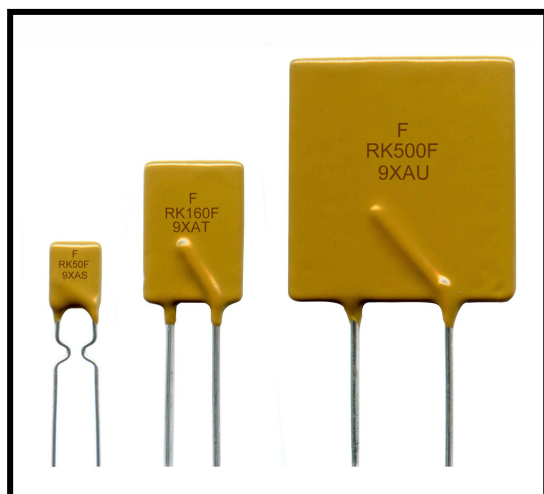




FRK Series



Preliminary RoHS Compliant & Lead Free



Application:

Wide variety of electronic equipment

Product Features:

Solid state, Radial leaded product ideal for up to 60V_{DC}

Reduced size, increased current up to 5.00A.

Operation Current: 0.50A~5.00A

Maximum Voltage: 60V_{DC}

Temperature Range: -40°C to 85°C

Agency Recognition: UL, C-UL and TÜV Pending

Electrical Characteristics (23°C)

Part Number	Hold Current	Trip Current	Max.Time to Trip		Max. Current	Rated Voltage	Typical Power	Resistance	
								R _{MIN}	R _{1MAX}
	I _H , A	I _T , A	I, A	Time, sec	I _{MAX} , A	V _{MAX} , V _{DC}	P _d , W	ohms	ohms
FRK050-60F	0.50	1.00	8.00	0.8	40	60	1.00	0.320	0.900
FRK065-60F	0.65	1.30	8.00	1.0	40	60	1.25	0.250	0.720
FRK075-60F	0.75	1.50	8.00	1.5	40	60	1.40	0.200	0.640
FRK090-60F	0.90	1.80	8.00	2.0	40	60	1.50	0.190	0.520
FRK110-60F	1.10	2.20	8.00	3.0	40	60	2.20	0.170	0.470
FRK135-60F	1.35	2.70	8.00	4.5	40	60	2.30	0.110	0.370
FRK160-60F	1.60	3.20	8.20	9.0	40	60	2.40	0.100	0.320
FRK185-60F	1.85	3.70	9.25	12.6	40	60	2.60	0.060	0.250
FRK250-60F	2.50	5.00	12.50	15.6	40	60	2.80	0.040	0.140
FRK300-60F	3.00	6.00	15.00	19.8	40	60	3.20	0.030	0.080
FRK375-60F	3.75	7.50	18.75	22.0	40	60	3.40	0.017	0.060
FRK400-60F	4.00	8.00	20.00	24.0	40	60	3.70	0.014	0.060
FRK500-60F	5.00	10.00	25.00	28.0	40	60	5.00	0.012	0.050

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}).

P_d=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 : FRK050-60F~FRK090-60F Tin plated copper, 24 AWG.

FRK110-60F~FRK500-60F Tin plated copper, 20 AWG

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

Insulating coating:Flame retardant epoxy, meets UL94V-0 requirement.

III - Product - Radial Leaded PTC



FRK Product Dimensions (Millimeter)

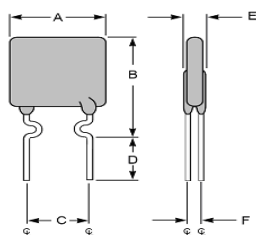


Figure 1
FRK050-60F~FRK090-60F
Lead Size :24AWG
Φ 0.51 mm Diameter

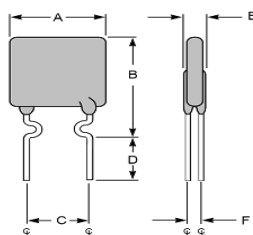


Figure 2
FRK110-60F
Lead Size : 20AWG
Φ 0.81 mm Diameter

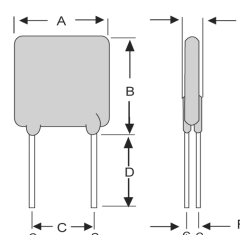
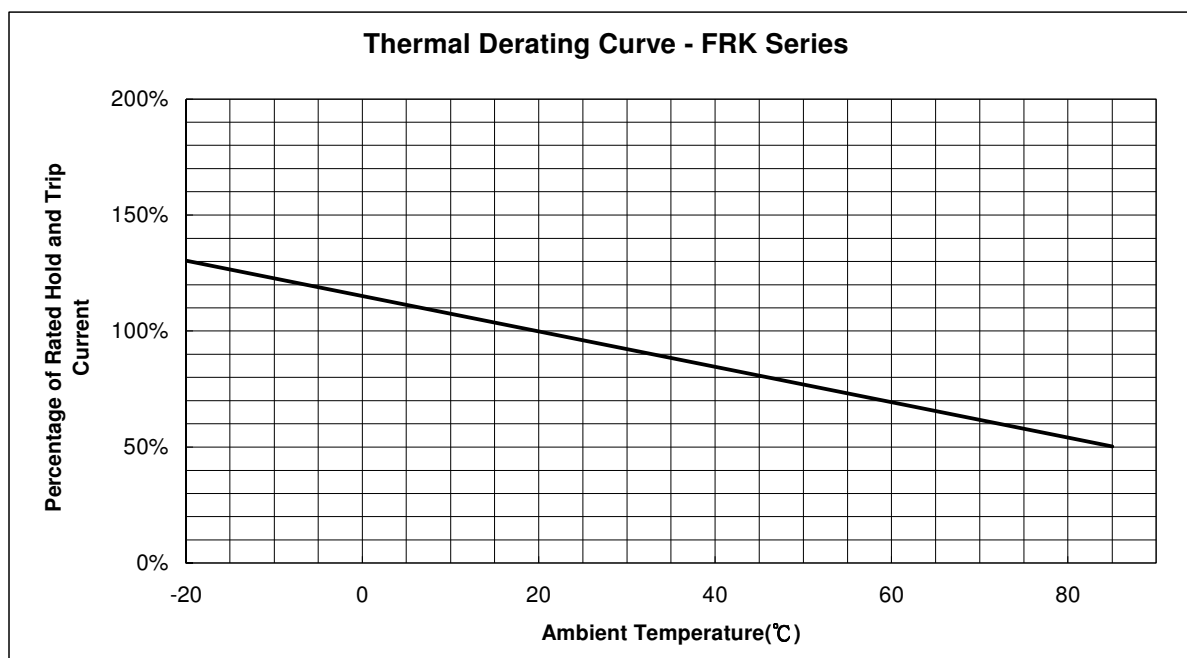


Figure 3
FRK135-60F~FRK500-60F
Lead Size : 20AWG
Φ 0.81 mm Diameter

Part Number	Figure	A	B	C	D	E	F
		Maximum	Maximum	Typical	Minimum	Maximum	Typical
FRK050-60F	1	7.10	11.43	5.1	7.6	3.56	1.1
FRK065-60F	1	7.11	12.20	5.1	7.6	3.56	1.1
FRK075-60F	1	7.87	12.20	5.1	7.6	3.56	1.1
FRK090-60F	1	7.87	13.97	5.1	7.6	3.56	1.1
FRK110-60F	2	7.60	15.00	5.1	7.6	4.10	1.4
FRK135-60F	3	10.20	17.00	5.1	7.6	3.81	1.4
FRK160-60F	3	12.20	18.30	5.1	7.6	3.81	1.4
FRK185-60F	3	13.00	18.80	5.1	7.6	3.81	1.4
FRK250-60F	3	14.00	20.60	5.1	7.6	3.00	1.4
FRK300-60F	3	16.50	21.20	5.1	7.6	3.00	1.4
FRK375-60F	3	16.50	25.20	10.2	7.6	3.00	1.4
FRK400-60F	3	21.00	24.90	10.2	7.6	3.00	1.4
FRK500-60F	3	24.10	29.00	10.2	7.6	3.00	1.4

Thermal Derating Curve

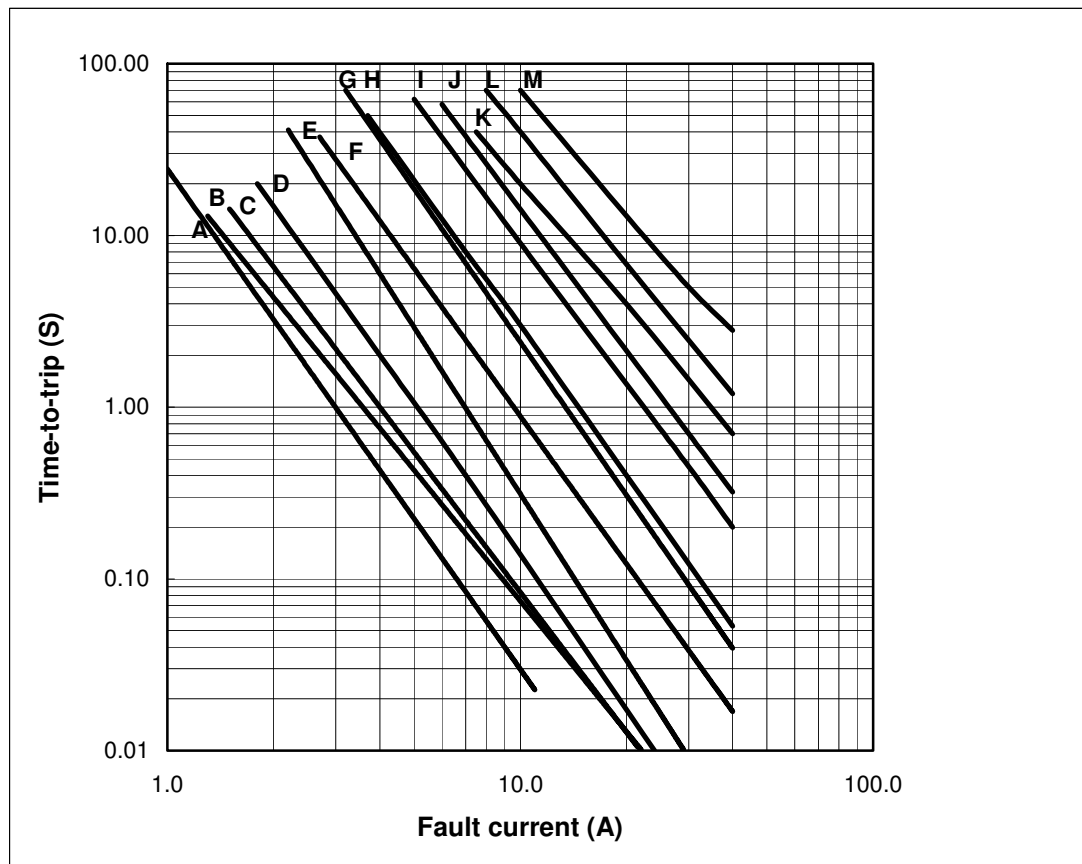


NOTE : All Specifications subject to change without notice.

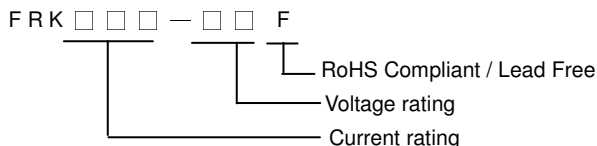


Typical Time-To-Trip at 23°C

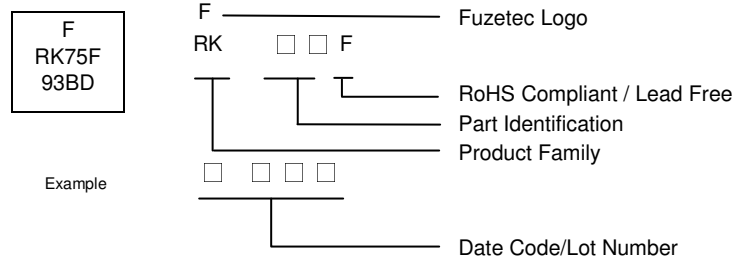
A = FRK050-60F
B = FRK065-60F
C = FRK075-60F
D = FRK090-60F
E = FRK110-60F
F = FRK135-60F
G = FRK160-60F
H = FRK185-60F
I = FRK250-60F
J = FRK300-60F
K = FRK375-60F
L = FRK400-60F
M = FRK500-60F



Part Numbering System



Part Marking System



Standard Package

P/N	Pcs /Bag	Reel/Tape
FRK050-60F	500	3K
FRK065-60F	300	3K
FRK075-60F	300	3K
FRK090-60F	300	1.5K
FRK110-60F	300	1.5K
FRK135-60F	200	1.5K
FRK160-60F	200	1.5K

P/N	Pcs /Bag	Reel/Tape
FRK185-60F	200	1.5K
FRK250-60F	100	1K
FRK300-60F	100	1K
FRK375-60F	100	1K
FRK400-60F	100	1K
FRK500-60F	100	1K

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.