

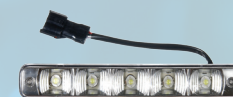
## Key components for EXTERIOR LIGHTING



**LED Headlight Units**



**Daytime Lighting**



**LED Fog Lighting**



**Rear and Signal LED Lights**



### **THE VISHAY ADVANTAGE**

Automotive Qualified  
High-SFR Components  
EMI-Improved Components  
High-Temperature-Approved Passive Components ( $\geq 155\text{ }^{\circ}\text{C}$ )



## LED Headlight Units

## MOSFETs

**Dual N-Channel MOSFETs  
in 5 mm x 6 mm PowerPAK®  
SO-8L, 60 V, 12 mΩ**



[SQJB60EP](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- Dual configuration in thermally enhanced PowerPAK® SO-8L saves board space

## INDUCTORS

**Low Profile, High Current  
Inductors with E-Field Shield**



[IHLE-3232DD-5A](#)

- High temperature operation up to 155 °C
- Integrated e-field shield eliminates need for separate shielding

## DIODES

**Surface-Mount TRANSZORB®  
TVS**



[P6SMB36CA](#)

- AEC-Q101 qualified
- 600 W peak pulse power capability with 10/1000 μs waveform

## RESISTORS

**Professional Thin Film MELF  
Resistors**



[MMB 0207](#)

- Unrivalled surge handling capability, ultimate stability over lifetime
- AEC-Q200 qualified, approved according to EN 140401-803, intrinsically sulfur-resistant, Green product

## RESISTORS

**Power Metal Strip® SMD  
Resistors, Very High Power  
(to 3 W), Extremely Low  
Resistance (to 0.0005 Ω)**



[WSLP](#)

- Very high power rating, to 3 W
- Extremely low resistance values from 0.0005 Ω to 0.1 Ω and tolerance of 1 %

## NON-LINEAR RESISTORS

**SMD Glass-Protected NTC  
Thermistors**



[NTCS...e3](#)

- Standard series, AEC-Q200 compliant
- Glass-protected with soft terminations

## RECTIFIERS

**High Current Density,  
Surface-Mount Trench MOS  
Barrier Schottky Rectifiers**

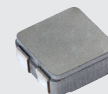


[V8P10HM3](#)

- Ultra-low  $V_F = 0.466$  V at  $I_F = 4$  A
- Very low profile - typical height of 1.1 mm

## INDUCTORS

**Low-Profile, High-Current  
Coupled Inductor**



[IHCL-4040DZ-5A](#)

- High-temperature operation up to 155 °C
- Shielded construction

## INDUCTORS

**Low-Profile, High-Current  
IHLP® Inductors**



[IHLP-5050EZ-5A](#)

- High saturation current
- High-temperature operation up to 155 °C

## INDUCTORS

**Low-Profile, High-Current  
IHLP® Inductors**



[IHLP-4040DZ-5A](#)

- Excellent high-current performance for noise filters
- High-temperature operation up to 155 °C

## CERAMIC CAPACITORS

**AEC-Q200 Qualified, Broad  
Range of Sizes and Working  
Voltages, C0G (NPO), X7R,  
and X8R**



[VJ...31X RoHS Automotive MLCCs](#)

- RoHS and Green compliant parts available
- AgPd termination available for epoxy bonding

## TANTALUM CAPACITORS

**Solid Tantalum  
Surface-Mount Chip  
Capacitors, Tantamount®  
Molded Case, Automotive  
Grade**



[TH3](#)

- High-temperature molded tantalum capacitors, HI-TMP®, up to 150 °C



## Daytime Lighting

## RESISTORS

**Pulse-Proof, High-Power Thick Film Chip Resistors**[CRCW-HP e3](#)

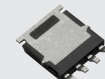
- Excellent pulse load capability
- Enhanced power rating

## MOSFETs

**Dual N-Channel MOSFETs in 5 mm x 6 mm PowerPAK SO-8L, 40 V, 33 mΩ**[SQJ946EP](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- Optimized for high-frequency DC/DC applications, lower switching losses

## MOSFETs

**N-Channel MOSFETs in 3 mm x 3 mm PowerPAK® 1212 with Wettable Flanks, 80 V, 25 mΩ**[SQSA80ENW](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- For higher currents

## MOSFETs

**N-Channel MOSFETs in Small 3 mm x 3 mm SOT-23, 100 V, 1.6 A, 300 mΩ**[SQ2398ES](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- 100 V MOSFETs for switching low currents in small packages

## RECTIFIERS

**High Current Density, Surface-Mount Trench MOS Barrier Schottky Rectifier**[V8P10HM3](#)

- Ultra-low  $V_F = 0.466$  V at  $I_F = 4$  A
- Very low profile - typical height of 1.1 mm

## RECTIFIERS

**High-Voltage Schottky Diode, 100 V, 2 A,  $T_J = 175$  °C**[SS2PH10](#)

- Very low profile - typical height of 1.0 mm
- Low forward voltage drop, low power losses

## DIODES

**High Power Density Surface-Mount PAR® TVS**[TPSMP](#)

- AEC-Q101 qualified,  $T_J = 185$  °C capability, suitable for automotive applications
- Very low profile - typical height of 1.0 mm

## RESISTORS

**Thick Film Surface-Mount Chip Resistors, Wraparound, Extremely Low Value**[RCWE](#)

- Low resistance values from 0.01 Ω to 0.976 Ω and tolerance of 1 %
- Thick film construction with 2x power capacity

## RESISTORS

**Professional Thin Film MELF Resistors**[MMB 0207](#)

- Unrivalled surge handling capability, ultimate stability over lifetime
- AEC-Q200 qualified, approved according to EN 140401-803, intrinsically sulfur-resistant, Green product

## OPTOELECTRONICS

**SMD PLCC-2 Plus 0.5 W White LEDs**[VLW51Q2R3](#)

- Luminous intensity up to 51 lm in compact 3.5 x 3.5 x 1.2 mm surface-mount package
- White color coordinates of 0.33 (X) and 0.33 (Y) with 120° viewing angle

## NON-LINEAR RESISTORS

**SMD Glass-Protected NTC Thermistors**[NTCS...e3](#)

- Standard series, AEC-Q200 compliant
- Glass-protected with soft terminations

## CERAMIC CAPACITORS

**AEC-Q200 Qualified, Broad Range of Sizes and Working Voltages, C0G (NPO), X7R, and X8R**[VJ...31X RoHS Automotive MLCCs](#)

- RoHS and Green compliant parts available
- AgPd termination available for epoxy bonding



## LED Fog Lighting

## RESISTORS

**Pulse-Proof, High-Power Thick Film Chip Resistors**[CRCW-HP e3](#)

- Excellent pulse load capability
- Enhanced power rating

## MOSFETs

**Dual N-Channel MOSFETs in 5 mm x 6 mm PowerPAK®, 40 V, 11 mΩ / 22 mΩ**[SQJ942EP](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- Optimized for high-frequency DC/DC applications, lower switching losses

## RECTIFIERS

**2 A, 40 V Schottky Diodes**[SS2P4](#)

- Low-profile DO-220AA (SMP) package for low-voltage, high-frequency DC/DC converters; switching power supplies; free-wheeling diodes; and polarity protection

## RECTIFIERS

**45 V, 3 A Trench Schottky Diodes, Ultra-Low  $V_F$** [V3PAL45](#)

- Low-profile DO-221BC (SMPA) package for low-voltage, high-frequency DC/DC converters; switching power supplies; freewheeling diodes; and polarity protection

## RESISTORS

**Professional Thin Film MELF Resistors**[MMB 0207](#)

- Unrivalled surge handling capability, ultimate stability over lifetime
- AEC-Q200 qualified, approved according to EN 140401-803, intrinsically sulfur-resistant, Green product

## RESISTORS

**Thick Film Surface Mount Chip Resistors, Wraparound, Extremely Low Values**[RCWE](#)

- Low resistance values from 0.01  $\Omega$  to 0.976  $\Omega$  and tolerance of 1 %
- Thick film construction with 2x power capacity

## DIODES

**Surface-Mount PAR® TVS**[TPSMA](#)

- 400 W peak pulse power capability with a 10/1000  $\mu$ s waveform

## NON-LINEAR RESISTORS

**SMD Glass-Protected NTC Thermistors**[NTCS...e3](#)

- Standard series, AEC-Q200 compliant
- Glass-protected with soft terminations

## INDUCTORS

**Low-Profile, High-Current IHLP® Inductors**[IHLP-2525CZ-5A](#)

- Excellent high-temperature performance for DC/DC converter input and output filters

## CERAMIC CAPACITORS

**AEC-Q200 Qualified, Broad Range of Sizes and Working Voltages, C0G (NPO), X7R, and X8R**[VJ...31X RoHS Automotive MLCCs](#)

- RoHS and Green compliant parts available
- AgPd termination available for epoxy bonding

## INDUCTORS

**Low-Profile, High-Current IHLP® Inductors**[IHLP-2020CZ-5A](#)

- Compact size and high current, low saturation for noise filtering
- Up to 155 °C continuous operation



## Rear and Signal LED Lights



## RESISTORS

### Pulse-Proof, High-Power Thick Film Chip Resistors



#### [CRCW-HP e3](#)

- Excellent pulse load capability
- Enhanced power rating

## RESISTORS

### Professional Thin Film MELF Resistors



#### [MMB 0207](#)

- Unrivaled surge handling capability, ultimate stability over lifetime
- AEC-Q200 qualified, approved according to EN 140401-803, intrinsically sulfur-resistant, Green product

## MOSFETs

### N-Channel MOSFETs in 3 mm x 3 mm PowerPAK® 1212 with Wettable Flanks Rated at 40 V, 9 mΩ



#### [SQS484ENW](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation

## RECTIFIERS

### Surface-Mount Schottky Barrier Rectifiers



#### [MSS1P6HM3](#)

- Low-profile MicroSMP package for low-voltage, high-frequency inverters; DC/DC converters; and polarity protection applications
- AEC-Q101 qualified

## INDUCTORS

### Low-Profile, High-Current IHLP® Inductors



#### [IHLP-1616BZ-A1](#)

- Shielded construction, lowest DCR/μH in this package size
- Excellent DC/DC energy storage up to 5 MHz

## RESISTORS

### Thick Film Surface Mount Chip Resistors, Wraparound, Extremely Low Value

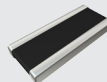


#### [RCWE](#)

- Low resistance values from 0.01 Ω to 0.976 Ω and tolerance of 1 %
- Thick film construction with 2x power capacity

## RESISTORS

### Power Metal Strip® SMD Resistors, Wide Terminal, 1 mΩ to 3 mΩ, 1 W



#### [WSL0612](#)

- Low EMF, high temperature up to 170 °C

## OPTOELECTRONICS

### SMD High-Power, 1 W Visible LEDs (Red, Amber, and Yellow)



#### [VLMR71AAAC](#)

- Compact, high-power SMD package: 6 x 6 x 1.5 mm
- Wide viewing angle of 120°

## NON-LINEAR RESISTORS

### SMD Glass-Protected NTC Thermistors



#### [NTCS...e3](#)

- Standard series, AEC-Q200 compliant
- Glass-protected with soft terminations

## CERAMIC CAPACITORS

### AEC-Q200 Qualified, Broad Range of Sizes and Working Voltages, C0G (NPO), X7R, and X8R



#### [VJ...31X RoHS Automotive MLCCs](#)

- RoHS and Green compliant parts available
- AgPd termination available for epoxy bonding

## INDUCTORS

### Low-Profile, High-Current IHLP® Inductors



#### [IHLP-2020CZ-5A](#)

- Compact size and high current, low saturation for noise filtering
- Up to 155 °C continuous operation