Axial Leaded PTC Resettable Fuse: FSR Series

1. Summary

(a) RoHS Compliant (Lead Free) Product
(b) Applications: Rechargeable battery packs, Lithium cell and battery packs
(c) Product Features: Low profile, Solid state
(d) Operation Current: 1.2A~4.2A
(e) Maximum Voltage: 15V and 30V
(f) Temperature Range : -40℃ to 85℃

2. Agency Recognition

UL: File No. E211981
C-UL: File No. E211981
TÜV: File No. R50004084

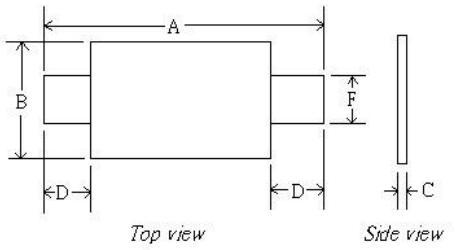
3. Electrical Characteristics (23℃)

Part Number	Hold Current	Trip Current	Max. Time to Trip	Rated Voltage	Max. Current	Typ. Power	Resistance		
	I_H, A	I_T, A	at 5xI_H, s	V_{MAX}, V_{DC}	I_{MAX}, A	Pd, W	R_{MIN} Ohms	R_{MAX} Ohms	$R1_{MAX}$ Ohms
FSR120F	1.20	2.70	5.0	15	100	1.2	0.085	0.160	0.220
FSR175F	1.75	3.80	5.0	15	100	1.5	0.050	0.090	0.120
FSR200F	2.00	4.40	4.0	30	100	1.9	0.030	0.060	0.100
FSR350F	3.50	6.30	3.0	30	100	2.5	0.017	0.031	0.050
FSR420F	4.20	7.60	6.0	30	100	2.9	0.012	0.024	0.040

I_H=Hold current-maximum current at which the device will not trip at 23℃ still air.
I_T=Trip current-minimum current at which the device will always trip at 23℃ still air.
V_{MAX}=Maximum voltage device can withstand without damage at its rated current.
I_{MAX}= Maximum fault current device can withstand without damage at rated voltage (V_{MAX}).
Pd=Maximum power dissipated from device when in tripped state in 23℃ still air environment.
R_{MIN}=Minimum device resistance at 23℃.
$R1_{MAX}$=Maximum device resistance at 23℃, 1 hour after tripping.
Physical specifications:
Lead material:0.13mm nominal thickness, quarter-hard nickel.
Insulating material: Polyester tape.

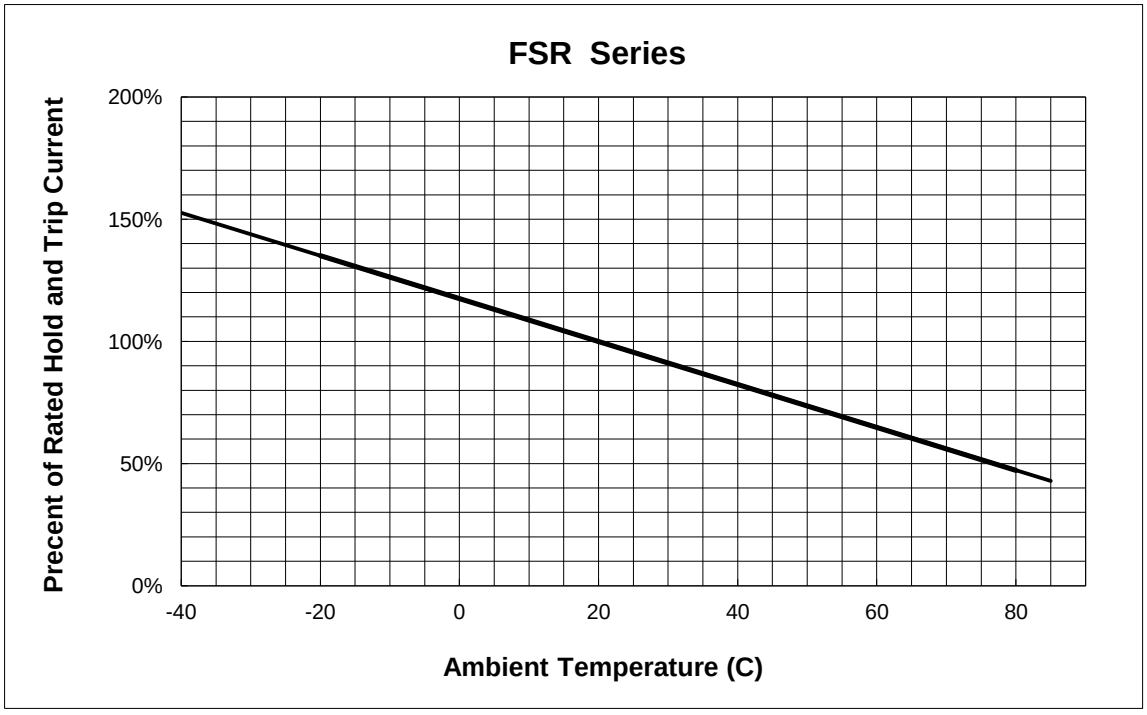
NOTE : Specification subject to change without notice.

4. Production Dimensions (millimeter)



Part Number	A		B		C		D		F	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
FSR120F	19.9	22.1	4.9	5.2	0.6	1.0	5.5	7.5	3.9	4.1
FSR175F	20.9	23.1	4.9	5.2	0.6	1.0	4.1	5.5	3.9	4.1
FSR200F	21.3	23.4	10.2	11.0	0.5	1.1	5.0	7.6	4.8	5.4
FSR350F	28.4	31.8	13.0	13.5	0.5	1.1	6.3	8.9	5.9	6.1
FSR420F	30.6	32.4	12.9	13.6	0.5	1.1	5.0	7.5	5.9	6.1

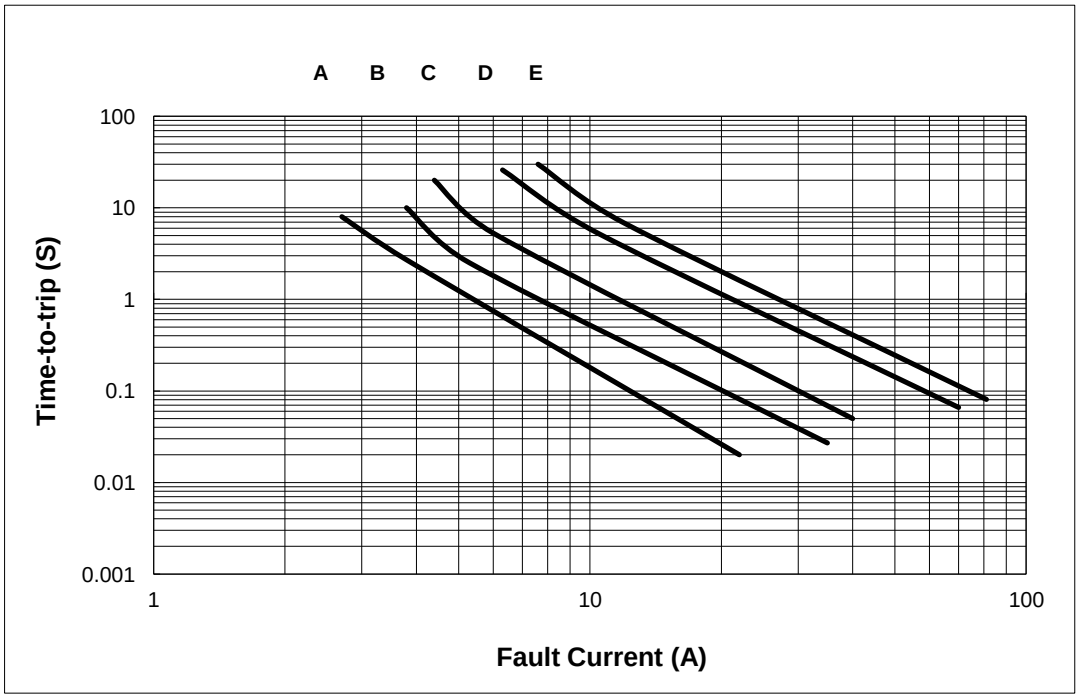
5. Thermal Derating Curve



NOTE : Specification subject to change without notice.

6. Typical Time-To-Trip at 23℃

A =FSR120F
B =FSR175F
C =FSR200F
D =FSR350F
E =FSR420F



7. Material Specification

Lead material: 0.13 mm nominal thickness, quarter-hard nickel

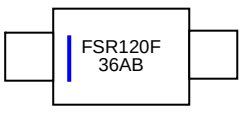
Insulating material:Polyester tape

8. Part Numbering and Marking System

Part Numbering System

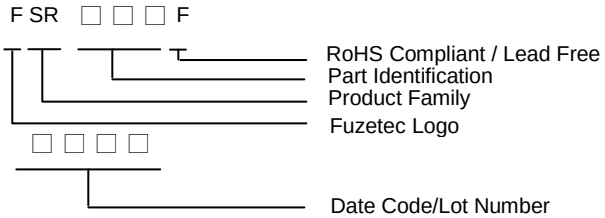
F S R □ □ □ F

RoHS Compliant / Lead Free
Current Rating



Example

Part Marking System



Warning: -Operation beyond the specified maximum ratings or improper use may result in damage and possible electrical arcing and/or flame.

-PPTC device are intended for occasional overcurrent protection. Application for repeated overcurrent condition and/or prolonged trip are not anticipated.

- Avoid contact of PPTC device with chemical solvent. Prolonged contact will damage the device performance.

NOTE : Specification subject to change without notice.