

POWrFuse™ PF-K Series Features

- Designed for protection of high voltage accessory circuits in Electric Vehicles (EVs) and Hybrid Electric Vehicles (HEVs)
- 15-50 A ratings available
- 10 kA @ 275 VAC interrupting rating
- ISO 8820-8 compliant
- Available in bolt or PCB mounting options
- RoHS compliant* and halogen free**



PF-K Series – EV Power Fuses

Clearing Time Characteristics for Series

| % of Current Rating | Clearing Time at 25 °C | |
|---------------------|------------------------|--------------|
| | Minimum | Maximum |
| 110 % | 4 hours | — |
| 135 % | 150 seconds | 3600 seconds |
| 150 % | 10 seconds | 1000 seconds |
| 200 % | 500 milliseconds | 100 seconds |
| 300 % | 100 milliseconds | 15 seconds |
| 500 % | 50 milliseconds | 1 second |

Additional Information

Click these links for more information:



Environmental Characteristics

Operating Temperature... -55 °C to +125 °C

Electrical Characteristics

| Model | Rated Current (A) | Nominal Resistance (Ω) ^{***} | Rated Voltage | Interrupting Rating | Nominal I ² t (A ² s) ^{****} | Max. Voltage Drop (mV) |
|-----------|-------------------|---------------------------------------|--------------------|---|---|------------------------|
| PF-KB1-15 | 15 | 0.0067 | 275 VAC 500 VDC | 10 kA @ 275 VAC 20 kA @ 500 VDC 10 kA @ 450 VDC | 1153 | 200 |
| PF-KT1-15 | | | | | | |
| PF-KB1-30 | 30 | 0.0024 | | | 3024 | |
| PF-KT1-30 | | | | | | |
| PF-KB1-40 | 40 | 0.0017 | | | 7253 | |
| PF-KT1-40 | | | | | | |
| PF-KB1-50 | 50 | 0.0012 | | | 9203 | |
| PF-KT1-50 | | | | | | |

^{***} Resistance value measured with ≤10 % rated current at 25 °C ambient.

^{****} Nominal I²t value measured at 20 kA / 500 VDC.



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* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

** Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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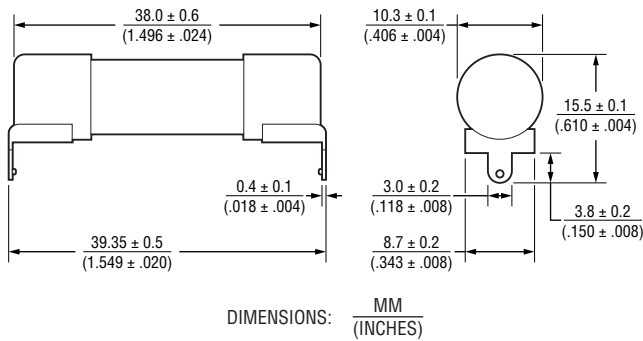
WARNING
Cancer and Reproductive Harm
www.P65Warnings.ca.gov

PF-K Series – EV Power Fuses

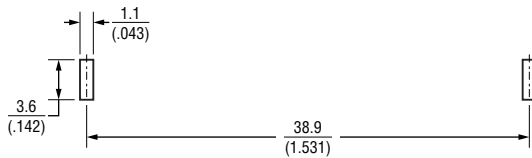


Product Dimensions

PCB Mounting/T1



Recommended Drilling Pattern



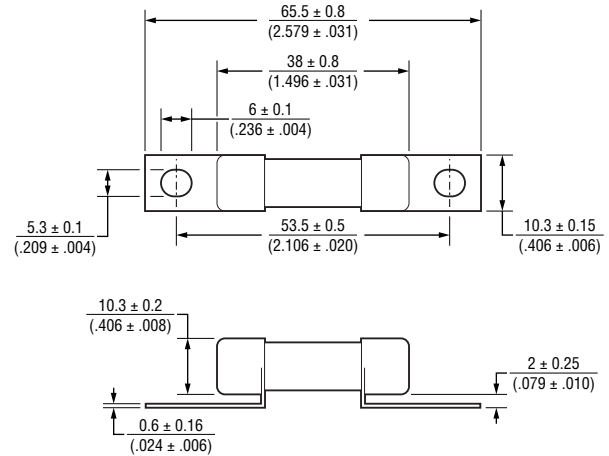
Wave Soldering Recommendations (for PCB Mounting)

| Profile Feature | Pb-Free Assembly |
|--|------------------|
| Preheat: Temperature Max. Temperature Min. | 150 °C 100 °C |
| Solder Pot Temperature | 280 °C max. |
| Solder Dwell Time | 8 seconds max. |

Hand Soldering Recommendations (for PCB Mounting)

| Soldering Iron Temperature | Heating Time |
|----------------------------|--------------|
| 350 °C ± 5 °C | 40 sec. max. |

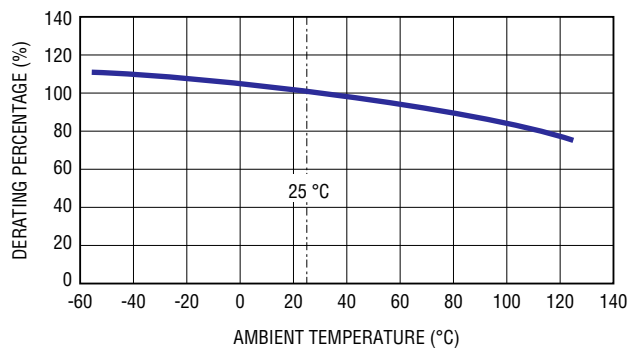
Bolt Mounting/B1



Recommended Mounting Torque and Bolt Sizes

| Mounting Torque | Bolt Size |
|-----------------|-----------|
| 4.5 ± 1 Nm | M5 |

Current Rating Thermal Derating Curve



How to Order

PF - K B1 - 30

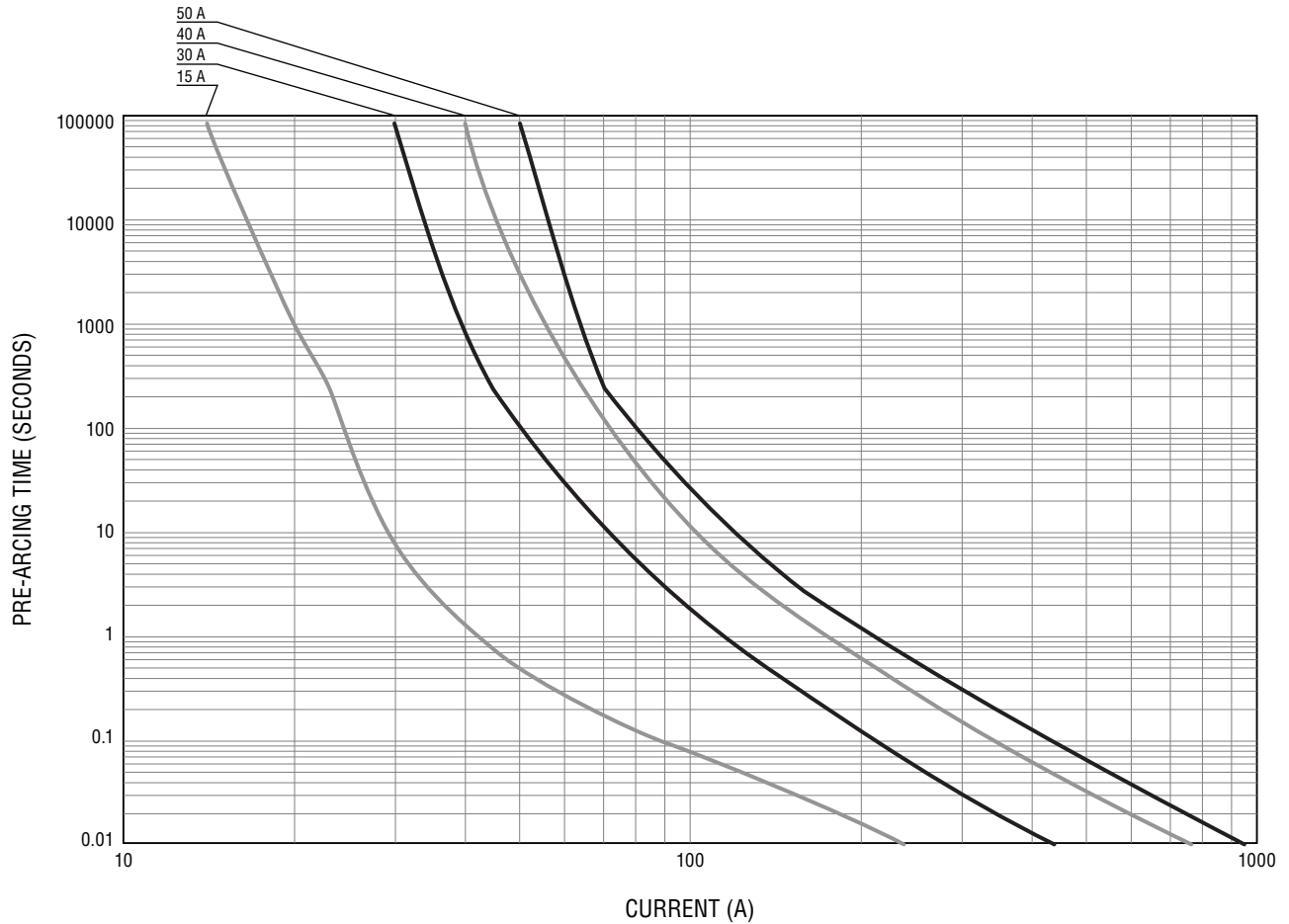
POWrfuse™ _____
 Product Designator _____
 Series Name _____
 Mounting Type _____
 B1 = Bolt Mounting, Type 1
 T1 = PCB Mounting, Type 1
 Rated Current _____
 15 - 50 = 15 A - 50 A

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PF-K Series – EV Power Fuses



Average Pre-Arcing Time vs. Current Curves



Typical Part Marking

| Model | Note | Ink Color | Marking |
|-----------|------|-----------|---------|
| PF-KB1-15 | 15 | Black | |
| PF-KB1-30 | 30 | | |
| PF-KB1-40 | 40 | | |
| PF-KB1-50 | 50 | | |
| PF-KT1-15 | 15 | Black | |
| PF-KT1-30 | 30 | | |
| PF-KT1-40 | 40 | | |
| PF-KT1-50 | 50 | | |

Packaging

| Model | Quantity |
|--------|---------------|
| PF-KT1 | 50 pcs. / box |
| PF-KB1 | 40 pcs. / box |

REV. 08/22

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