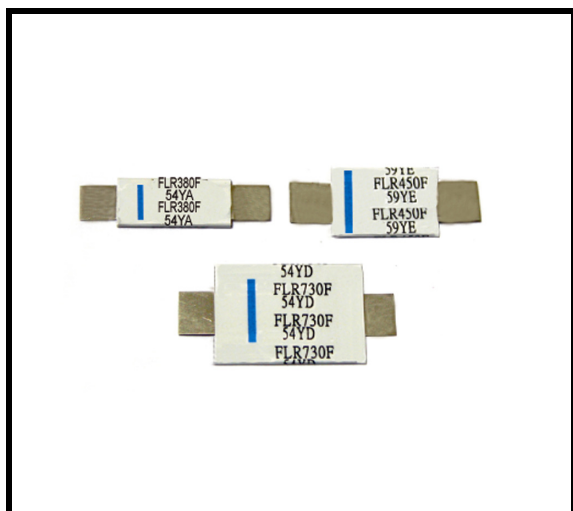


## FLR Series



## RoHS Compliant & Halogen Free



### Application:

Rechargeable battery packs  
Lithium cell and battery packs

### Product Features:

Low profile, Solid state

**Operation Current:** 1.9A~7.3 A

**Maximum Voltage:** 15V & 20V<sub>DC</sub>

**Temperature Range:** -40°C to 85°C

**Agency Recognition:** UL (E211981)

\*C-UL (E211981)

TÜV (R50004084)

## Electrical Characteristics(23°C)

| Part Number    | Hold Current       | Trip Current       | Max. Time to Trip       | Rated Voltage                      | Max. Current         | Typical Power      | Resistance       |                  |                   |
|----------------|--------------------|--------------------|-------------------------|------------------------------------|----------------------|--------------------|------------------|------------------|-------------------|
|                | I <sub>H</sub> , A | I <sub>T</sub> , A | at 5xI <sub>H</sub> , s | V <sub>MAX</sub> , V <sub>DC</sub> | I <sub>MAX</sub> , A | P <sub>d</sub> , W | R <sub>MIN</sub> | R <sub>MAX</sub> | R <sub>1MAX</sub> |
| <b>FLR190F</b> | 1.9                | 3.9                | 5.0                     | 15                                 | 100                  | 1.2                | 0.039            | 0.072            | 0.102             |
| <b>FLR260F</b> | 2.6                | 5.8                | 5.0                     | 15                                 | 100                  | 2.5                | 0.020            | 0.042            | 0.063             |
| <b>FLR380F</b> | 3.8                | 8.3                | 5.0                     | 15                                 | 100                  | 2.5                | 0.013            | 0.026            | 0.037             |
| <b>FLR450F</b> | 4.5                | 8.9                | 5.0                     | 20                                 | 100                  | 2.5                | 0.011            | 0.020            | 0.028             |
| <b>FLR550F</b> | 5.5                | 10.5               | 5.0                     | 20                                 | 100                  | 2.8                | 0.009            | 0.016            | 0.022             |
| <b>FLR600F</b> | 6.0                | 11.7               | 5.0                     | 20                                 | 100                  | 2.8                | 0.007            | 0.014            | 0.019             |
| <b>FLR730F</b> | 7.3                | 14.1               | 5.0                     | 20                                 | 100                  | 3.3                | 0.006            | 0.012            | 0.015             |

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<sub>max</sub>).

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>MAX</sub>= Maximum device resistance at 23°C.

R<sub>1MAX</sub>=Maximum device resistance at 23°C, 1 hour after tripping.

Physical specifications:

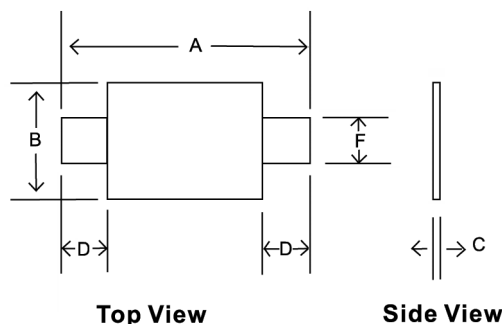
Lead material:0.13mm nominal thickness, quarter-hard nickel.

Insulating material: Polyester tape.

\*NOTE : C-UL is not applied for FLR450 ~ FLR730.

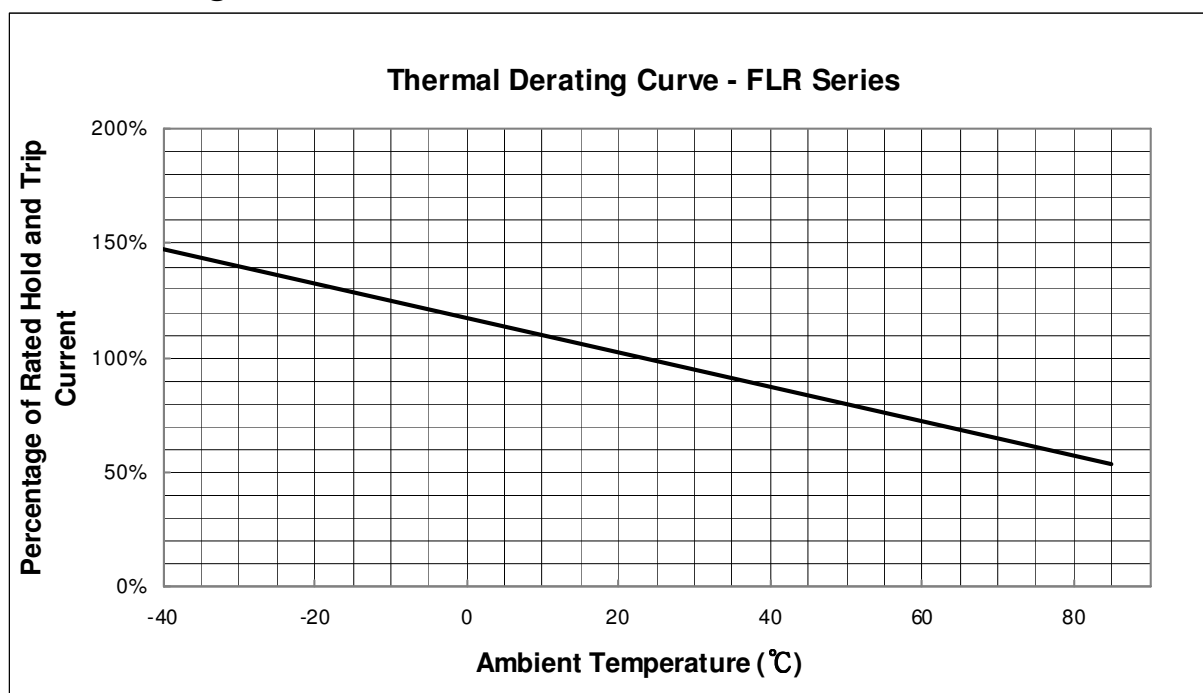
## III - Product – Axial Leaded PTC

### FLR Product Dimensions (Millimeter)



| Part Number    | A    |      | B    |      | C   |     | D   |     | F   |     |
|----------------|------|------|------|------|-----|-----|-----|-----|-----|-----|
|                | Min  | Max  | Min  | Max  | Min | Max | Min | Max | Min | Max |
| <b>FLR190F</b> | 19.9 | 22.1 | 4.9  | 5.5  | 0.6 | 1.0 | 5.5 | 7.5 | 3.9 | 4.1 |
| <b>FLR260F</b> | 20.9 | 23.1 | 4.9  | 5.5  | 0.6 | 1.0 | 4.1 | 5.5 | 3.9 | 4.1 |
| <b>FLR380F</b> | 24.0 | 26.0 | 6.9  | 7.5  | 0.6 | 1.0 | 4.1 | 5.5 | 4.9 | 5.1 |
| <b>FLR450F</b> | 24.0 | 26.0 | 9.9  | 10.5 | 0.6 | 1.0 | 5.3 | 6.7 | 5.9 | 6.1 |
| <b>FLR550F</b> | 35.0 | 37.0 | 6.9  | 7.5  | 0.6 | 1.0 | 5.3 | 6.7 | 4.9 | 5.1 |
| <b>FLR600F</b> | 24.0 | 26.0 | 13.9 | 14.5 | 0.6 | 1.0 | 4.1 | 5.5 | 5.9 | 6.1 |
| <b>FLR730F</b> | 27.1 | 29.1 | 13.9 | 14.5 | 0.6 | 1.0 | 4.1 | 5.5 | 5.9 | 6.1 |

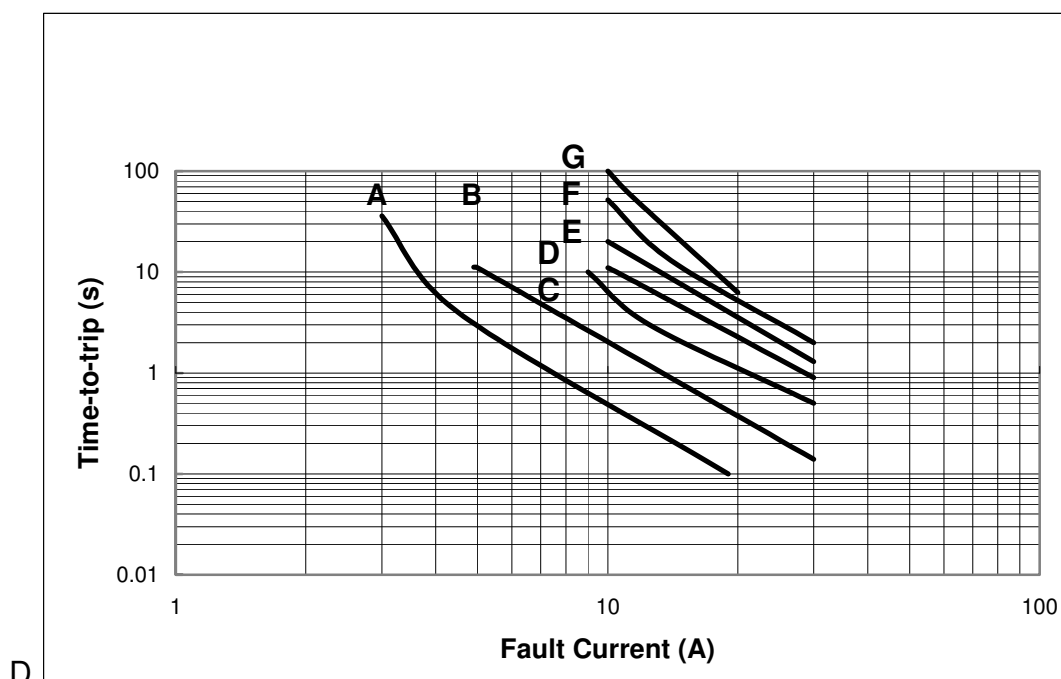
### Thermal Derating Curve



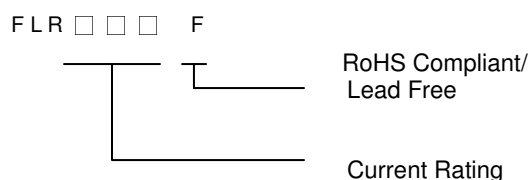
### III - Product – Axial Leaded PTC

#### Typical Time-To-Trip at 23°C

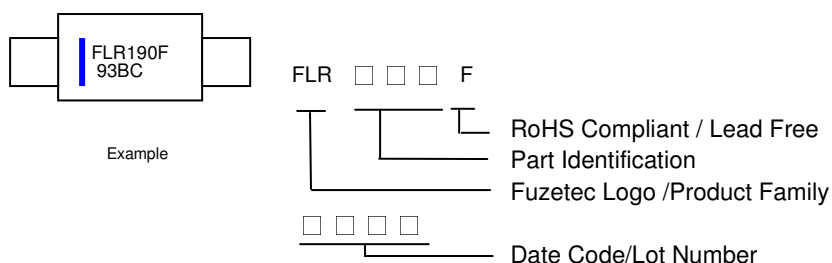
A = FLR190F  
B = FLR260F  
C = FLR380F  
D = FLR450F  
E = FLR550F  
F = FLR600F  
G = FLR730F



#### Part Numbering System



#### Part Marking System



#### Standard Package

| P/N     | Pcs /Bag |
|---------|----------|
| FLR190F | 1K       |
| FLR260F | 1K       |
| FLR380F | 1K       |
| FLR450F | 500      |

| P/N     | Pcs /Bag |
|---------|----------|
| FLR550F | 500      |
| FLR600F | 500      |
| FLR730F | 500      |

- 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 : All Specifications subject to change without notice.