

 <b>FUZETEC TECHNOLOGY CO., LTD.</b>	<b>NO.</b>	<b>PQ34-101E</b>		
	<b>Product Specification and Approval Sheet</b>	<b>Version</b>	<b>1</b>	<b>Page</b>

## Radial Leaded PTC Resettable Fuse : FRK Series

### 1. Summary

- (a) **RoHS Compliant (Lead Free) product**
- (b) **Applications : Wide variety of electronic equipment**
- (c) **Product Features : Solid state, Radial leaded product ideal for up to 60V<sub>DC</sub>**
- (d) **Operation Current : 0.50A~5.00A**
- (e) **Maximum Operating Voltage : 60V<sub>DC</sub>**
- (f) **Temperature Range : -40°C to 85°C**

### 2. Agency Recognition

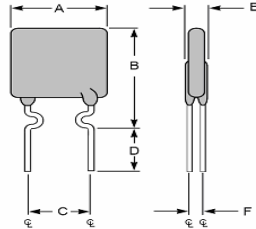
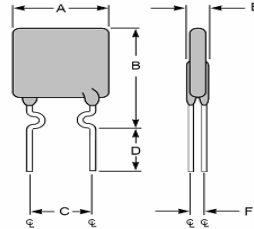
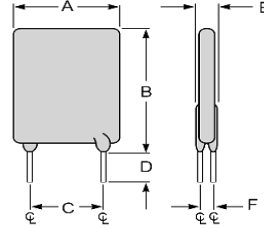
UL :Pending  
C-UL:Pending  
TÜV :Pending

### 3. Electrical Characteristics (20°C)

Part Number	Hold Current	Trip Current	Max.Time to Trip		Maximum Current	Rated Voltage	Typical Power	Resistance	
								Rmin	R1max.
			I <sub>H</sub> , A	I <sub>T</sub> , A				I <sub>A</sub>	Time <sub>sec</sub>
<b>FRK050-60F</b>	0.50	1.00	8.00	0.8	40	60	1.00	0.320	0.900
<b>FRK065-60F</b>	0.65	1.30	8.00	1.0	40	60	1.25	0.250	0.720
<b>FRK075-60F</b>	0.75	1.50	8.00	1.5	40	60	1.40	0.200	0.640
<b>FRK090-60F</b>	0.90	1.80	8.00	2.0	40	60	1.50	0.190	0.520
<b>FRK110-60F</b>	1.10	2.20	8.00	3.0	40	60	2.20	0.170	0.470
<b>FRK135-60F</b>	1.35	2.70	8.00	4.5	40	60	2.30	0.110	0.370
<b>FRK160-60F</b>	1.60	3.20	8.20	9.0	40	60	2.40	0.100	0.320
<b>FRK185-60F</b>	1.85	3.70	9.25	12.6	40	60	2.60	0.060	0.250
<b>FRK250-60F</b>	2.50	5.00	12.50	15.6	40	60	2.80	0.040	0.140
<b>FRK300-60F</b>	3.00	6.00	15.00	19.8	40	60	3.20	0.030	0.080
<b>FRK375-60F</b>	3.75	7.50	18.75	22.0	40	60	3.40	0.017	0.060
<b>FRK400-60F</b>	4.00	8.00	20.00	24.0	40	60	3.70	0.014	0.060
<b>FRK500-60F</b>	5.00	10.00	25.00	28.0	40	60	5.00	0.012	0.050

I<sub>H</sub>=Hold current-maximum current at which the device will not trip at 20°C still air.  
I<sub>T</sub>=Trip current-minimum current at which the device will always trip at 20°C still air.  
V<sub>MAX</sub>=Maximum voltage device can withstand without damage at its rated current.  
I<sub>MAX</sub>= Maximum fault current device can withstand without damage at rated voltage (V<sub>MAX</sub>).  
Pd=Typical power dissipated from device when in tripped state in 20°C still air environment.  
R<sub>MIN</sub>=Minimum device resistance at 20°C.  
R<sub>1MAX</sub>=Maximum device resistance at 20°C, 1 hour after tripping .  
Physical specifications:  
Lead material: Tin plated copper, 20AWG~24AWG  
Soldering characteristics:MIL-STD-202, Method 208E.  
Insulating coating:Flame retardant epoxy, meets UL-94V-0 requirement.

**NOTE : Specification subject to change without notice.**

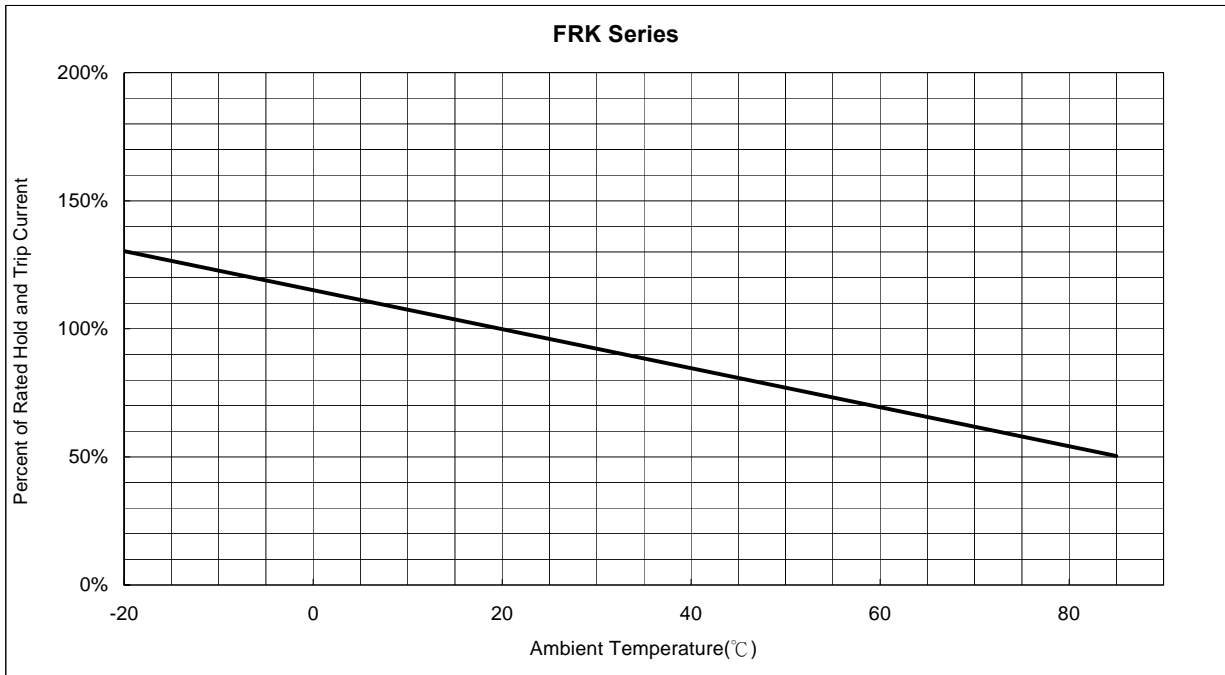
**4. Production Dimensions (millimeter)****Fig 1.****FRK050-60F~FRK090-60F**  
Lead Size :24AWG  
Φ 0.51 mm Diameter**Fig 2.****FRK110-60F**  
Lead Size : 20AWG  
Φ 0.81 mm Diameter**Fig 3.****FRK135-60F~FRK500-60F**  
Lead Size : 20AWG  
Φ 0.81 mm Diameter

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

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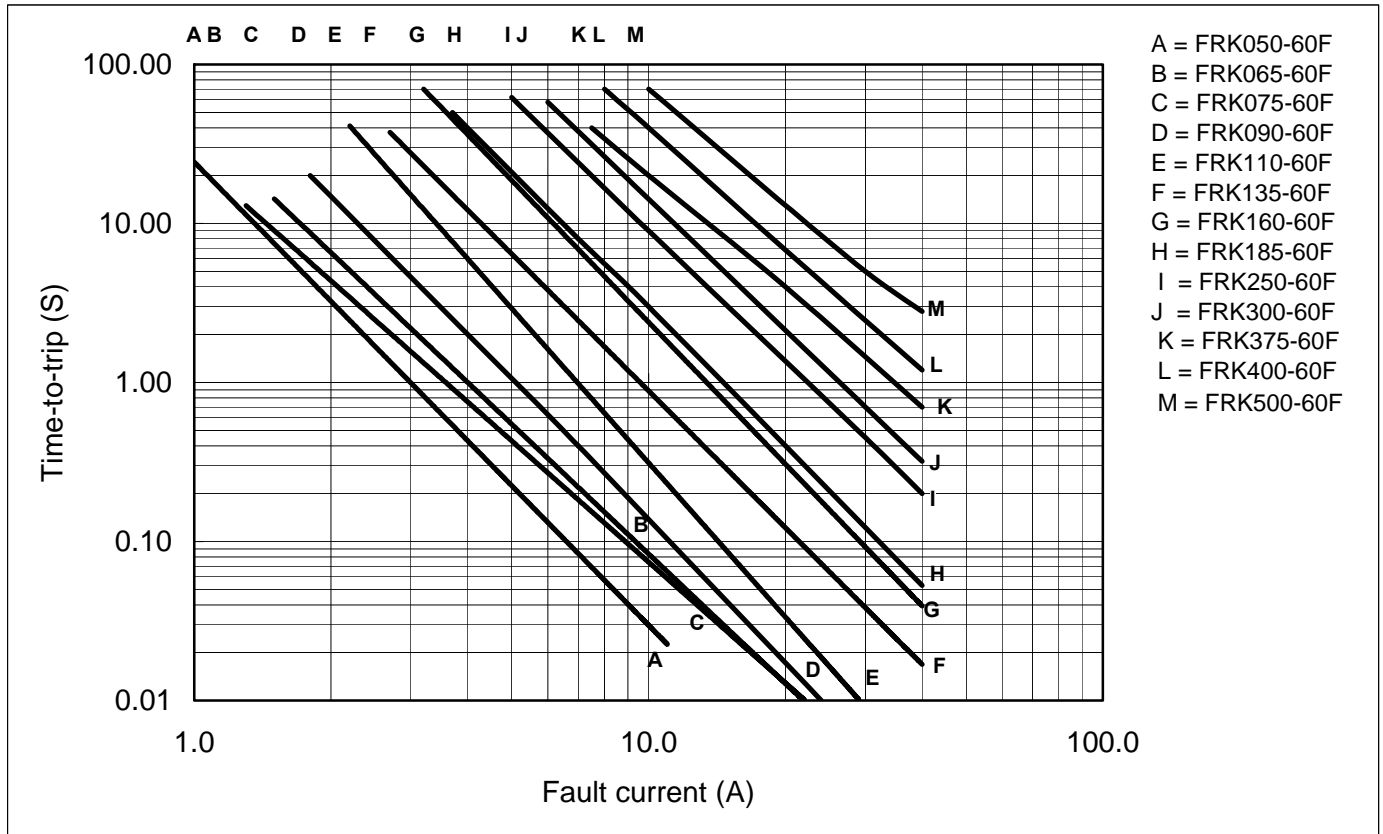
### 5. Thermal Derating Curve



NOTE : Specification subject to change without notice.



### 6. Typical Time-To-Trip at 20°C

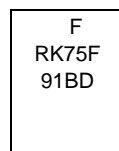
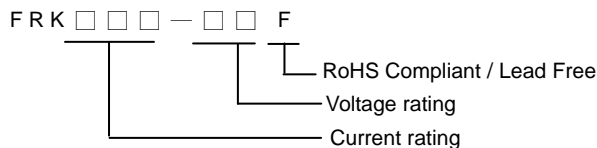


### 7. Material Specification

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 UL-94V-0 requirement

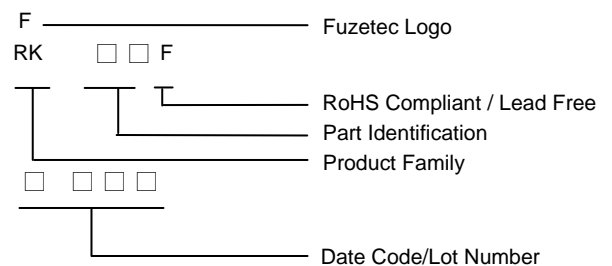
### 8. Part Numbering and Marking System

#### Part Numbering System



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.