

FRX Series



Application

Wide variety of electronic equipment

Product Features

Low hold current, Solid state Radial-leaded product ideal for up to 60V_{DC}



Operation Current

0.05A ~ 3.75A

Maximum Voltage

60V_{DC}



Temperature Range

-40°C to 85°C

Agency Recognition

AGENCY	AGENCY FILE NUMBER
	UL(E211981)
	C-UL(E211981)
	TÜV (R50004084)



SVHC Compliant

Electrical Characteristics (23°C)

Part Number	Hold Current I _H , A	Trip Current I _T , A	Max. Time to trip at 5xI _H , s	Max. Current I _{MAX} , A	Rated Voltage V _{MAX} , V _{DC}	Typ. Power Pd, W	Resistance	
							R _{MIN} Ohms	R _{1MAX} Ohms
FRX005-60F	0.05	0.10	5.0	40	60	0.26	7.30	20.00
FRX010-60F	0.10	0.20	4.0	40	60	0.38	2.50	7.50
FRX017-60F	0.17	0.34	3.0	40	60	0.48	2.00	8.00
FRX020-60F	0.20	0.40	2.2	40	60	0.41	1.83	4.40
FRX025-60F	0.25	0.50	2.5	40	60	0.45	1.25	3.00
FRX030-60F	0.30	0.60	3.0	40	60	0.49	0.88	2.10
FRX040-60F	0.40	0.80	3.8	40	60	0.56	0.55	1.29
FRX050-60F	0.50	1.00	4.0	40	60	0.77	0.50	1.17
FRX065-60F	0.65	1.30	5.3	40	60	0.88	0.31	0.72
FRX075-60F	0.75	1.50	6.3	40	60	0.92	0.25	0.60
FRX090-60F	0.90	1.80	7.2	40	60	0.99	0.20	0.47
FRX110-60F	1.10	2.20	8.2	40	60	1.50	0.15	0.38
FRX135-60F	1.35	2.70	9.6	40	60	1.70	0.12	0.30
FRX160-60F	1.60	3.20	11.4	40	60	1.90	0.09	0.22
FRX185-60F	1.85	3.70	12.6	40	60	2.10	0.08	0.19
FRX250-60F	2.50	5.00	15.6	40	60	2.50	0.05	0.13
FRX300-60F	3.00	6.00	19.8	40	60	2.80	0.04	0.10
FRX375-60F	3.75	7.50	24.0	40	60	3.20	0.03	0.08

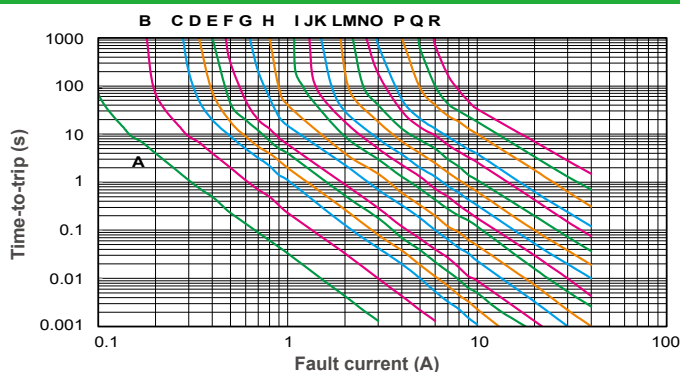
Thermal Derating for PPTC Device at Various Ambient Temperatures

TEMPERATURE	-40°C	-20°C	0°C	23°C	30°C	40°C	50°C	60°C	70°C	85°C
DERATING %	158%	138%	119%	100%	90%	81%	70%	60%	50%	36%

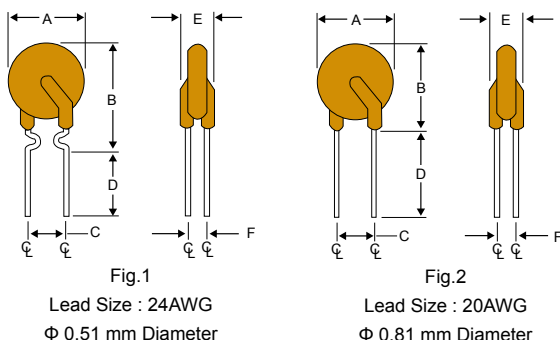
IV - Radial Leaded PPTC

Typical Time-To-Trip at 23°C

A = FRX005-60F	J = FRX075-60F
B = FRX010-60F	K = FRX090-60F
C = FRX017-60F	L = FRX110-60F
D = FRX020-60F	M = FRX135-60F
E = FRX025-60F	N = FRX160-60F
F = FRX030-60F	O = FRX185-60F
G = FRX040-60F	P = FRX250-60F
H = FRX050-60F	Q = FRX300-60F
I = FRX065-60F	R = FRX375-60F

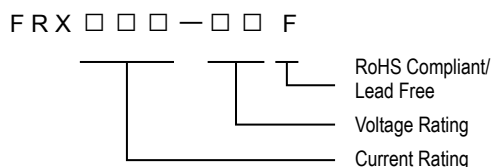


FRX Product Dimensions (mm)

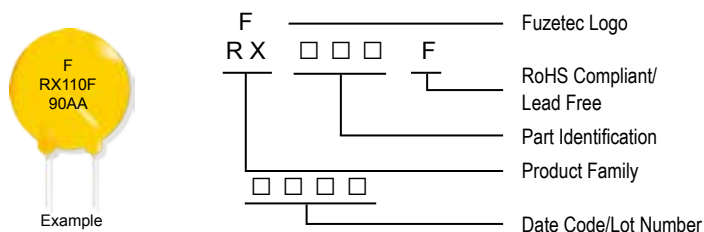


Part Number	Fig.	A	B	C	D	E	F
		Max.	Max.	Typ.	Min.	Max.	Typ.
FRX005-60F	1	7.4	12.7	5.1	7.6	3.1	1.1
FRX010-60F	1	7.4	12.7	5.1	7.6	3.1	1.1
FRX017-60F	1	7.4	12.7	5.1	7.6	3.1	1.1
FRX020-60F	1	7.4	12.7	5.1	7.6	3.1	1.1
FRX025-60F	1	7.4	12.7	5.1	7.6	3.1	1.1
FRX030-60F	1	7.4	13.0	5.1	7.6	3.1	1.1
FRX040-60F	1	7.6	13.5	5.1	7.6	3.1	1.1
FRX050-60F	1	7.9	13.7	5.1	7.6	3.1	1.1
FRX065-60F	1	9.7	14.5	5.1	7.6	3.1	1.1
FRX075-60F	1	10.4	15.2	5.1	7.6	3.1	1.1
FRX090-60F	1	11.7	15.8	5.1	7.6	3.1	1.1
FRX110-60F	2	13.0	18.0	5.1	7.6	3.1	1.4
FRX135-60F	2	14.5	19.6	5.1	7.6	3.1	1.4
FRX160-60F	2	16.3	21.3	5.1	7.6	3.1	1.4
FRX185-60F	2	17.8	22.9	5.1	7.6	3.1	1.4
FRX250-60F	2	21.3	26.4	10.2	7.6	3.1	1.4
FRX300-60F	2	24.9	30.0	10.2	7.6	3.1	1.4
FRX375-60F	2	28.5	33.5	10.2	7.6	3.1	1.4

Part Numbering System



Part Marking System



Package Information

Part Number	Standard Package
FRX005-60F~FRX050-60F	: 500 Pcs/Bag, 3.0K Reel/Tape
FRX065-60F~FRX090-60F	: 300 Pcs/Bag, 3.0K Reel/Tape
FRX110-60F	: 300 Pcs/Bag, 1.5K Reel/Tape
FRX135-60F~FRX185-60F	: 200 Pcs/Bag, 1.5K Reel/Tape
FRX250-60F~FRX375-60F	: 100 Pcs/Bag, 1.0K Reel/Tape

Physical specifications

Lead material	FRX005-60F~FRX040-60F Tin plated copper clad steel, 24 AWG.
	FRX050-60F~FRX090-60F Tin plated copper, 24 AWG.
	FRX110-60F~FRX375-60F Tin plated copper, 20 AWG.
Soldering characteristics	MIL-STD-202, Method 208E.
Insulating coating	Flame retardant epoxy, meets UL-94V-0 requirement.

Warning :



- Each product should be carefully evaluated and tested for their suitability of application.
- 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, including some inert material such as silicone based oil, lubricant and etc. Prolonged contact will damage the device performance.
- Additional protection mechanism are strongly recommended to be used in conjunction with the PPTC device for protection against abnormal or failure conditions.
- Avoid use of PPTC device in a constrained space such as potting material, housing and containers where have limited space to accommodate device thermal expansion and/or contraction.

NOTE : All Specifications subject to change without notice.