

Circuit Protection Focus Catalog

Brick Miniature Surface Mount Fuses

Low Profile Surface Mount Chip Fuses

Low Profile SMD Resettable Devices

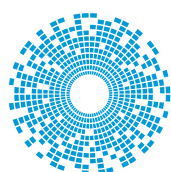
RADIAL PTC Resettable Devices

250/277/350 Volt Radial Fuses

Pre Formed 600Volt Radial Fuses

Miniature Axial Leaded Fuses

Glass and Ceramic Fuses



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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 the 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.



TABLE OF CONTENTS

Bel Fuse is your one-stop source for Circuit Protection Solutions

Brick SMT Fuses	4	250 / 277 / 350 Volt Radial Fuse	8
SSQ	4	RST	8
SST	4	MRT	8
SSQC	4	MRF	8
SSTC	4	RSTA	8
SMM	4	0698Q	8
SMP	4	0697H	8
UMTS	4	0697W	8
Chip SMT Fuse	5	600 Volt Radial Fuse	9
C1F	5	RJS	9
C1T	5	5 x 15mm Axial Leaded Fuses	10
C2Q	5	MJS	10
C1Q	5	3JQ	10
C1S	5	3JS	10
SMT PTC Resettable Devices	6	5 x 20mm and ¼ x 1-1/4 Fuses	11
0ZCF	6	5SF	11
0ZCG	6	5ST	11
0ZCH	6	5HF	11
0ZCJ	6	5HT R	11
0ZCK	6	5MF	11
0ZCM	6	5TT	11
PTC Radial Leaded Resettable Devices	7	3AG	11
0ZRA	7	3SB	11
0ZRB	7		
0ZRC	7		
0ZRE	7		
0ZRF	7		
0ZRM	7		

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. Provides 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 provides 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

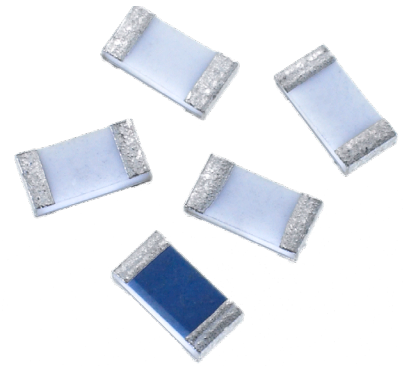
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Data sheets with electrical and mechanical specifications are available at belfuse.com/circuit-protection

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. Provides 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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Data sheets with electrical and mechanical specifications are available at belfuse.com/circuit-protection

The C1Q and C1S family of surface mount low profile chip fuses are available from inventory by contacting one of our local stocking franchised distributors.

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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 an 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 resetability 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

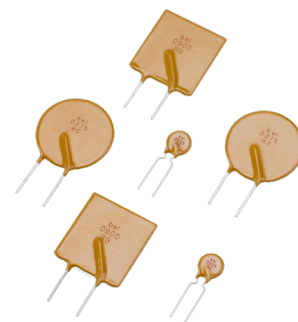
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PTC devices can also be used to protect against over temperature conditions not necessarily caused by excessive current. Bel's PTC devices will reset after power to the circuit is removed, the fault is cleared and power is reapplied to the circuit.

PTC RADIAL LEADED RESETTABLE DEVICES



Specifications / Design Features

- Voltage Rating – 16 – 240 VAC/VDC
- IHold 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 an 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 resetability 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 Leaded 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

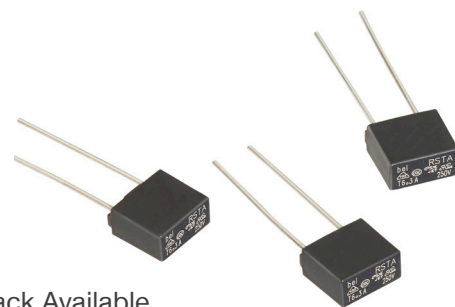
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250 / 277 / 350 VOLT RADIAL FUSE



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 worldwide acceptance. Provides board level primary circuit protection in a wide variety of battery chargers, power supplies, modems, routers and consumer electronics. 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

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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 Lighting Surge Withstand Protection, along with 600 VAC Power Cross Protection. When coupled with an adequate voltage protector, the Bel RJS Fuse Series enables 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

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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 allows use in Lighting Ballast designs worldwide. Additional applications include emerging LED lighting products and many power supply, battery charger and industrial product designs.

Used for the 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

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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 worldwide safety standards including UL/CSA, IEC and PSE.

Used for the 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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Local Support

Our regional sales offices are ready to provide expert local applications and sales support. In addition, our extensive network of manufacturers' representatives and distributors help bring our solutions to you.

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