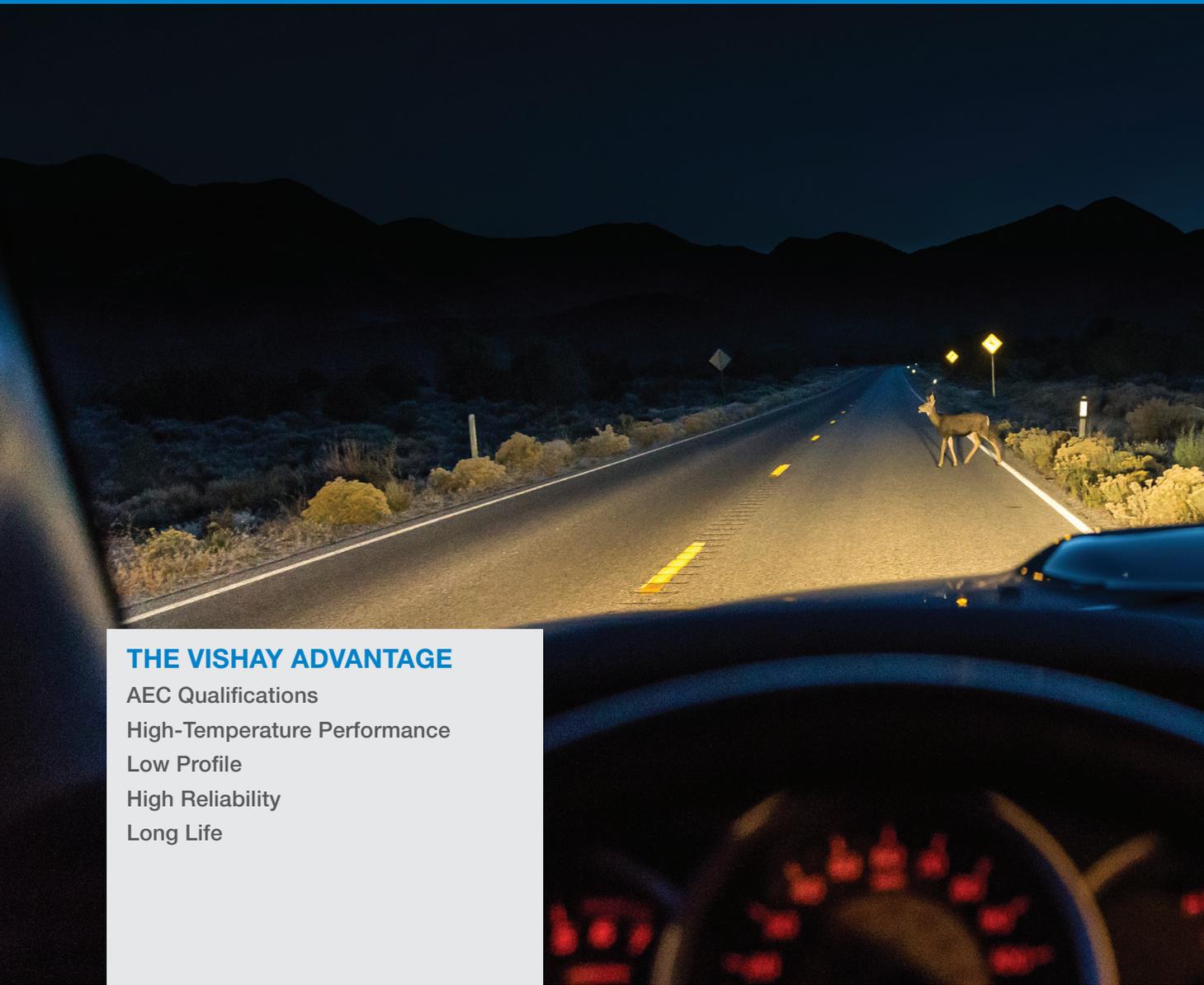
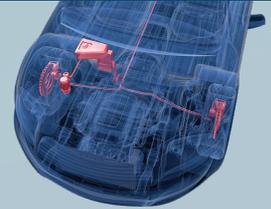


Key components for ACTIVE SAFETY



**Enhanced
Electrical
Braking (EEB)**



**Electronic Stability
Program (ESP)
Vehicle Stability
Control (VSC)**



**Electrical Parking
Brake (EPB)
Integrated Parking
Brake (IPB)**



**Advanced Driver
Assistance
System (ADAS)**

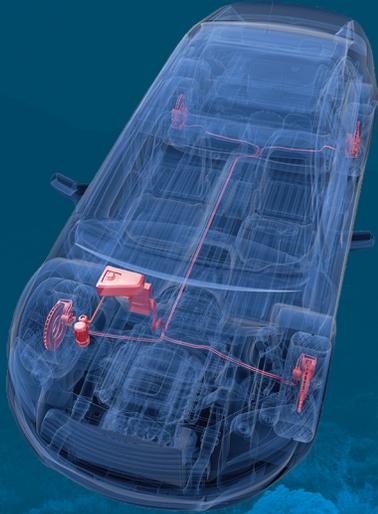


THE VISHAY ADVANTAGE

- AEC Qualifications
- High-Temperature Performance
- Low Profile
- High Reliability
- Long Life



Enhanced Electrical Braking (EEB)



RESISTORS

Thin Film Resistors, 4.7 Ω to 3.01 MΩ, 0402 to 1210 Case Sizes, 50 V to 200 V



[TNPW e3](#)

- Excellent stability $|\Delta R/R| \leq 0.05\%$ after 1000 h at 70 °C, 0402 to 1210 case sizes

MOSFETs

N-Channel MOSFETs in 8 mm x 8 mm PowerPAK®, 40 V, 160 A, 1.2 mΩ



[SQJQ100EL](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- Ultra-low $R_{DS(on)}$, thermally enhanced PowerPAK® 8x8L replaces D²PAK in less than half of the area

INDUCTORS

Power SMD IHLP® Storage Inductors, 0.22 μH to 22μH



[IHLP5050FD-5A](#)

- Soft saturation, high rated current, temperature up to 155 °C

RESISTORS

Power Metal Strip® SMD Resistors, 4-Terminal, Low Value (Down to 0.0001 Ω)



[WSK1216](#)

- High power rating of 3 W to 5 W with TCR of 20 ppm/K
- Very low resistance values, 0.0001 Ω to 0.004 Ω, with tolerance of 1 %

NON-LINEAR RESISTORS

SMD Glass-Protected NTC Thermistors



[NTCS...e3](#)

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

INDUCTORS

SMD Low-Profile, High-Current IHLP® Inductors, 0.22 μH to 33 μH



[IHLP-3232DZ-5A](#)

- High-temperature (up to +155 °C), high-current shielded inductors

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

ALUMINUM CAPACITORS

SMD Aluminum Capacitors, High Temperature Up to 150 °C, Low ESR



[260 CLA-V](#)

- High ripple current up to 1400 mA at 150 °C, capacitance up to 3300 μF
- Useful life up to 2000 h at 150 °C, high vibration capability



Electronic Stability Program (ESP) Vehicle Stability Control (VSC)

ALUMINUM CAPACITORS

SMD Aluminum Capacitors, High Temperature Up to 150 °C, Low ESR



[260 CLA-V](#)

- High ripple current up to 1400 mA at 150 °C, capacitance up to 3300 µF
- Useful life up to 2000 h at 150 °C, high vibration capability

RESISTORS

SMD Thick Film Resistors, High Stability, Sulfur-Resistant



[RCA0603](#)

- TCR = 50 ppm/K to 200 ppm/K

MOSFETs

N-Channel MOSFETs in 8 mm x 8 mm PowerPAK®, 40 V, 160 A, 1.2 mΩ



[SQJQ100EL](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- Ultra-low $R_{DS(on)}$, thermally enhanced PowerPAK® 8x8L replaces D²PAK in less than half of the area

MOSFETs

Dual N-Channel MOSFETs in 8 mm x 8 mm PowerPAK®, 40 V, 100 A, 3.9 mΩ



[SQJQ900E](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- High power density dual PowerPAK® 8x8L offers significant reduction in PCB area

MOSFETs

N-Channel MOSFETs in 5 mm x 6 mm PowerPAK® SO-8L Rated at 40 V, 3.0 mΩ



[SQJA46EP](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- Thermally enhanced PowerPAK® SO-8L replaces DPAK in less than half of the area

INDUCTORS

Low-Profile, High-Current IHLP® Inductors



[IHLP-2525CZ-5A](#)

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

RESISTORS

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



[WSL0612](#)

- Low EMF, high temperature up to 170 °C

RECTIFIERS

1A, 200 V FRED Pt® Hyperfast Rectifiers



[VS-1EFH02HM3](#)

- Hyperfast recovery time, $t_{rr} = 25$ ns, reduced Q_{rr} , and soft recovery
- DO-219AB (SMF) package, high T_j of 175 °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, Molded Case, Automotive Grade



[TH3 / TH4](#)

- High-temperature molded tantalum capacitors, HI-TMP®, TH4 = up to 175 °C, TH3 = up to 150 °C



Electrical Parking Brake (EPB) Integrated Parking Brake (IPB)



ALUMINUM CAPACITORS
SMD Aluminum Capacitors, High Temperature Up to 150 °C, Low ESR

[260 CLA-V](#)

- High ripple current up to 1400 mA at 150 °C, capacitance up to 3300 µF
- Useful life up to 2000 h at 150 °C, high vibration capability

MOSFETs
Dual N-Channel MOSFETs in 8 mm x 8 mm PowerPAK®, 40 V, 100 A, 3.9 mΩ

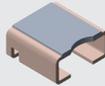
[SQJQ900E](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- High power density dual PowerPAK® 8x8L offers significant reduction in PCB area

INDUCTORS
Shielded EMI Filter Up to 190 A I_{DCR}, 2.2µH, Ultra-Low DCR (0.22 mΩ)

[IHXL-2000VZ-5A](#)

- Very high-current and high-temperature operation for filters and energy storage

RESISTORS
Power Metal Strip® SMD Resistors, 4-Terminal, Low Value (Down to 0.0001 Ω)

[WSK1216](#)

- High power rating of 3 W to 5 W with TCR of 20 ppm/K
- Very low resistance values, 0.0001 Ω to 0.004 Ω, with tolerance of 1 %

MOSFETs
N-Channel MOSFETs in 5 mm x 6 mm PowerPAK® SO-8L Rated at 40 V, 3.0 mΩ

[SQJA46EP](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- Thermally enhanced PowerPAK® SO-8L replaces DPAK in less than half of the area

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

MOSFETs
N-Channel MOSFETs in 8 mm x 8 mm PowerPAK®, 40 V, 160 A, 1.2 mΩ

[SQJQ100EL](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- Ultra-low R_{DS(on)}, thermally enhanced PowerPAK® 8x8L replaces D²PAK in less than half of the area

INDUCTORS
Low-Profile, High-Current IHLP® Inductors

[IHLP-6767GZ-5A](#)

- Lowest DCR/µH in this package size
- High temperature up to 155 °C, shielded construction

TANTALUM CAPACITORS
Solid Tantalum Surface-Mount Chip Capacitors, Molded Case, Automotive Grade

[TH3 / TH4](#)

- High-temperature molded tantalum capacitors, HI-TMP®, TH4 = up to 175 °C, TH3 = up to 150 °C

Advanced Driver Assistance System (ADAS)

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

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

DIODES

SMD Power ESD Diodes, Up to ± 30 kV, I_{FSM} = 50 A


[SMFxx](#)

- SMF package: 3.5 mm x 1.9 mm
- Breakdown voltage = 6.4 V to 64.4 V

OPTOELECTRONICS

Integrated Proximity and Ambient Light Sensors with I²C Interface


[VCNL4020X01](#)

- Low-profile QFN SMD package, 16 bit resolution, proximity distance up to 200 mm
- Suitable for extended detection range, gesture function with external emitters

MOSFETs

Dual N-Channel MOSFETs in 5 mm x 6 mm PowerPAK®, 12 V, 2.7 mΩ / 7.4 mΩ


[SQJ202EP](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- Low-voltage, high-frequency synchronous buck applications, lower switching losses

RECTIFIERS

Surface-Mount Schottky Barrier Rectifiers


[MSS1P4](#)

- Very low profile - typical height of 0.65 mm
- AEC-Q101 qualified

INDUCTORS

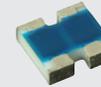
Low-Profile, High-Current IHLP® Inductors


[IHLP-2525CZ-5A](#)

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

RESISTORS

Precision Thin Film Resistor Arrays, Superior Moisture Resistivity, TCR ± 0.05


[ACAS 0606 AT](#)

- Arbitrary resistance ratio up to 1:20, superior tracking stability over lifetime
- Relative TCR down to ± 5 ppm/K (tracking), AEC-Q200 qualified

TANTALUM CAPACITORS

Solid Tantalum Chip Capacitors, High CV Leadframeless Molded, Automotive Grade


[TP8](#)

- Smallest AEC-Q200 qualified tantalum capacitors with case sizes as small as 0603

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

High-Current SMD Inductors with E-Field Shielding and 155 °C Operating Temperature


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

- Excellent EMI protection, double-shielded