



Radial Leaded PTC Resettable Fuse : FRX 90V Series

1. Summary

- (a) Applications : Telecom and wide variety of electronic equipment.
- (b) Product Features : Low hold current, Solid state, Radial leaded product ideal for up to 90V
- (c) Operation Current : 100mA~3.75A
- (d) Maximum Voltage : Up to 90V
- (e) Temperature Range : -40°C to 85°C

2. Agency Recognition

UL : E211981

C-UL: Pending

TÜV: Pending

3. Electrical Characteristics (23°C)

Part Number	Hold Current I _H ,A	Trip Current I _T ,A	Max.Time to Trip at 5xI _H	Maximum Current I _{MAX} ,A	Rated Voltage V _{MAX} ,Vdc	Typical Power Pd, W	Resistance Tolerance	
							R _{MIN} ohms	R _{1MAX} ohms
FRX010-90	0.10	0.20	4.0	40	72/90	0.38	2.50	7.50
FRX015-90	0.15	0.35	10.0	40	72/90	0.70	2.40	7.00
FRX017-90	0.17	0.34	3.0	40	72/90	0.48	2.00	5.00
FRX020-90	0.20	0.40	2.2	40	72/90	0.41	1.83	4.40
FRX025-90	0.25	0.50	2.5	40	72/90	0.45	1.25	3.00
FRX030-90	0.30	0.60	3.0	40	72/90	0.49	0.88	2.10
FRX035-90	0.35	0.75	10.0	40	72/90	1.30	0.70	2.50
FRX040-90	0.40	0.80	3.8	40	72/90	0.56	0.55	1.29
FRX050-90	0.50	1.00	4.0	40	72/90	0.77	0.50	1.17
FRX055-90	0.55	1.20	10.0	40	72/90	1.50	0.40	1.50
FRX065-90	0.65	1.30	5.3	40	72/90	0.88	0.31	0.72
FRX075-90	0.75	1.50	6.3	40	72/90	0.92	0.25	0.60
FRX090-90	0.90	1.80	7.2	40	72/90	0.99	0.20	0.47
FRX110-90	1.10	2.20	8.2	40	72/90	1.50	0.15	0.38
FRX135-90	1.35	2.70	9.6	40	72/90	1.70	0.12	0.30
FRX160-90	1.60	3.20	11.4	40	72/90	1.90	0.09	0.22
FRX185-90	1.85	3.70	12.6	40	72/90	2.10	0.08	0.19
FRX250-90	2.50	5.00	15.6	40	72/90	2.50	0.05	0.13
FRX300-90	3.00	6.00	19.8	40	72/90	2.80	0.04	0.10
FRX375-90	3.75	7.50	24.0	40	72/90	3.20	0.03	0.08

I_H=Hold current-maximum current at which the device will not trip at 23°C still air.I_T=Trip current-minimum current at which the device will always trip at 23°C 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=Typical power dissipated from device when in tripped state in 23°C still air environment.

R_{MIN}=Minimum device resistance at 23°C.R_{1MAX}=Maximum device resistance at 23°C, 1 hour after tripping.

Physical specifications:

Lead material: FRX010~FRX090 Tin plated copper, 24 AWG

FRX110~FRX375 Tin plated copper, 20 AWG

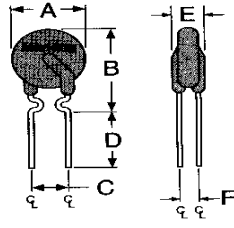
Soldering characteristics:MIL-STD-202, Method 208E.

Insulating coating:Flame retardant epoxy, meets UL-94V-0 requirement.

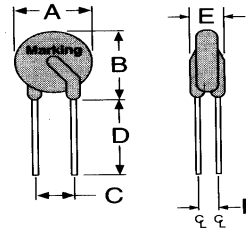
NOTE : Specification subject to change without notice.



4. Production Dimensions (millimeter)



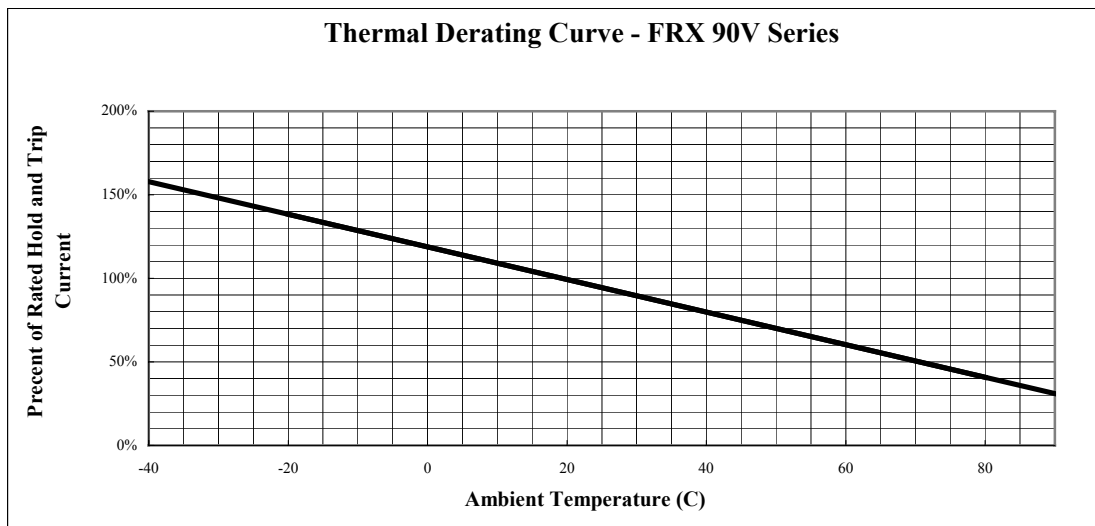
FRX 010-90 ~ FRX 090-90
Lead Size : 24AWG
Φ 0.51 mm Diameter



FRX 110-90 ~ FRX 375-90
Lead Size : 20AWG
Φ 0.81 mm Diameter

Part Number	A	B	C	D	E	F
	Maximum	Maximum	Typical	Minimum	Maximum	Typical
FRX010-90	7.4	12.7	5.1	7.6	3.1	1.1
FRX015-90	7.4	12.7	5.1	7.6	3.6	1.4
FRX017-90	7.4	12.7	5.1	7.6	3.1	1.1
FRX020-90	7.4	12.7	5.1	7.6	3.1	1.1
FRX025-90	7.4	12.7	5.1	7.6	3.1	1.1
FRX030-90	7.4	13.0	5.1	7.6	3.1	1.1
FRX035-90	7.4	12.7	5.1	7.6	3.6	1.4
FRX040-90	7.6	13.5	5.1	7.6	3.1	1.1
FRX050-90	7.9	13.7	5.1	7.6	3.1	1.1
FRX055-90	9.7	14.0	5.1	7.6	3.6	1.4
FRX065-90	9.7	14.5	5.1	7.6	3.1	1.1
FRX075-90	10.4	15.2	5.1	7.6	3.1	1.1
FRX090-90	11.7	15.8	5.1	7.6	3.1	1.1
FRX110-90	13.0	18.0	5.1	7.6	3.1	1.4
FRX135-90	14.5	19.6	5.1	7.6	3.1	1.4
FRX160-90	16.3	21.3	5.1	7.6	3.1	1.4
FRX185-90	17.8	22.9	5.1	7.6	3.1	1.4
FRX250-90	21.3	26.4	10.2	7.6	3.1	1.4
FRX300-90	24.9	30.0	10.2	7.6	3.1	1.4
FRX375-90	28.5	33.5	10.2	7.6	3.1	1.4

5. Thermal Derating Curve

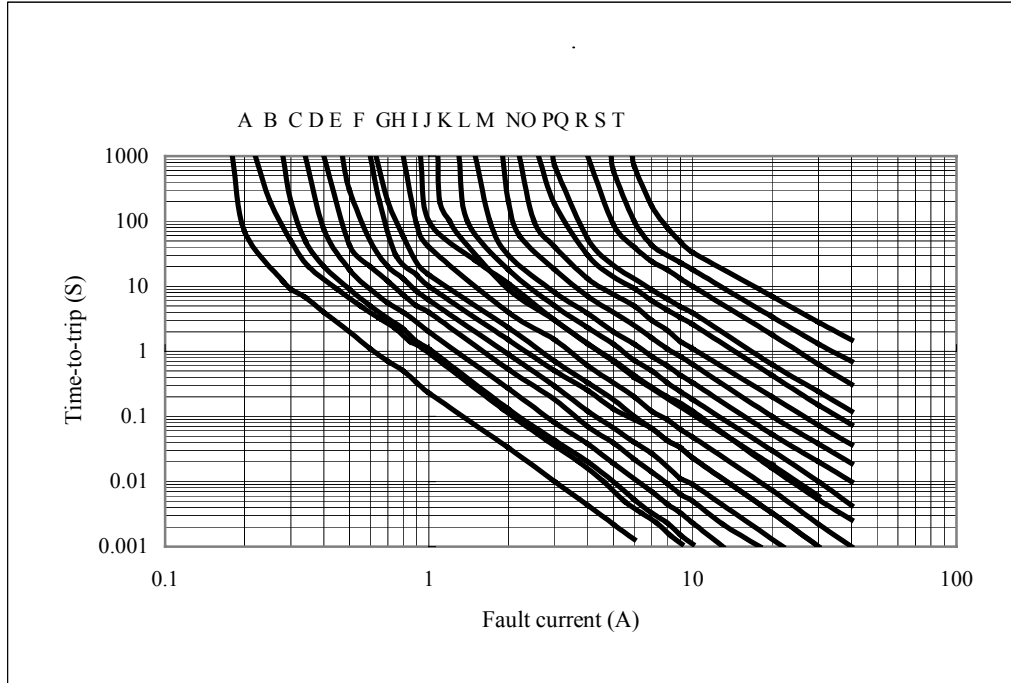


NOTE : Specification subject to change without notice.



6. Typical Time-To-Trip at 23°C

- A =FRX010-90
- B =FRX015-90
- C =FRX017-90
- D =FRX020-90
- E =FRX025-90
- F =FRX030-90
- G =FRX035-90
- H =FRX040-90
- I =FRX050-90
- J =FRX055-90
- K =FRX065-90
- L =FRX070-90
- M =FRX090-90
- N =FRX110-90
- O =FRX135-90
- P =FRX160-90
- Q =FRX185-90
- R =FRX250-90
- S =FRX300-90
- T =FRX375-90



7. Material Specification

Lead material : FRX010-90~FRX090-90 Tin plated copper, 24 AWG.

FRX110-90~FRX375-90 Tin plated copper, 20 AWG.

Soldering characteristics:MIL-STD-202, Method 208E.

Insulating coating:Flame retardant epoxy, meets UL-94V-O requirement

8. Part Numbering and Marking System

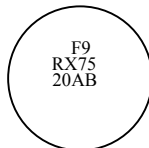
Part Numbering System

FRX □ □ □ - □ □



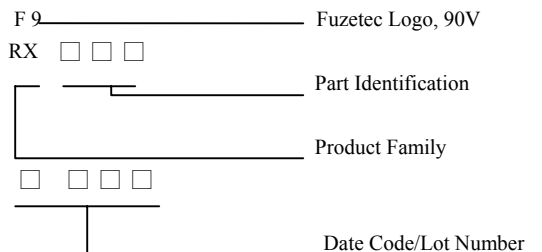
Voltage rating

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.

Authorized Distributor in Korea : Parts Bank Co., Ltd. □
 Tel : 02-6679-6898 Fax : 02-6679-6897