

Transportation

Overview:

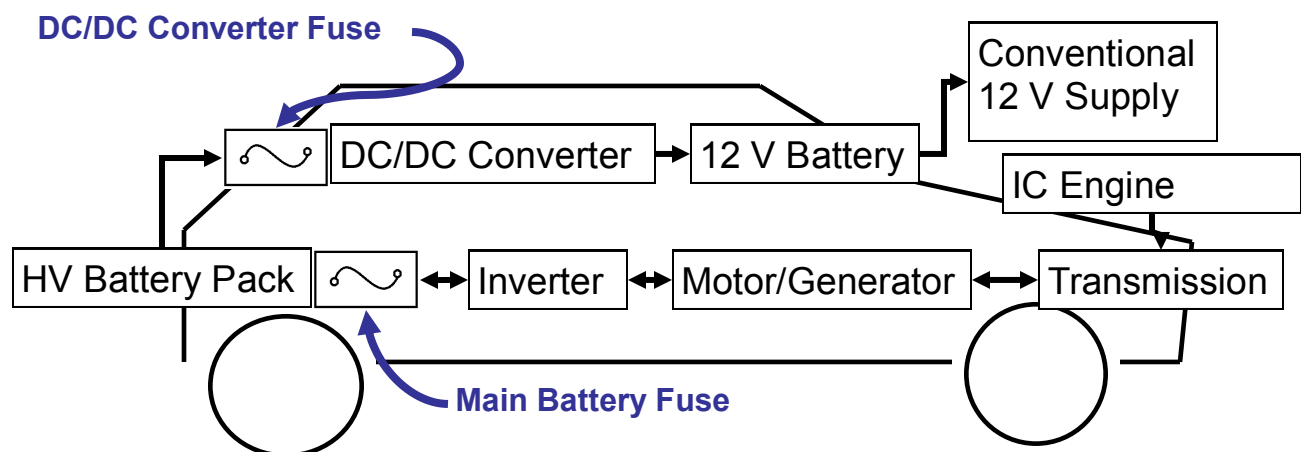
Since 1995, SOC has been developing fuses for hybrid electric automotive vehicles. Safety and reliability are paramount when lives and reputations are on the line.

From our experience, we have developed a unique portfolio of fuses designed specifically for the demands of the electric and hybrid electric automotive markets.



Primary Applications:

- Main Battery and Cable Protection (MSD and Quick-Disconnects)
- HVDC/DC Converters and E-Bikes
- HVAC/HVDC Quick Chargers (Vehicle Side)



Hybrid Automotive Power Architecture.

Transportation

Main Battery and Cable Protection

Application Specifics:

Mounted within a service disconnect module these fuses protect the battery in crash situations from unsafe discharge. Also in lower level overcurrents, these fuses prevent cable insulation from overheating due to excessive current.

Applications for these fuses require long cycle lifetimes and drive-cycle analysis may need to be performed to determine fuse suitability. Full electric vehicles require fuses with high rated currents. SOC is capable of manufacturing fuses up to 400A for these applications. Hybrid drive cars require lower current ratings and, for mild hybrids, 100A rated fuses offer sufficient current carrying capacity.

SOC's vibration resistant and low temperature re-rating wire element design prevent nuisance openings and ensures safety throughout the operating temperature range.



Product Offering:



BT3050A

This fuse is available with rated currents as high as 360A and voltages of 500 VDC ratings.



BC2035

This fuse is available with rated currents as high as 180A and voltages of 500 VDC ratings.

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HVDC/DC Converters and E-Bikes

Application Specifics:

Automotive DC/DC converters provide the power necessary for the 12V supply and power many of the traditionally belt driven ancillaries. This can result in substantial power draws. SOC allows customers up to 35A current ratings in a 6x25 mm PCB mountable fuse. This allows for excellent circuit connectivity and easy installation. We also provide fusing up to 70A in a ceramic bodied 10x30 mm fuse.

Our construction employs the same vibration resistant wire element design utilized in our main battery and cable fuses. This allows for superior reliability in demanding automotive environments.

All automotive DC/DC converter fuses manufactured by SOC feature an inrush-withstand characteristic with high I^2t values allowing for fuses with superior withstanding of pulsed current waveforms.



Product Offering:



BL1030A

This fuse has a high 500 VDC ratings and possesses current ratings of up to 50A. The ceramic body and wire element allows for safe operation over wide operating temperature ranges. At a reduced voltage, this fuse achieves current ratings as high as 70A.



BI1030

This PCB mountable fuse features a 500 VDC rating, current ratings of up to 50A, and SOC's robust wire element and ceramic body construction.

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HVDC/DC Converters and E-Bikes

Product Offering (Cont.):



BC635B

This fuse is rated at 500 VDC with 2000A of IR. This high IR allows the safe interruption of prospective currents from fault scenarios where little line resistance occurs. Available in rated currents up to 30A.



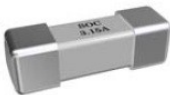
BI625

Only 25 mm in length, this fuse carries a 500 VDC voltage rating and has rated currents of up to 35A. This fuse's easy installation, compact dimensions, and simple construction make it a unique device.



BC625

This fuse is the bolt-down variant of the VBI625. It allows for easier field replacement and repair of the DC/DC converter. At 500 VDC, this fuse is available with rated currents of up to 35A .



36CFA

This fuse was designed for industrial applications. However its high DC rating of 600 VDC and compact size make it an ideal fuse for powering small high voltage bus converters.

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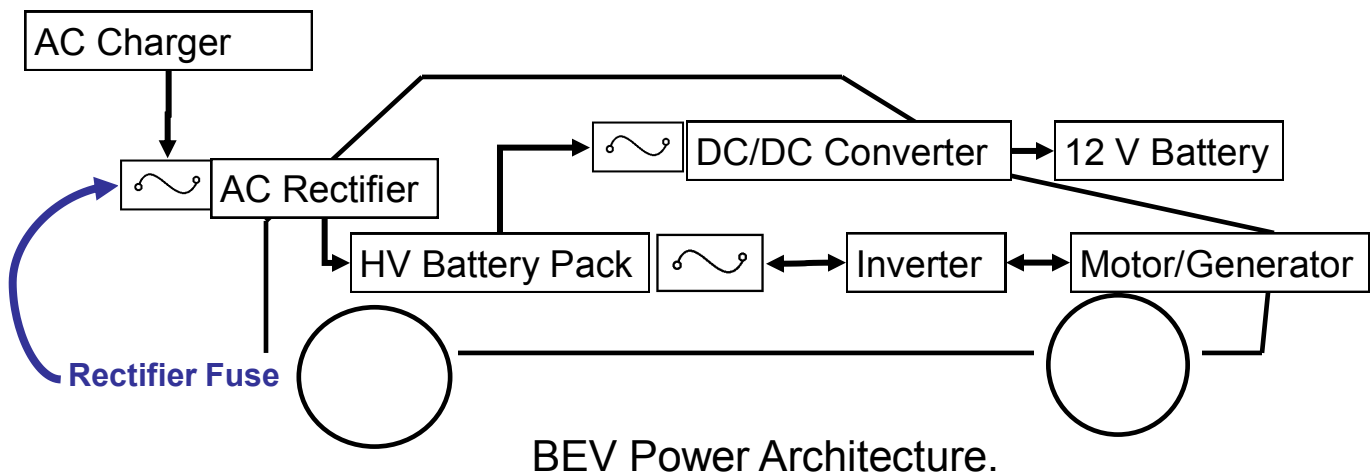
HVAC/DC Quick Chargers (Vehicle Side)



Application Specifics:

SOC's automotive rectifier fuses protect the rectifier and AC supply lines from overcurrents generated by quick chargers. SOC's fuses will protect circuits from input voltages as high as 500 VAC, for additional safety in quick charging applications. These fuses are also available in a PCB mountable configuration.

Fuses for the rectifier are susceptible to a number of different overcurrent threats including upstream charger failure and downstream rectifier failure. SOC's quick charging port fuses still feature robust wire element construction capable of withstanding substantial shock and vibration, which reliably protects the HV battery and passengers from these threats.



Product Offering:



BL1030

This fuse is UL Recognized for currents up to 50A at 500 VAC. Inrush-withstand characteristic for toleration of start-up currents.



BI1030

This PCB mountable fuse features a 500 VAC rating, current ratings of up to 50A, and SOC's robust wire element and ceramic body construction.