

**Application:**

Wide variety of electronic equipment

**Product Features:**

Low hold current, Solid state

Radial-leaded product ideal for up to 60V

**Operation Current:** 100mA~3.75A

**Maximum Voltage:** 60V

**Temperature Range:** -40°C to 85°C

**Agency Approvals:** UL(E211981),  
C-UL(E211981),  
TÜV(R3-50004084)

**Electrical Characteristics(23°C)**

| Part Number | Hold Current      | Trip Current      | Max.Time to Trip    | Maximum Current     | Rated Voltage                     | Typical Power      | Resistance Tolerance |                   |
|-------------|-------------------|-------------------|---------------------|---------------------|-----------------------------------|--------------------|----------------------|-------------------|
|             | I <sub>H</sub> ,A | I <sub>T</sub> ,A | at 5xI <sub>H</sub> | I <sub>MAX</sub> ,A | V <sub>MAX</sub> ,V <sub>dc</sub> | P <sub>d</sub> , W | R <sub>MIN</sub>     | R <sub>1MAX</sub> |
|             |                   |                   |                     |                     |                                   |                    | Ω                    | Ω                 |
| FRX010-60   | 0.10              | 0.20              | 4.0                 | 40                  | 60                                | 0.38               | 2.50                 | 7.50              |
| FRX017-60   | 0.17              | 0.34              | 3.0                 | 40                  | 60                                | 0.48               | 2.00                 | 7.00              |
| FRX020-60   | 0.20              | 0.40              | 2.2                 | 40                  | 60                                | 0.41               | 1.83                 | 4.40              |
| FRX025-60   | 0.25              | 0.50              | 2.5                 | 40                  | 60                                | 0.45               | 1.25                 | 3.00              |
| FRX030-60   | 0.30              | 0.60              | 3.0                 | 40                  | 60                                | 0.49               | 0.88                 | 2.10              |
| FRX040-60   | 0.40              | 0.80              | 3.8                 | 40                  | 60                                | 0.56               | 0.55                 | 1.29              |
| FRX050-60   | 0.50              | 1.00              | 4.0                 | 40                  | 60                                | 0.77               | 0.50                 | 1.17              |
| FRX065-60   | 0.65              | 1.30              | 5.3                 | 40                  | 60                                | 0.88               | 0.31                 | 0.72              |
| FRX075-60   | 0.75              | 1.50              | 6.3                 | 40                  | 60                                | 0.92               | 0.25                 | 0.60              |
| FRX090-60   | 0.90              | 1.80              | 7.2                 | 40                  | 60                                | 0.99               | 0.20                 | 0.47              |
| FRX110-60   | 1.10              | 2.20              | 8.2                 | 40                  | 60                                | 1.50               | 0.15                 | 0.38              |
| FRX135-60   | 1.35              | 2.70              | 9.6                 | 40                  | 60                                | 1.70               | 0.12                 | 0.30              |
| FRX160-60   | 1.60              | 3.20              | 11.4                | 40                  | 60                                | 1.90               | 0.09                 | 0.22              |
| FRX185-60   | 1.85              | 3.70              | 12.6                | 40                  | 60                                | 2.10               | 0.08                 | 0.19              |
| FRX250-60   | 2.50              | 5.00              | 15.6                | 40                  | 60                                | 2.50               | 0.05                 | 0.13              |
| FRX300-60   | 3.00              | 6.00              | 19.8                | 40                  | 60                                | 2.80               | 0.04                 | 0.10              |
| FRX375-60   | 3.75              | 7.50              | 24.0                | 40                  | 60                                | 3.20               | 0.03                 | 0.08              |

I<sub>H</sub>=Hold current-maximum current at which the device will not trip at 23°C still air.

I<sub>T</sub>=Trip current-minimum current at which the device will always trip at 23°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 max).

P<sub>d</sub>=Typical power dissipated from device when in the tripped state in 23°C still air environment.

R<sub>MIN</sub>=Minimum device resistance at 23°C.

R<sub>1MAX</sub>=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 ,meet UL-94V-O requirement.

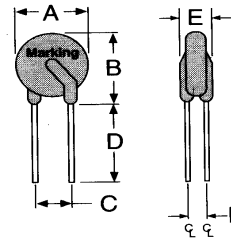
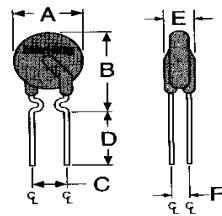
# Radial Leaded PTC FRX Series

www.DataSheet4U.com



FUZETEC

## FRX Product Dimensions (Millimeters)



FRX 010-60 ~ FRX 090-60

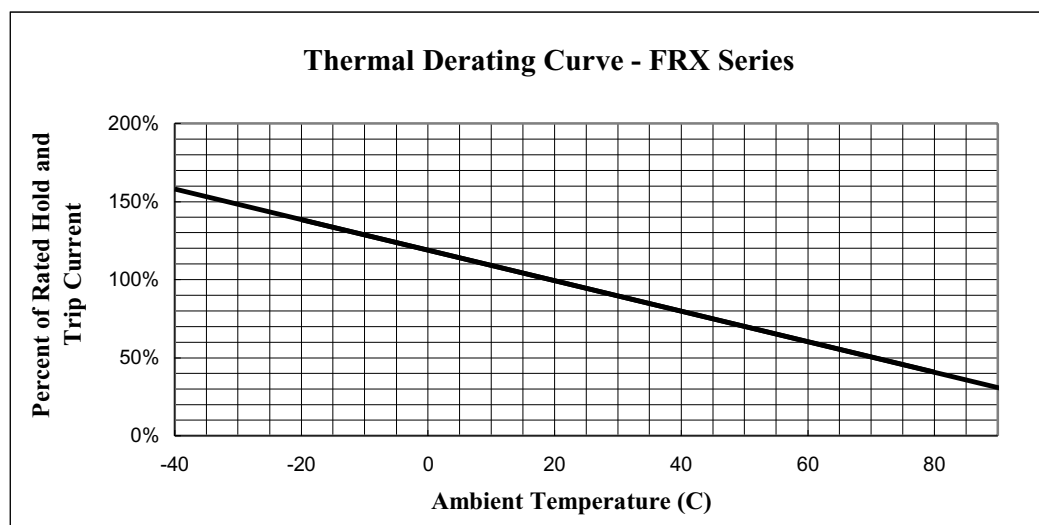
Lead Size :24AWG,  
Φ 0.51 mm Diameter

FRX 110-60 ~ FRX 375-60

Lead Size : 20AWG,  
Φ 0.81 mm Diameter

| Part Number | A       | B       | C       | D       | E       | F       |
|-------------|---------|---------|---------|---------|---------|---------|
|             | Maximum | Maximum | Typical | Minimum | Maximum | Typical |
| FRX-010-060 | 7.4     | 12.7    | 5.1     | 7.6     | 3.1     | 1.1     |
| FRX-017-060 | 7.4     | 12.7    | 5.1     | 7.6     | 3.1     | 1.1     |
| FRX-020-060 | 7.4     | 12.7    | 5.1     | 7.6     | 3.1     | 1.1     |
| FRX-025-060 | 7.4     | 12.7    | 5.1     | 7.6     | 3.1     | 1.1     |
| FRX-030-060 | 7.4     | 13.0    | 5.1     | 7.6     | 3.1     | 1.1     |
| FRX-040-060 | 7.6     | 13.5    | 5.1     | 7.6     | 3.1     | 1.1     |
| FRX-050-060 | 7.9     | 13.7    | 5.1     | 7.6     | 3.1     | 1.1     |
| FRX-065-060 | 9.7     | 14.5    | 5.1     | 7.6     | 3.1     | 1.1     |
| FRX-075-060 | 10.4    | 15.2    | 5.1     | 7.6     | 3.1     | 1.1     |
| FRX-090-060 | 11.7    | 15.8    | 5.1     | 7.6     | 3.1     | 1.1     |
| FRX-110-060 | 13.0    | 18.0    | 5.1     | 7.6     | 3.1     | 1.4     |
| FRX-135-060 | 14.5    | 19.6    | 5.1     | 7.6     | 3.1     | 1.4     |
| FRX-160-060 | 16.3    | 21.3    | 5.1     | 7.6     | 3.1     | 1.4     |
| FRX-185-060 | 17.8    | 22.9    | 5.1     | 7.6     | 3.1     | 1.4     |
| FRX-250-060 | 21.3    | 26.4    | 10.2    | 7.6     | 3.1     | 1.4     |
| FRX-300-060 | 24.9    | 30.0    | 10.2    | 7.6     | 3.1     | 1.4     |
| FRX-375-060 | 28.5    | 33.5    | 10.2    | 7.6     | 3.1     | 1.4     |

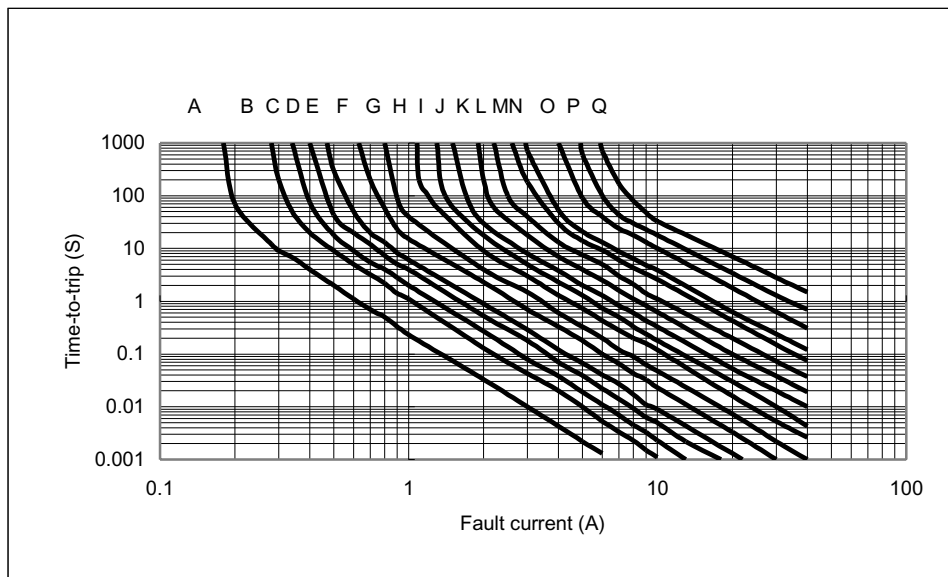
## Thermal Derating Curve





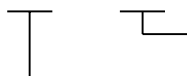
## Typical Time-To-Trip at 23°C

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



## Part Numbering System

FRX □ □ □ - □ □



Voltage rating

Current rating



Example

## Part Marking System

F ————— Fuzetec Logo

RX □ □ □

Part Identification

Product Family

□ □ □ □

Date Code/Lot Number

## Standard Package

| P/N        | Pcs /Bag | Reel/Tape |
|------------|----------|-----------|
| FRX-010-60 | 500      | 3K        |
| FRX-017-60 | 500      | 3K        |
| FRX-020-60 | 500      | 3K        |
| FRX-025-60 | 500      | 3K        |
| FRX-030-60 | 500      | 3K        |
| FRX-040-60 | 500      | 3K        |
| FRX-050-60 | 500      | 3K        |
| FRX-065-60 | 300      | 3K        |
| FRX-075-60 | 300      | 3K        |

| P/N        | Pcs /Bag | Reel/Tape |
|------------|----------|-----------|
| FRX-090-60 | 300      | 3K        |
| FRX-110-60 | 300      | 1.5K      |
| FRX-135-60 | 200      | 1.5K      |
| FRX-160-60 | 200      | 1.5K      |
| FRX-185-60 | 200      | 1.5K      |
| FRX-250-60 | 100      | -----     |
| FRX-300-60 | 100      | -----     |
| FRX-375-60 | 100      | -----     |