Axial Leaded PTC Resettable Fuse: FSR Series

1. Summary

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

2. Agency Recognition

UL: File No. E211981
TÜV: File No. R3-50004084

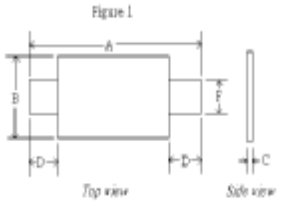
3. Electrical Characteristics (23℃)

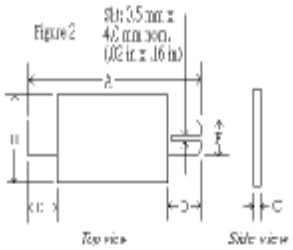
Part Number	Fig	Hold Current	Trip Current	Rated Voltage	Maximum Current	Typical Power	Resistance Tolerance		
		I_H, A	I_T, A	V_{MAX}, Vdc	I_{MAX}, A	Pd, W	R_{MIN} ohms	R_{MAX} ohms	$R1_{MAX}$ ohms
FSR120	1	1.2	2.7	15	100	1.2	0.085	0.160	0.220
FSR120S	2	1.2	2.7	15	100	1.2	0.085	0.160	0.220
FSR175	1	1.75	3.8	15	100	1.5	0.050	0.090	0.120
FSR175S	2	1.75	3.8	15	100	1.5	0.050	0.090	0.120
FSR200	1	2.0	4.4	30	100	1.9	0.030	0.060	0.100
FSR350	1	3.5	6.3	30	100	2.5	0.017	0.031	0.050
FSR420	1	4.2	7.6	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.

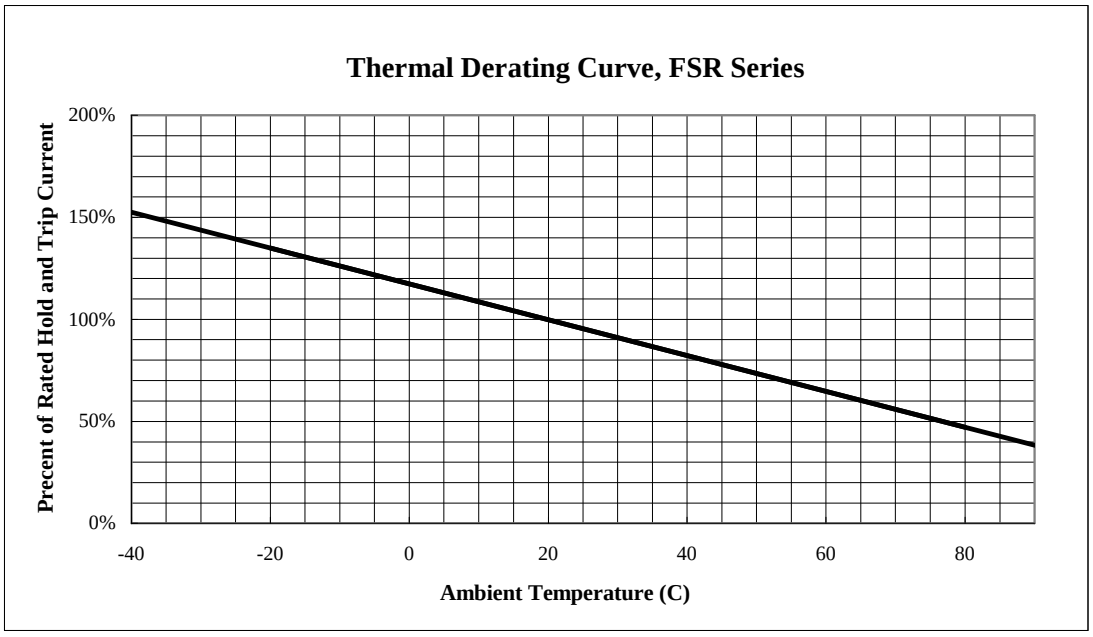
4. Production Dimensions (millimeter)





Part Number	Fig	A		B		C		D		F	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
FSR120	1	19.9	22.1	4.9	5.2	0.6	1.0	5.5	7.5	3.9	4.1
FSR120S	2	19.9	22.1	4.9	5.2	0.6	1.0	5.5	7.5	3.9	4.1
FSR175	1	20.9	23.1	4.9	5.2	0.6	1.0	4.1	5.5	3.9	4.1
FSR175S	2	20.9	23.1	4.9	5.2	0.6	1.0	4.1	5.5	3.9	4.1
FSR200	1	21.3	23.4	10.2	11.0	0.5	1.1	5.0	7.6	4.8	5.4
FSR350	1	28.4	31.8	13.0	13.5	0.5	1.1	6.3	8.9	6.0	6.6
FSR420	1	30.6	32.4	12.9	13.6	0.5	1.1	5.0	7.5	6.0	6.7

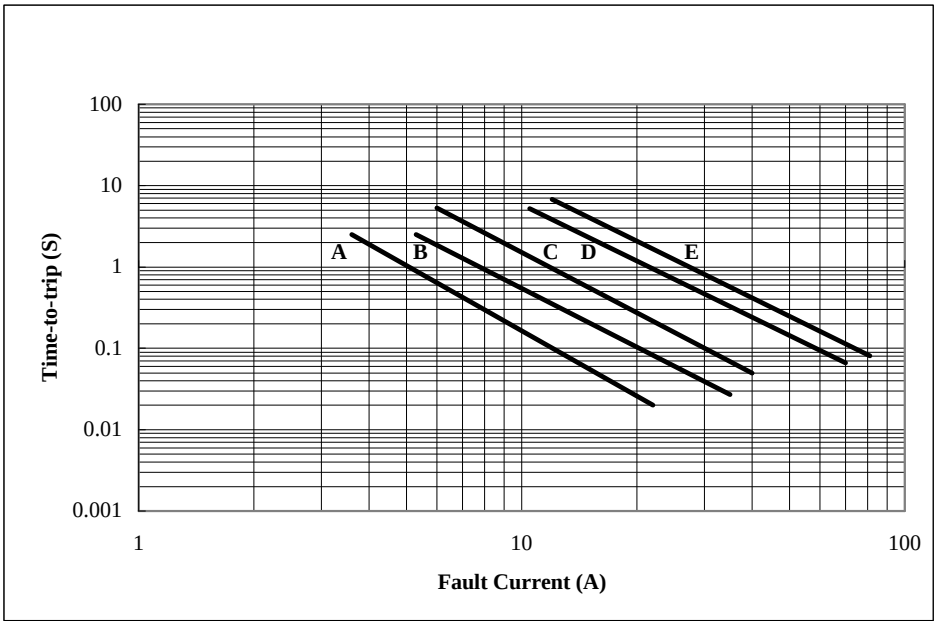
5. Thermal Derating Curve



NOTE : Specification subject to change without notice.

6. Typical Time-To-Trip at 23℃

A =FSR120/FSR120S
B =FSR175/FSR175S
C =FSR200
D =FSR350
E =FSR420



7. Material Specification

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

Insulating material:Polyester tape

8. Part Numbering and Marking System

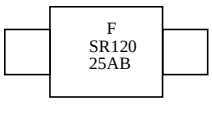
Part Numbering System

F S R □ □ □ — S

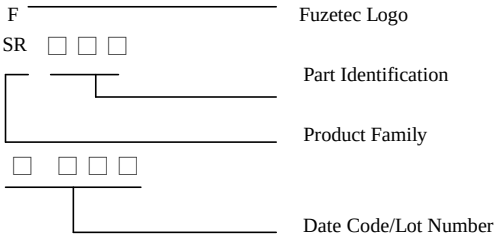
S=slitted lead

Current rating

Part Marking System



Example



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.