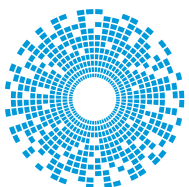




# Circuit Protection Solutions for Automotive Industry



**bel** POWER  
SOLUTIONS &  
PROTECTION

a bel group

[belfuse.com/circuit-protection](http://belfuse.com/circuit-protection)

Automotive fuses are used to protect a circuit and its components from excessive current that could lead to vehicle damage.

Surface Mount Fuses and Resettable PTC are compliant with AEC-Q200 stress test qualification for passive electrical devices, confirming their high reliability, durability and stability, withstanding high temperature, humidity and thermal shock resistance.

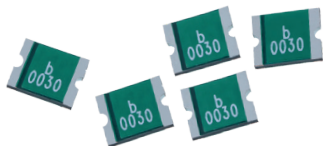
Bel offers a wide range of resettable SMD and radial PTC fuses, Slow Blow and Fast Acting surface mount fuses and Power fuses to protect wide range of automotive applications from overcurrent and overtemperature as these can be critical to a vehicle's overall reliability.

## RESETABLE PTC DEVICES

Bel's unique polymer formulation PTC resettable fuses protect against harmful overcurrent and short circuit conditions. They are also 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.

### SMT Series: 0ZT, ZCG, 0ZCJ, 0ZCH, 0ZCF, 0ZCM, 0ZCN, 0ZCK

- AEC-Q200 Compliant
- Resettable PTC
- Voltage Rating 6 to 60 VDC
- I Hold Current Range 10 mA to 5 A
- Various Case Sizes (0603 - 2920)
- Operating Temperature Range: -40°C to +125°C for 0TZ Series



### Applications:

- ADAS, Audio, eCall, Cameras
- Battery Management and On Board Diagnostics
- Engine Coolant Systems and Ventilator Control
- Ignition System Transmission and Engine Control
- GPS connectivity, Navigation, V2X communication
- Infotainment and Virtual Dashboard
- Cabin Lighting and Headlights
- Plugs, USB Ports, Cigarette Lighter Accessories
- ECUs, Braking and Parking Sensor
- Mirrors, Windows, Door Locks and Car Seats

### Radial Leaded Series: 0ZRA, 0ZRB, 0ZRN, 0ZRR, 0ZRS, 0ZRC, 0ZRE, 0ZRF, 0ZRM, 0ZRG, 0ZRP

- AEC-Q200 Compliant
- Resettable Devices
- Voltage Rating 16 – 240 VAC/VDC
- I Hold Current Range 50 mA to 15 A
- Operating Temperature Range: -40°C to +125°C for 0ZRN and 0ZRS



### Applications:

- ABS Systems, ECU, Motors
- Black Box, On Board Diagnostics
- Converter for Trailer breaklights
- HVAC, Climate and Ventilator Control
- Infotainment, Navigation, Display, Antenna
- Lumbar, Tailgates and Sunroofs
- Mirrors, Windows, Door Locks and Car Seats
- Plugs, Cigarette Lighter Accessories
- Power Outlet and Wire Harness





## CHIP FUSES

Chip Fuses board level primary and secondary circuit protection in a wide variety of automotive applications.

**Slow Blow Series:** C1T, 0685P, 0ABB

**Fast Acting Series:** C1F, C1H, C2F

- AEC-Q200 Compliant
- Voltage Ratings – up to 125 VAC / 63 VDC
- Amp Ratings – up to 50 A
- Operating Temperature Range: -55°C to +125°C
- 0603 and 1206 Size Case



### Applications:

- ABS Systems, ECUs, Motors, Remote Keyless Entry
- Battery Management, Cell Balancing and Protection
- GPS connectivity, Navigation, V2X communication
- Headlights, Sunroofs, Door Locks, Wire Harness
- HVAC and Climate Control
- Ignition System, Transmission and Engine Control
- Infotainment, Display, eCALL
- DC Output Charging, Plugs, and Cigarette Lighter Accessories

## BRICK FUSES

Surface Mount, “brick”, ceramic tube/end cap constructions. Provide board level primary and secondary circuit protection in a wide variety of applications.

**0ACH, 0ACG, 0679L, 0680L, 0679H, 0678D, 0678H, 0678L, 0684L Series**

- AEC-Q200 Compliant
- Voltage Ratings – up to 500 VDC / 350 VDC
- Current Ratings – up to 100 A
- Multiple Safety Agency Approvals
- Operating Temperature: -55°C to +125°C



### Applications:

- BMS
- DC Power Supply
- Lighting
- Adaptive Front Lights
- Power Steering
- Power Outlet

## EV / POWER FUSES

Bel's Circuit Protection Electric Vehicle (EV) fuses are used for protecting high power battery charging and management systems up to 1000 VDC.

**500 V Series:** 0AFG, 0ALE, 0AKN, 0AKR, 0AKS

**750-800 V Series:** 0ALB, 0ALC, 0ALD, 0AKJ

**1000 V Series:** 0AKH, 0AKK, 0AKL, 0ALA

- Cartridge / Bolt-Down Fuses
- Voltage Ratings 500 - 1000 VDC
- Amp Ratings – up to 600 A
- Reliability performance according to JASO D622/ISO8820-8



### Applications:

- Charging station to Portable charger
- PDU, Battery, Main Power
- PDU to Aux: DC/DC, Heating, Brake Pump Motor, A/C, Steering
- Energy Storage, Main Power
- Energy Storage, Auxiliary
- Main Fuse



## About us

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 350 VAC, 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.



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