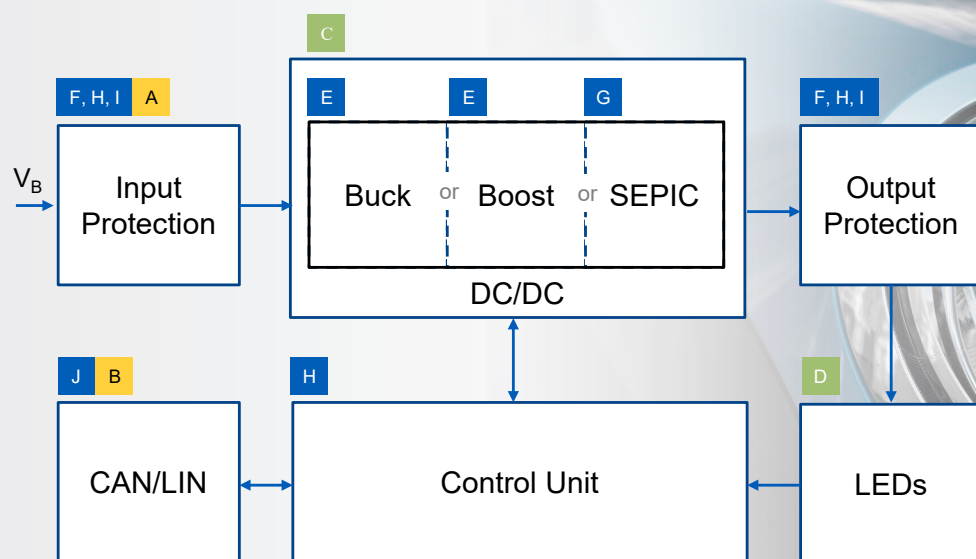


# Automotive LED lighting

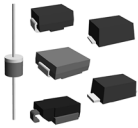
Whether serving as headlights, daytime running lights, turn indicators, etc. LED lights offer enhanced design flexibility and improved energy efficiency. Today's automotive electronic components enable manufacturers to develop a more advanced design that handles higher voltages and a wider array of high-power LEDs at elevated current in a smaller footprint.

## How electronic components used here?



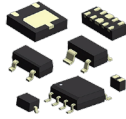
	Product	Series	Function
Circuit Protection	A High power TVS diode   automotive rated	SMx / xKPE High power TVS diode	Surge / Load dump protection
	B ESD TVS diode   automotive rated	STS32 ESD TVS diode	CAN bus ESD protection
Sensors	C Current sensing resistor	Metal strip resistors, Metal film resistors, Metal shunts	Current sensing
	D NTC Thermistor (Coming soon)	Nxx NTC Thermistor	Temperature sensing
Magnetics	E High current molded inductor, Low profile molded inductor, Semi-shielded inductor, Shielded inductor	HCM1A, MPIA, EXLA, SDCxA, DRA	DC/DC (Buck/Boost)
	F High current molded coupled inductor, Dual/coupled shielded inductor	HSCA, DRAQ	Differential mode filter
	G Ferrite chip bead, Multilayer chip inductor	MFBA, MCLA	DC / DC (SPEIC)
	H Automotive common mode choke	CMLA	Noise reduction
	I CAN-Ethernet inductor	ACE1V / ACE2V	Common Mode Filter, power line
	J		Common Mode Filter, data line

## Recommended products



### High power TVS diode automotive rated

- 200 W to 12000 W peak pulse capability
- SMx and xKPE packages
- Automotive grade (AEC-Q101 qualified)



### ESD TVS diodes automotive rated

- Voltages from 3.3 V up to 36 V
- Capacitances down to 0.25 pF
- AEC-Q101 qualified



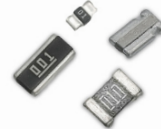
### CHSA Current sense resistor

- 2512 (6432 metric) to 5930 (15076 metric) package
- High power ratings, up to 15 W
- AEC-Q200 qualified



### MFLA, MFHA, MFSA Metal film resistor

- 0402 (1005 metric) to 2512 (6432 metric) package
- High power dissipation, low sensing resistance
- AEC-Q200 qualified



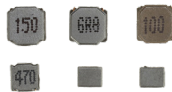
### MSMA, MSNA, MFFA Metal strip resistor

- 0603 (1608 metric) to 2512 (6432 metric) package
- Power ratings up to 3 W
- AEC-Q200 qualified



### EXLA High current molded inductor

- SMT sizes: 4 mm, 5 mm, 6 mm, 7 mm, 8 mm, 10 mm
- Inductance range: 0.185  $\mu$ H to 22  $\mu$ H, rated up to 58 A, low DCR
- AEC-Q200, -55  $^{\circ}$ C to +155  $^{\circ}$ C



### SDCxA Semi-shielded inductor

- 4 mm, 5 mm, 6 mm, 8 mm SMT sizes
- Inductance range: 1.0  $\mu$ H to 100  $\mu$ H, current range up to 13.5 A, low DCR
- AEC-Q200, -55  $^{\circ}$ C to +125  $^{\circ}$ C



### DRAQ Dual / coupled shielded inductor

- 4 mm, 5 mm, 6 mm, 8 mm SMT sizes
- 200/500 Vac isolation between windings
- AEC-Q200, +165  $^{\circ}$ C maximum operating temperature



### MFBA Ferrite chip bead

- EIA/Metric sizes: (0402/1005), (0603/1608), (0805/2012), (1206/3126)
- High impedance up to 2000  $\Omega$ , high current up to 6 A
- AEC-Q200, -55  $^{\circ}$ C to +150  $^{\circ}$ C (High temperature rating)



### MCLA Multilayer chip inductor

- Standard EIA 0402 to 3216 size
- High Q, higher current ratings
- Inductance range: 1.0 nH to 12  $\mu$ H
- AECQ Grade 3 qualified



### CMLA Automotive common mode choke

- Three most popular SMT sizes: 7 mm, 9 mm, 12 mm
- 700  $\Omega$  impedance, rated up to 8 A
- AEC-Q200, -40  $^{\circ}$ C to +125  $^{\circ}$ C



### ACE CAN-Ethernet inductor

- EIA/Metric sizes: (0805/2012), (1210/3225), (1812/4532)
- Inductance range: 11  $\mu$ H to 200  $\mu$ H
- AEC-Q200, OPEN Alliance 2.0 (ACE2V), -40  $^{\circ}$ C to +125  $^{\circ}$ C

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