



Circuit Protection Focus Catalog

Brick Miniature Surface Mount Fuses
Low Profile Surface Mount Chip Fuses
Low Profile SMD Resettable Devices
RADIAL PTC Resettable Devices
250/277/350 Volt Radial Fuses
Pre Formed 600Volt Radial Fuses
Miniature Axial Leaded Fuses
Glass and Ceramic Fuses



bel

a bel group

**POWER
SOLUTIONS &
PROTECTION**

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Company Profile

A NASDAQ company (BELFA & BELFB), Bel was founded in 1949 and is headquartered in Jersey City, New Jersey. Bel helps make global connectivity a reality by manufacturing electronic components for the computer, networking and telecommunication industries. Partnered with the leaders in these markets, we develop new products for emerging technologies that enable high speed communication. Our expanding portfolio includes a range of complementary products from circuit protection devices to power conversion modules, transformers and connector modules, to integrated line interface products. For over sixty years, we've used our superior, high-volume manufacturing techniques to deliver quality products to the global marketplace. Bel employs more than 10,000 people around the world with facilities in North America, Asia and Europe.

The Bel Fuse circuit protection portfolio includes one of the broadest ranges of circuit protection products on the market today. Bel Fuse has been at the forefront of the industry shift to board level, surface mount, fuse designs, including our C2Q Chip Fuses with 0603 footprint. Many of today's smaller hand held devices incorporate this newer technology and Bel Fuse is poised to help!

The circuit protection offering also includes PCB mount, radial fuses rated up to 350VAC, as well all standard glass and ceramic cartridge fuses including axial leaded board mounted options. Bel Fuse also offers a complete product offering in PPTC resettable fuses. And, in addition to the standard products, Bel Fuse offers a wide range of value-add options to facilitate more efficient assembly on the production line.

RoHS Update

Bel is committed to the elimination of lead and other banned substances from our products. Significant effort has been directed towards compliance with European Directive 2011/65/EU and all Bel Fuse products in this catalog now conform to this directive. Consult data sheets for specific compliance information. RoHS compliant products are marked with the logo shown here. In addition, Bel also monitors other legislative requirements with potential impact to the use of banned substances in electronic products. We continue to pursue the use of alternative (greener) manufacturing methods and materials for our products.



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Bel Fuse is your one source for circuit protection solutions

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BRICK SMT FUSES



Specifications / Design Features

- Voltage Ratings – up to 600 VAC / 125 VDC
- Amp Ratings – up to 30A
- Multiple Safety Agency Approvals
- Case Sizes from 2410 to 4717
- Operating Temperature: -55°C to +125°C
- Mil-Std 202G Environmental Compliant

Description

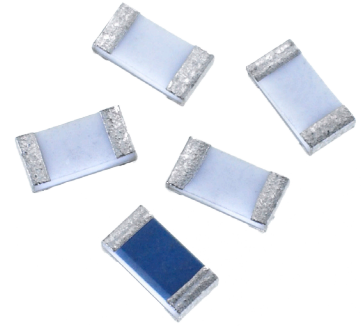
Surface Mount, ceramic tube/end cap constructions, with U.S. (UL/CSA), Europe (VDE/Semko), China (CCC) and Japan (PSE) safety agency approvals. Provide board level primary and secondary circuit protection in a wide variety of applications, including battery chargers, power supplies, modems, routers, consumer electronics, PoE, PoE+, Backplane Short Circuit Protection, etc. SMP Type provide Lightning Surge Withstand and 600 VAC Power Cross Protection.

How to Order Brick SMT Fuses

| Part Number | Case Size | Voltage, AC | Voltage, DC | Ampere Rating | Clearing Time Characteristics |
|-------------|---------------|-------------|-------------|---------------|-------------------------------|
| SSQ 5 | 2410 | 125 VAC | 125 VDC | 5A | Quick Acting |
| SSQ 15 | 2410 | 125 VAC | 86 VDC | 15A | Quick Acting |
| SST 3 | 2410 | 125 VAC | 125 VDC | 3A | Slow Blow |
| SST 7 | 2410 | 125 VAC | 125 VDC | 7A | Slow Blow |
| SSQC 2 | 2410 in CLIPS | 125 VAC | 125 VDC | 2A | Quick Acting |
| SSTC 3 | 2410 in CLIPS | 125 VAC | 125 VDC | 3A | Slow Blow |
| SMM 20 | 3812 | 250 VAC | 72 VDC | 20A | Medium Blow |
| SMM 30 | 3812 | 250 VAC | 72 VDC | 30A | Medium Blow |
| SMP 1.25 | 3812 | 600 VAC | 125 VDC | 1.25A | Lightning Surge/Power Cross |
| UMTS 6.3 | 4717 | 350 VAC | -- | 6.3A | Time-Lag |



CHIP SMT FUSE



Specifications / Design Features

- Voltage Ratings – up to 125 VAC / 63 VDC
- Amp Ratings – up to 8A
- Case Sizes 0603 and 1206
- Multiple Safety Agency Approvals
- T&R, Auto-Insertable
- Operating Temperature: -55°C to +125°C
- Environmental Compliant

Description

Thick Film chip technology on ceramic substrates, in 0603 and 1206 case sizes. Low cost solutions with UL, CSA and CE approvals. Provide board level primary and secondary circuit protection in a wide variety of applications, including battery chargers, power supplies, modems, routers, consumer electronics, PoE, PoE+, Backplane Short Circuit Protection, etc.

How to Order Chip SMT Fuse

| Part Number | Case Size | Voltage, AC | Voltage, DC | Ampere Rating | Clearing Time Characteristics |
|-------------|-----------|-------------|-------------|---------------|-------------------------------------|
| C2Q 500 | 0603 | 32 VAC | 63 VDC | 500mA | Very Fast Acting |
| C2Q 5 | 0603 | 32 VAC | 63 VDC | 5A | Very Fast Acting |
| C2Q 250 | 1206 | 125 VAC | 63 VDC | 250mA | Very Fast Acting |
| C1Q 7 | 1206 | 125 VAC | 63 VDC | 7A | Very Fast Acting |
| C1F 250 | 1206 | 125 VAC | 63 VDC | 250 mA | Fast Act, Improved Surge Withstand |
| C1F 8 | 1206 | 125 VAC | 63 VDC | 8A | Fast Act, Improved Surge Withstand |
| C1S 750 | 1206 | 63 VAC | 63 VDC | 750mA | Slow Blow |
| C1S 5 | 1206 | 63 VAC | 63 VDC | 5A | Slow Blow |
| C1T 750 | 1206 | 63 VAC | 63 VDC | 500mA | Slow Blow, Improved Surge Withstand |
| C1T 4 | 1206 | 63 VAC | 63 VDC | 4A | Slow Blow, Improved Surge Withstand |

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SMT PTC RESETTABLE DEVICES



Specifications / Design Features

- Voltage Rating Range – 6 – 60 VDC
- IHold Amp Range – 50mA to 3A
- Case Sizes 0603 through 2920
- IR Process – JEDEC J-Std-020 – 260C, 40 Sec., max.
- Safety Agency Approvals – UL, TUV
- Operating Temperature: -40°C to +85°C

Description

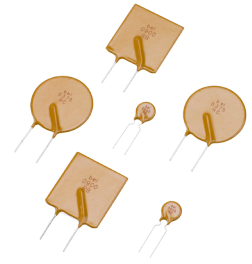
Bel's unique polymer formulation PTC (positive temperature coefficient) devices offer circuit protection, with added resettable feature, in low profile, SMT packages. Similar to our extensive line of traditional fuse products, our resettable fuses protect against harmful overcurrent and short circuit conditions. However, our PTC devices can also be used to protect against over temperature conditions not necessarily caused by excessive current. Bel's PTC devices will reset after power to the circuit is removed, the fault is cleared, and power is reapplied to the circuit. This reset-ability protects electronic equipment, which remains fully functional, and eliminates the need for service personnel to physically replace a fuse.

How to Order SMT PTC Resettable Device

| Part Number | Case Size | Voltage, AC | Voltage, DC | Ampere Rating | Clearing Time Characteristics |
|--------------|-----------|-------------|-------------|---------------|-------------------------------|
| OZCF0030FF2C | 2920 | -- | 60 VDC | 30mA | Fast Trip, High Hold Ratings |
| OZCF0300FF2C | 2920 | -- | 15 VDC | 3 A | Fast Trip, High Hold Ratings |
| OZCG0010FF2C | 1812 | -- | 60 VDC | 100 mA | Fast Trip, Low DCR |
| OZCG0300FF2B | 1812 | -- | 6 VDC | 3 A | Fast Trip, Low DCR |
| OZCH0005FF2E | 1210 | -- | 60 VDC | 50 mA | Fast Trip, Low DCR |
| OZCH0200FF2E | 1210 | -- | 6 VDC | 2 A | Fast Trip, Low DCR |
| OZCJ0005FF2E | 1206 | -- | 60 VDC | 50 mA | Fast Trip, Low DCR |
| OZCJ0200FF2C | 1206 | -- | 6 VDC | 2 A | Fast Trip, Low DCR |
| OZCK0010FF2G | 0805 | -- | 15 VDC | 100 mA | Fast Trip, Low DCR |
| OZCK0100FF2E | 0805 | -- | 6 VDC | 1 A | Fast Trip, Low DCR |
| OZCM0005FF2G | 0603 | -- | 15 VDC | 50 mA | Fast Trip, Low DCR |
| OZCM0020FF2G | 0603 | -- | 9 VDC | 200 mA | Fast Trip, Low DCR |



PTC RADIAL LEADED RESETTABLE DEVICES



Specifications / Design Features

- Voltage Rating – 16 – 240 VAC/VDC
- I Hold Amp Range – 50mA to 14A
- IR Process – JEDEC J-Std-020 – 260C, 40 Sec., max.
- Safety Agency Approvals – UL, TUV
- Operating Temperature: -40°C to +85°C

Description

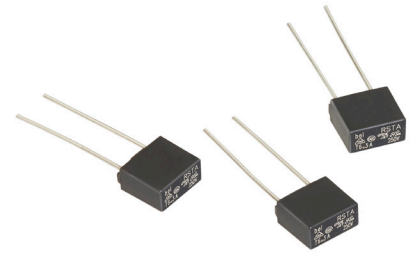
Bel's unique polymer formulation PTC (positive temperature coefficient) devices offer superior circuit protection, with added resettable feature, in traditional radial lead packages. Similar to our extensive line of traditional fuse products, our resettable fuses protect against harmful overcurrent and short circuit conditions. However, our PTC devices can also be used to protect against over temperature conditions not necessarily caused by excessive current. Bel's PTC devices will reset after power to the circuit is removed, the fault is cleared, and power is reapplied to the circuit. This reset-ability protects electronic equipment, which remains fully functional, and eliminates the need for service personnel to physically replace a fuse.

Our PTC devices are used in a wide variety of industrial, computer, battery, consumer electronics, telecom and automotive applications where they help protect valuable electronic systems and reduce warranty and services costs.

How to Order Leded Resettable Devices

| Part Number | Case Size | Voltage, AC | Voltage, DC | Ampere Rating | Clearing Time Characteristics |
|--------------|-------------|-------------|-------------|---------------|-------------------------------|
| 0ZRA1400FF1A | Rectangular | -- | 16 VDC | 14A | High IHold, Low DCR |
| 0ZRB0500FF1A | Rectangular | -- | 30 VDC | 5A | High IHold, Low DCR |
| 0ZRC0010FF1E | Round | -- | 90 VDC | 100mA | Low IHold, 90 VDC |
| 0ZRC0375FF1E | Round | -- | 90 VDC | 3.75A | Low IHold, 90 VDC |
| 0ZRE0005FF1C | Round | 240 VAC | 240 VDC | 50mA | Low IHold, 265 V interrupt |
| 0ZRE0055FF1A | Rectangular | 240 VAC | 240 VDC | 550mA | Low IHold, 265 V interrupt |
| 0ZRF0008FF1E | Round | -- | 60 VDC | 80mA | Telecom Power Cross |
| 0ZRF0018FF1A | Round | -- | 60 VDC | 180mA | Telecom Power Cross |
| 0ZRM0010FF1E | Round | 120 VAC | 120 VDC | 100mA | Continuous 120 VAC/VDC |
| 0ZRM0375FF1A | Round | 120 VAC | 120 VDC | 3.75A | Continuous 120 VAC/VDC |

250/277/350 VOLT RADIAL FUSE



Specifications / Design Features

- Voltage Rating – 350 VAC / 72 VDC
- Amp Range – 1A to 6.3A
- Wave Solder Process – 260°C, 10 Sec., max.
- Multiple Safety Agency Approvals
- Bulk And Ammo Pack Available
- Operating Temperature: -55°C to +125°C
- Mil-Std 202G Environmental Compliant
- Laser Marked Fuse

Description

Pre-dominant radial lead package with U.S (UL/CSA), Europe (VDE/Semko), China (CCC) and Japan (PSE) safety agency approvals, allows use of a single fuse rating in products with true World-Wide acceptance. Provides board level primary circuit protection in a wide variety of battery chargers, power supplies, modems, routers, consumer electronics, etc. Additionally, the UL/VDE Voltage rating of 350 VAC, provides for protection of ballasts, LED drivers, and other Lighting products.

How to Order 250/277/350 Volt Radial Fuse

| Part Number | Case Size | Voltage, AC | Voltage, DC | Ampere Rating | Clearing Time Characteristics |
|--------------|-------------|-------------|-------------|---------------|-------------------------------|
| 0698Q1500-02 | 4 x 8.44mm | 350 VAC | 140 VDC | 1.5A | Quick Act |
| 0698Q6300-02 | 4 x 8.44mm | 350 VAC | 140 VDC | 6.3A | Quick Act |
| 0697W1000-02 | 4 x 8.44mm. | 350 VAC | 72 VDC | 1A | Time-Lag |
| 0697W6300-02 | 4 x 8.44mm | 350 VAC | 72 VDC | 6.3A | Time-Lag |
| RSTA 1 | 4 x 8.44mm | 250 VAC | 63 VDC | 1A | Time-Lag |
| RSTA 6.3 | 4 x 8.44mm | 250 VAC | 63 VDC | 6.3A | Time-Lag |
| MRF | 4 x 8.44mm | 250 VAC | 63 VDC | 6.3A | Time-Lag |
| MRT | 4 x 8.44mm | 250 VAC | 63 VDC | 6.3A | Time-Lag |
| RST | 4 x 8.44mm | 250 VAC | 63 VDC | 6.3A | Time-Lag |

600 VOLT RADIAL FUSE



Specifications / Design Features

- Voltage Rating – 600VAC
- Amp Range – 100mA to 5A
- Compact, Radial Leads on 0.800 inch center spacing
- Wave Solder Process – 260°C, 10 sec., max.
- Multiple Safety Agency Approvals
- Operating Temperature: -55°C to +125°C
- Mil-Std 202G Environmental Compliant

Description

Unique, capless, low cost radial design glass tube fuse provides high level Lightning Surge Withstand Protection, along with 600 VAC Power Cross protection. When coupled with adequate voltage protector, Bel RJS fuse Series enable system compliance to FCC, NEBS, UL/IEC 60950 and Telcordia 1089 performance/safety requirements.

How to Order Pre Formed 600 Volt Radial Fuses

| Part Number | Case Size | Voltage, AC | Voltage, DC | Ampere Rating | Clearing Time Characteristics |
|-------------|--------------|-------------|-------------|---------------|---------------------------------------|
| RJS 100 -R | 4.6 X 19.5mm | 600 VAC | -- | 100mA | Telecom Lightning Surge - Power Cross |
| RJS 100 -R | 4.6 X 19.5mm | 600 VAC | -- | 100mA | Telecom Lightning Surge - Power Cross |
| RJS 1.25 -R | 4.6 X 19.5mm | 600 VAC | -- | 1.25A | Telecom Lightning Surge - Power Cross |
| RJS 1.25 -R | 4.6 X 19.5mm | 600 VAC | -- | 1.25A | Telecom Lightning Surge - Power Cross |
| RJS 1.5 -R | 4.6 X 19.5mm | 600 VAC | -- | 1.5A | Telecom Lightning Surge - Power Cross |
| RJS 1.5 -R | 4.6 X 19.5mm | 600 VAC | -- | 1.5A | Telecom Lightning Surge - Power Cross |
| RJS 2 -R | 4.6 X 19.5mm | 600 VAC | -- | 2A | Telecom Lightning Surge - Power Cross |
| RJS 2 -R | 4.6 X 19.5mm | 600 VAC | -- | 2A | Telecom Lightning Surge - Power Cross |
| RJS 5 -R | 4.6 X 19.5mm | 600 VAC | -- | 5A | Telecom Lightning Surge - Power Cross |
| RJS 5 -R | 4.6 X 19.5mm | 600 VAC | -- | 5A | Telecom Lightning Surge - Power Cross |

5 X 15MM AXIAL LEADED FUSES



Specifications / Design Features

- Voltage Rating – 350VAC / 140VDC
- Amp Range – 100mA to 7A
- Glass Tube, Matte Tin Plated Copper Leads
- Available Bulk and Axial T&R – available pre-formed as one of our value added options
- Multiple Safety Agency Approvals
- Operating Temperature: -55°C to +125°C

Description

Bel's glass tube, Series 3JQ, 5JQ and 3JS, axial lead fuses carry 350VAC / 140VDC voltage ratings, which allow use in Lighting Ballast designs, world-wide. Additional applications include emerging LED lighting products and many power supply, battery charger and industrial product designs.

Used for primary circuit protection of almost any power supply, charger or industrial product.

How to Order 5 X 15mm Axial Leaded Fuses

| Part Number | Case Size | Voltage, AC | Voltage, DC | Ampere Rating | Clearing Time Characteristics |
|-------------|-----------|-------------|-------------|---------------|-----------------------------------|
| MJS 125 -R | 5 x 15mm | 250 VAC | -- | 125mA | Telecom Lightning Surge Withstand |
| MJS 1.25-R | 5 x 15mm | 250 VAC | -- | 1.25A | Telecom Lightning Surge Withstand |
| MJS 7-R | 5 x 15mm | 250 VAC | -- | 7A | Telecom Lightning Surge Withstand |
| 3JQ 100 -R | 5 x 15mm | 350 VAC | 140 VDC | 100mA | Quick Acting |
| 3JQ 3 -R | 5 x 15mm | 350 VAC | 140 VDC | 3A | Quick Acting |
| 3JQ 7 -R | 5 x 15mm | 350 VAC | 140 VDC | 7A | Quick Acting |
| 3JS 100 -R | 5 x 15mm | 350 VAC | 140 VDC | 100mA | Time-Lag |
| 3JS 350 -R | 5 x 15mm | 350 VAC | 140 VDC | 350mA | Time-Lag |
| 3JQ 3 -R | 5 x 15mm | 350 VAC | 140 VDC | 3A | Time-Lag |
| 3JQ 7 -R | 5 x 15mm | 350 VAC | 140 VDC | 7A | Time-Lag |

5 X 20MM AND ¼ X 1-1/4 FUSES



Specifications / Design Features

- Voltage Rating – 250VAC
- Amp Range – 63mA to 15A
- 10,000A, 125 VAC Interrupt Rating
- Field Replaceable (used in PCB Clips or Panel Fuseholder)
- Multiple Safety Agency Approvals
- Operating Temperature -55°C to 125°C

Description

Bel's glass and ceramic tube fuses come in 5 x 20mm and ¼ x 1¼ inch standard sizes, with approvals to World-Wide safety standards including UL/CSA, IEC and PSE.

Used for primary circuit protection of almost any power supply, charger or industrial product.

How to Order Glass or Ceramic 5 x 20mm and ¼ x 1-1/4 Fuse

| Part Number | Case Size | Voltage, AC | Voltage, DC | Ampere Rating | Clearing Time Characteristics |
|-------------|-----------------|-------------|-------------|---------------|-------------------------------|
| 5SF 10 -R | 5 X 20mm | 250 VAC | 63 VDC | 10A | Quick Acting |
| 5ST 8 -R | 5 X 20mm | 250 VAC | 63 VDC | 8A | Time-Lag |
| 5HF 12 -R | 5 X 20mm | 250 VAC | 63 VDC | 12A | Quick Acting |
| 5HT 6.3 -R | 5 X 20mm | 600 VAC | 63 VDC | 6.3A | Time-Lag |
| 5MF 1 -R | 5 X 20mm | 250 VAC | -- | 1A | Fast Acting |
| 5TT 3-R | 5 X 20mm | 250 VAC | -- | 3A | Slow Blow |
| 3AG 10 -R | 1/4 X 1-1/4 in. | 250 VAC | -- | 10A | Fast Blow |
| 3SB 8 -R | 1/4 X 1-1/4 in. | 250 VAC | -- | 8A | Slow Blow |
| 3AB 20 -R | 1/4 X 1-1/4 in. | 250 VAC | -- | 20A | Fast Blow |
| GSA 15 -R | 1/4 X 1-1/4 in. | 250 VAC | -- | 15A | Slow Blow |



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