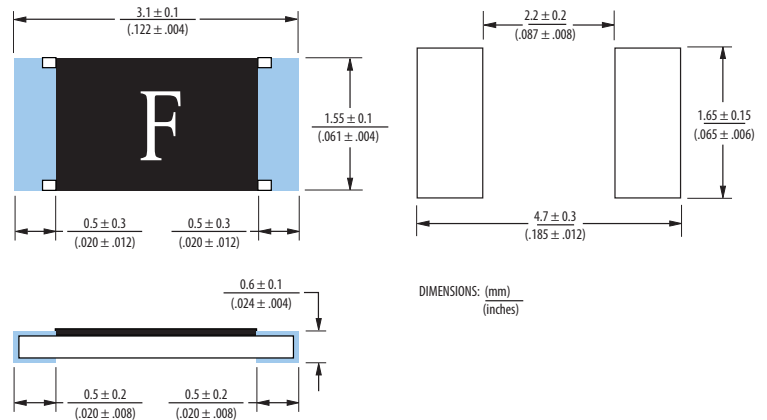
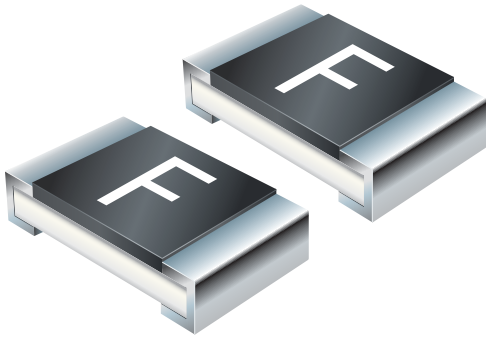
Model	Rated Current	Fusing Time	Resistance Tolerance ±25 % (mohm) Typ.*	Rated Voltage	Breaking Capacity	Typical I^2t (A ² s)**
SF-1206F050-2	0.50 A	Open within 1 min. at 200 % rated current	590	DC 63 V	DC 63 V 50 A	0.011
SF-1206F080-2	0.80 A		225			0.031
SF-1206F100-2	1.00 A		130			0.034
SF-1206F125-2	1.25 A		88			0.062
SF-1206F150-2	1.50 A		65			0.144
SF-1206F200-2	2.00 A		38	DC 32 V	DC 32 V 50 A	0.181
SF-1206F250-2	2.50 A		32			0.351
SF-1206F300-2	3.00 A		23	DC 24 V	DC 24 V 50 A	0.501
SF-1206F400-2	4.00 A		15			0.954
SF-1206F500-2	5.00 A		11			0.966
SF-1206F700-2	7.00 A		7			3.25

*Resistance value was measured with less than 10 % of rated current.

**Typical I^2t value measured at 10x rated current.



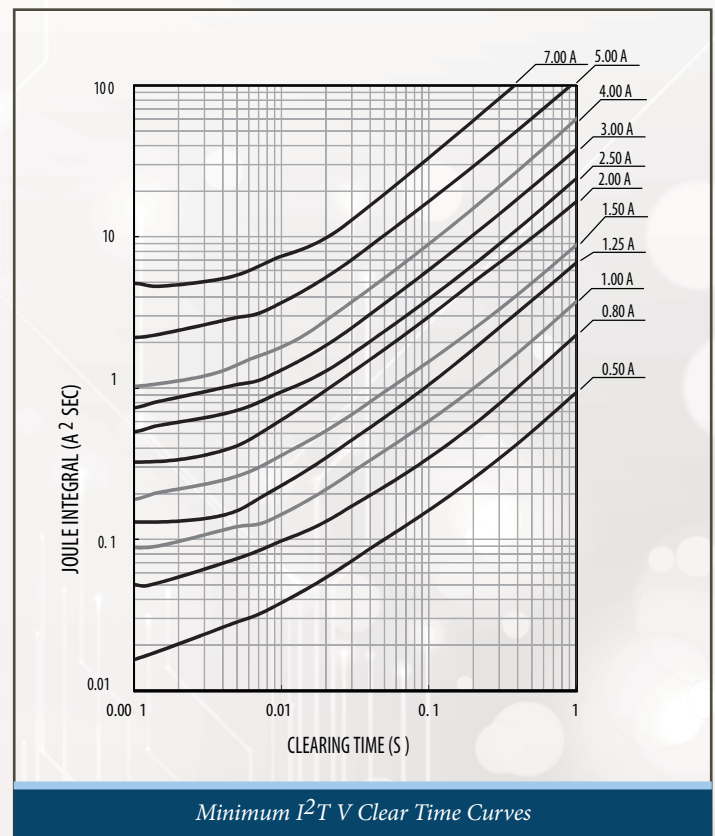
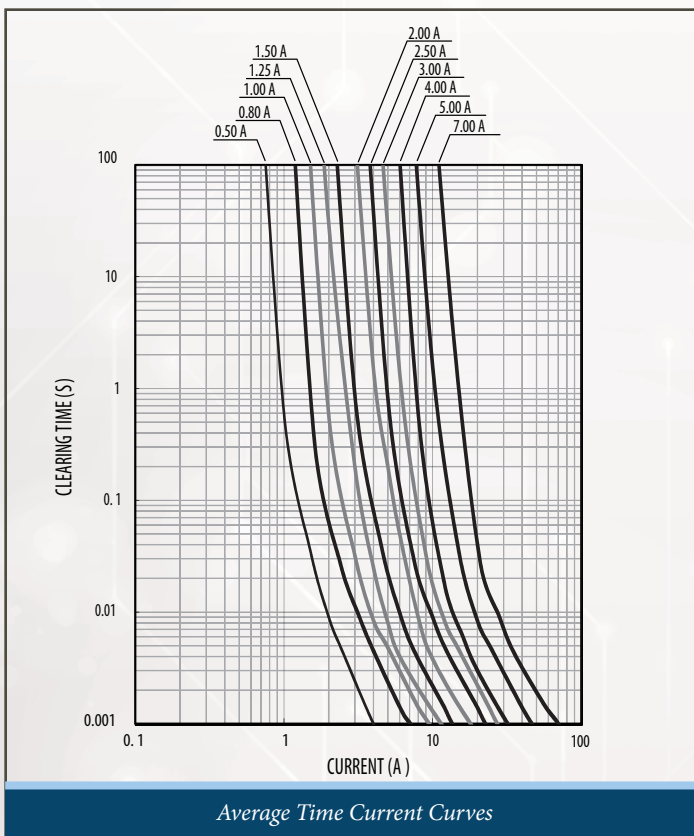
SF-1206FP Series – Fast Acting Precision Surface Mount Fuse



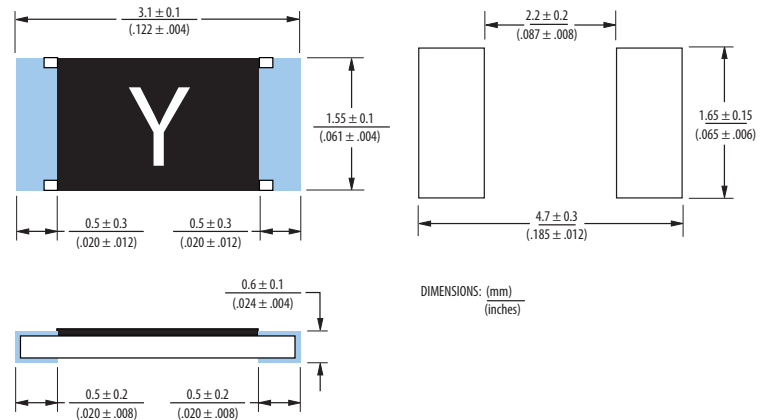
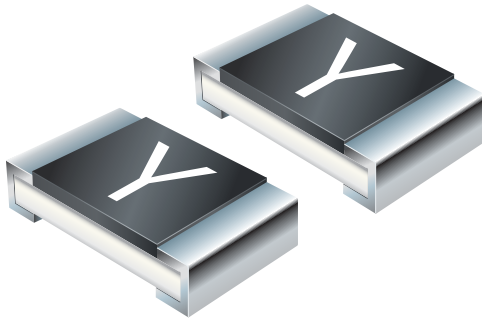
Model	Rated Current	Fusing Time	Resistance Tolerance ±25 % (mohm) Typ.*	Rated Voltage	Breaking Capacity	Typical I^2t (A ² s)**
SF-1206FP050	0.50 A	Open within 5 sec at 200 % rated current	527.5	DC 63 V	DC 63 V 50 A	0.015
SF-1206FP080	0.80 A		211			0.040
SF-1206FP100	1.00 A		145.5			0.062
SF-1206FP125	1.25 A		90			0.094
SF-1206FP150	1.50 A		83			0.141
SF-1206FP200	2.00 A		57	DC 32 V	DC 32 V 50 A	0.285
SF-1206FP250	2.50 A		37			0.445
SF-1206FP300	3.00 A		26			0.639
SF-1206FP400	4.00 A		18			1.109
SF-1206FP500	5.00 A		13			1.710
SF-1206FP700	7.00 A		9			3.300

*Resistance value was measured with less than 10 % of rated current.

**Typical I^2t value measured at 10x rated current.



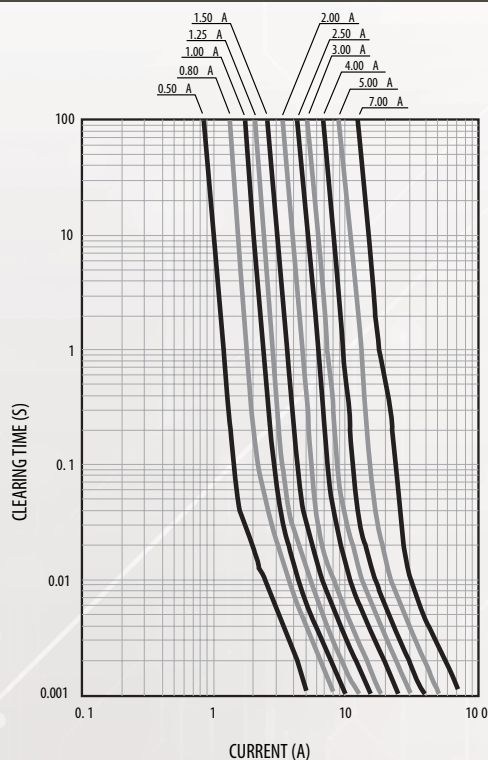
SF-1206S Series – Slow Blow Surface Mount Fuse



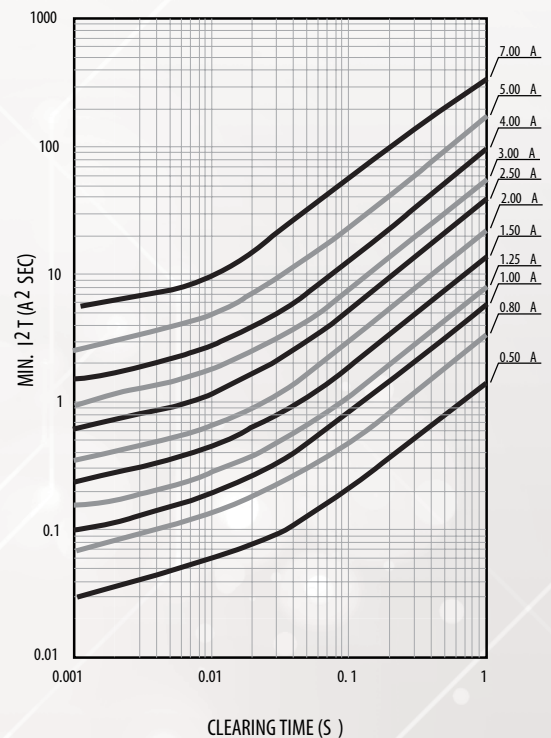
Model	Rated Current	Fusing Time	Resistance Tolerance $\pm 25\%$ (mohm) Typ.*	Rated Voltage	Breaking Capacity	Typical I^2t (A ² s)**
SF-1206S050-2	0.50 A	Open within 5 sec. at 250 % rated current	596	DC 63 V	DC 63 V 50 A	0.030
SF-1206S080-2	0.80 A		165			0.068
SF-1206S100-2	1.00 A		132			0.098
SF-1206S125-2	1.25 A		90			0.155
SF-1206S150-2	1.50 A		79			0.236
SF-1206S200-2	2.00 A		41			0.339
SF-1206S250-2	2.50 A	Open within 5 sec. at 250 % rated current	33	DC 32 V	DC 32 V 50 A	0.605
SF-1206S300-2	3.00 A		23			0.933
SF-1206S400-2	4.00 A		15.5			1.537
SF-1206S500-2	5.00 A		13			2.533
SF-1206S700-2	7.00 A		7			5.684

*Resistance value was measured with less than 10 % of rated current.

**Typical I^2t value measured at 10x rated current.

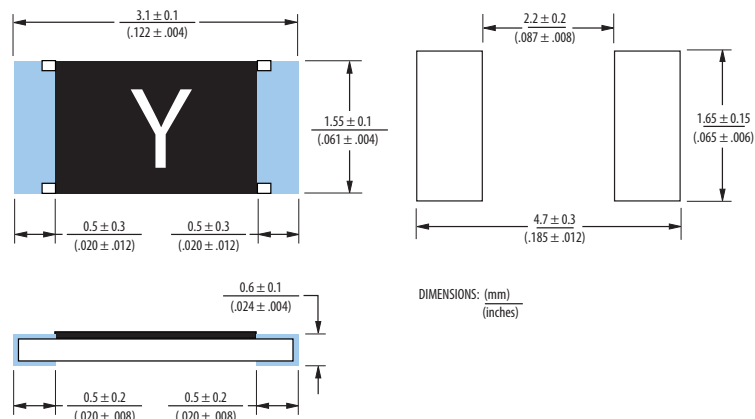
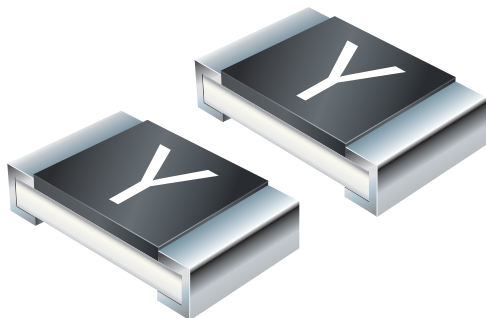


Average Time Current Curves



Minimum I^2T V Clear Time Curves

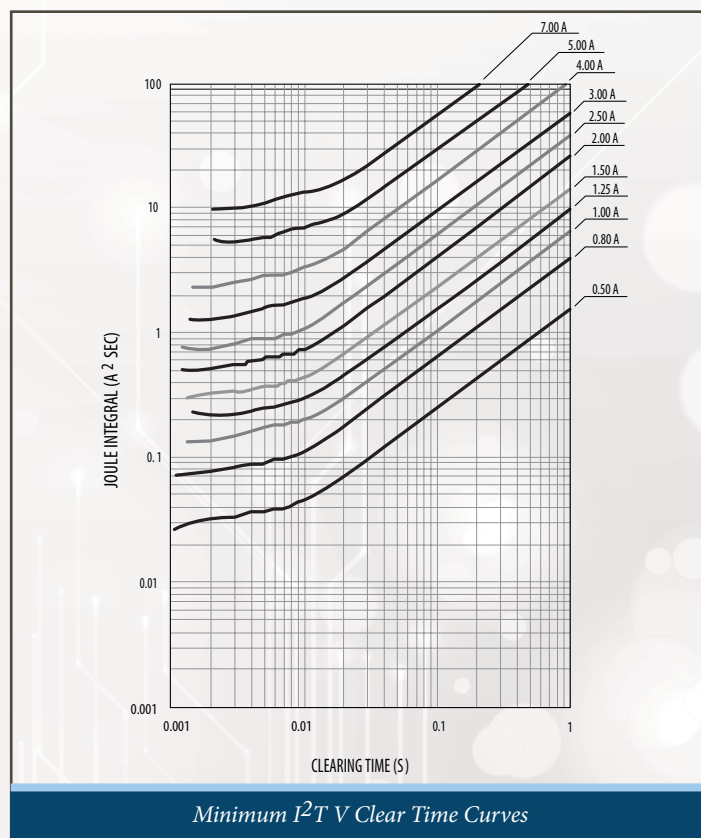
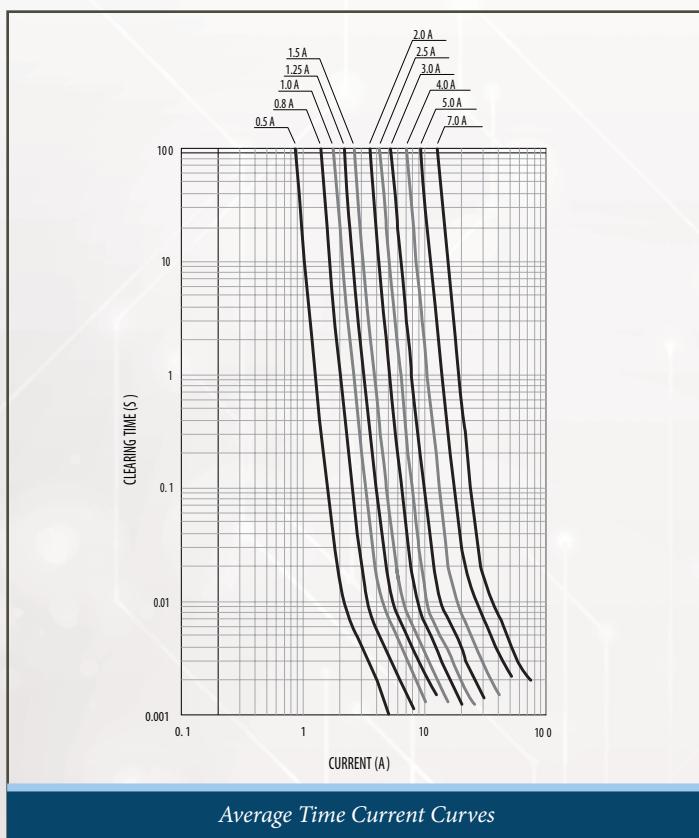
SF-1206SP Series – Time Lag Surface Mount Fuse



Model	Rated Current	Fusing Time	Resistance Tolerance $\pm 25\%$ (mohm) Typ.*	Rated Voltage	Breaking Capacity	Typical I^2t (A ² s)**
SF-1206SP050	0.50 A	Open within 1 - 120 seconds at 200 % rated current	738.5	DC 63 V	DC 63 V 50 A	0.027
SF-1206SP080	0.80 A		215			0.072
SF-1206SP100	1.00 A		163.5			0.134
SF-1206SP125	1.25 A		100			0.233
SF-1206SP150	1.50 A		68.5			0.305
SF-1206SP200	2.00 A		48.5	DC 32 V	DC 32 V 50 A	0.509
SF-1206SP250	2.50 A		35			0.777
SF-1206SP300	3.00 A		27			1.285
SF-1206SP400	4.00 A		14			2.374
SF-1206SP500	5.00 A		11			5.510
SF-1206SP700	7.00 A		7.5			10.170

*Resistance value was measured with less than 10 % of rated current.

**Typical I^2t value measured at 10x rated current.





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