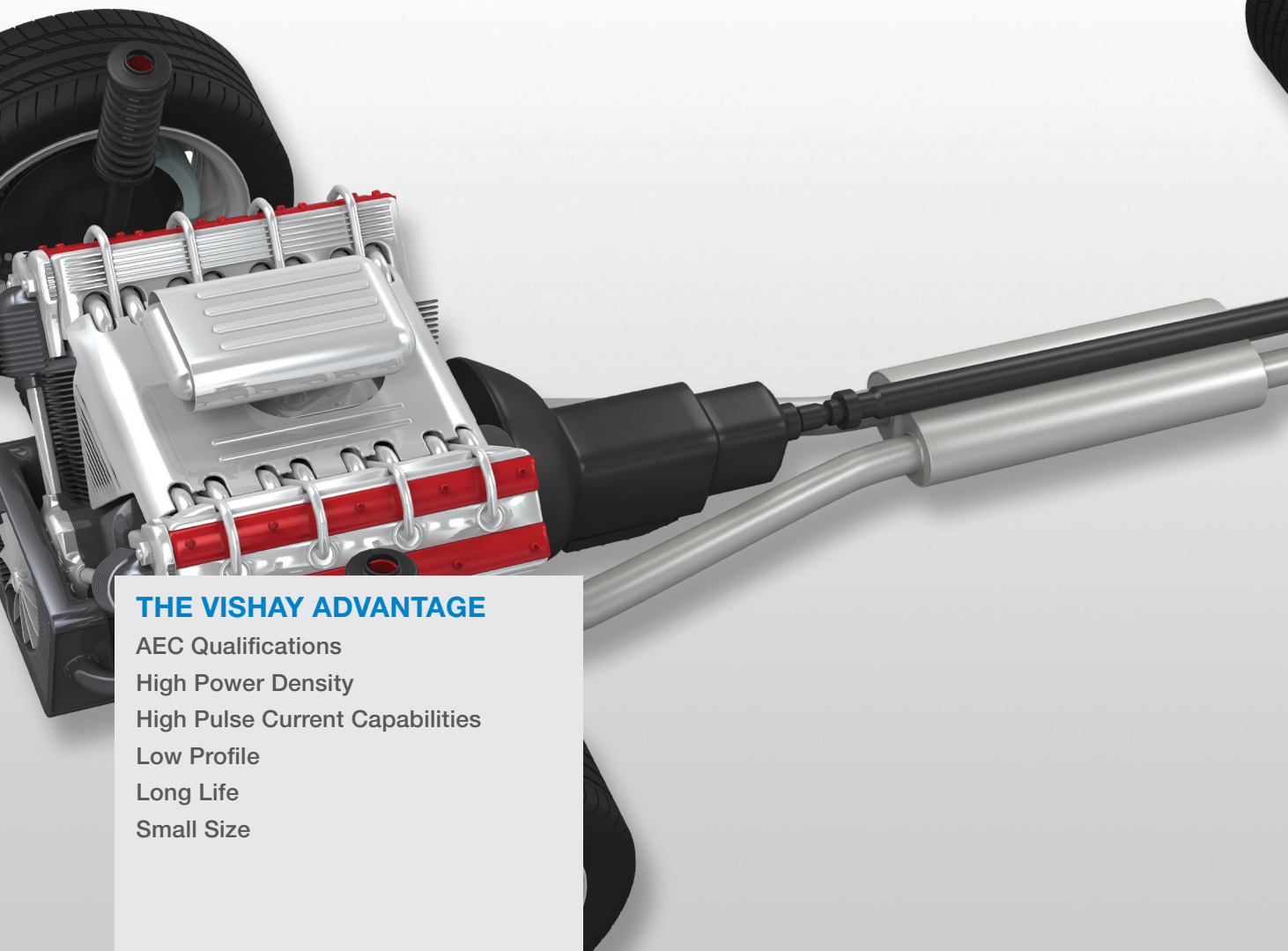


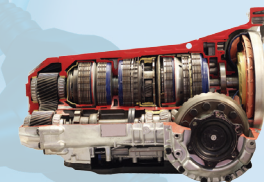
## Key components for CHASSIS CONTROL



**Electric Power  
Steering (BLDC  
Motor Drive)**



**Transmission  
ECU, Double  
Clutch BLDC**

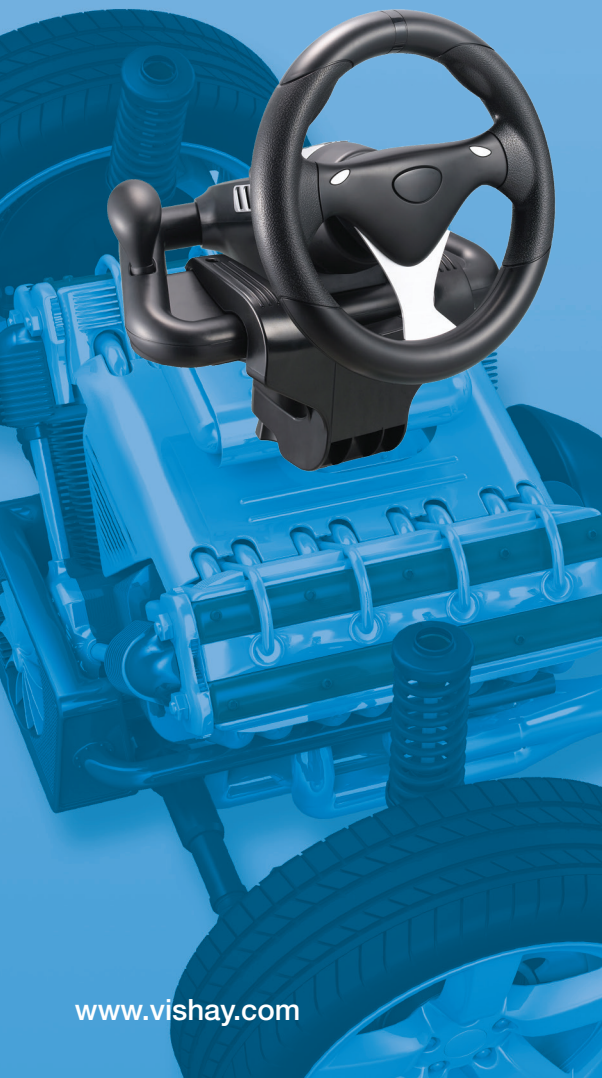


### **THE VISHAY ADVANTAGE**

- AEC Qualifications
- High Power Density
- High Pulse Current Capabilities
- Low Profile
- Long Life
- Small Size



## Electric Power Steering (BLDC Motor Drive)



## 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

**N-Channel MOSFETs as Known Good Die (KGD) Rated at 40 V, 0.72 mΩ**

[SQC200N04-0m72KGD](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- Efficient KGD packaging allows high power density and reduced parasitics

## OPTOELECTRONICS

**3-Channel SMD Transmissive Sensors for "Turn and Push" Optical Encoding**

[TCUT1630X01](#)

- Wide operating temperature range of -40 °C to +110 °C, 3 output channels
- Sensing of motion, speed, and direction; third channel for trigger signal

## RESISTORS

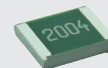
**Power Metal Strip® SMD Resistors**

[WSLP2726](#)

- Very high power (7 W)
- Resistance = 0.3 mΩ to 4 mΩ

## RESISTORS

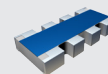
**Thin Film Resistors, 4.7 Ω to 3.01 MΩ, 0402 to 1210 Case Sizes, 50 V to 200 V**

[TNPW e3](#)

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

## RESISTORS

**Precision Thin Film Chip Resistor Arrays, Superior Moisture Resistivity**

[ACAS0612 AT Precision](#)

- Resistance ratio up to 1:20, superior tracking stability over lifetime
- Relative TCR to  $\pm 5$  ppm/K (tracking), AEC-Q200 qualified, sulfur-resistant

## NON-LINEAR RESISTORS

**SMD Glass-Protected NTC Thermistors**

[NTCS...e3](#)

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

## INDUCTORS

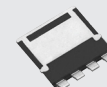
**Shielded EMI Filters Up to 190 A  $I_{DCR}$ , 2.2 µH, Ultra-Low DCR (0.22 mΩ)**

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

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

## MOSFETs

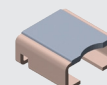
**N-Channel MOSFETs in 8 mm x 8 mm PowerPAK®, 40 V, 160 A, 1.2 mΩ**

[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

## RESISTORS

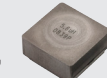
**Power Metal Strip® SMD Resistors, 4-Terminal, Low Value (Down to 0.0001 Ω)**

[WSK1216](#)

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

## INDUCTORS

**Shielded SMD Low-Profile, High-Current IHLP® Inductors, EMI Filters, 155 °C, Low DCR**

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

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

## CERAMIC CAPACITORS

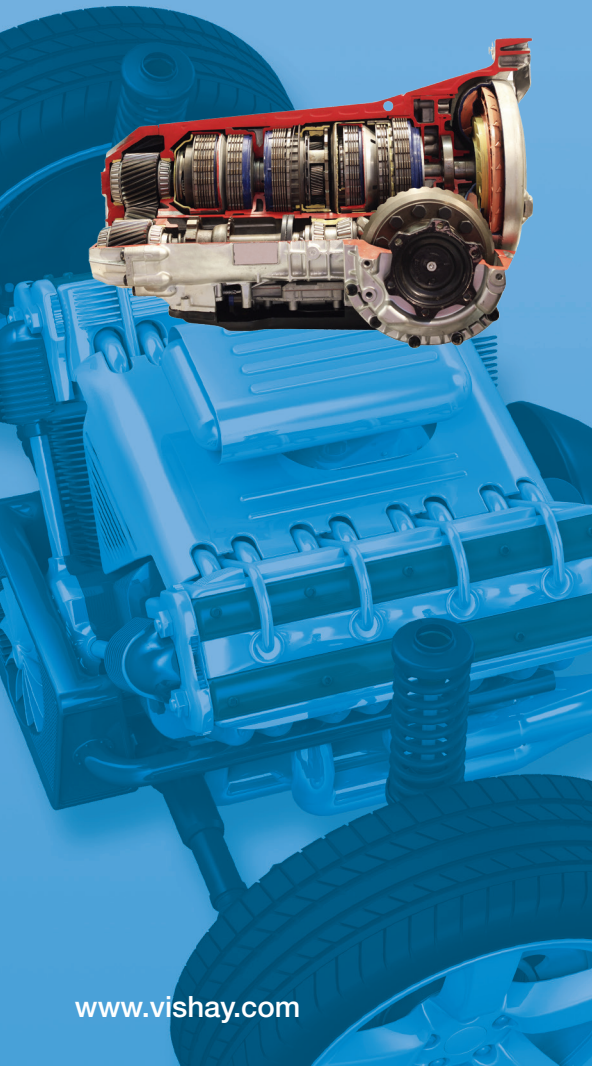
**AEC-Q200 Qualified, Broad Range of Sizes and Working Voltages, C0G (NPO), X7R, and X8R**

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

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

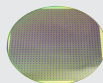


## Transmission ECU, Double Clutch BLDC



## MOSFETs

**N-Channel MOSFETs as Known Good Die (KGD) Rated at 40 V, 0.72 mΩ**



[SQC200N04-0m72KGD](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- Efficient KGD packaging allows high power density and reduced parasitics

## MOSFETs

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

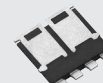


[SQJA46EP](#)

- 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

## MOSFETs

**Dual N-Channel MOSFETs in 8 mm x 8 mm PowerPAK®, 40 V, 100 A, 3.4 mΩ**



[SQJQ904E](#)

- 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

## 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

## RECTIFIERS

**High Current Density Surface-Mount Schottky Barrier Rectifiers**

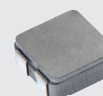


[SS3P4L](#)

- AEC-Q101 qualified
- Very low profile - typical height of 1.0 mm

## INDUCTORS

**Coupled Inductors for SEPIC Converter**



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

- High-temperature operation up to 155 °C
- Frequency range up to 5.0 MHz

## DIODES

**600 W, 6.8 V to 51 V SMD PAR® TVS Diodes**

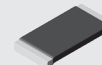


[TA6Fxx](#)

- $T_j = 185\text{ °C}$
- Very low profile - typical height of 0.95 mm

## RESISTORS

**Power Metal Strip® SMD Resistors, Wide Terminal, 1 mΩ to 30 mΩ, 2 W**



[WSLP2010](#)

- Very high power to footprint size ratio (2 W in 2010)
- Construction is impervious to high-sulfur environments

## RESISTORS

**SMD Thick Film Resistors, High Stability**



[RCA0603](#)

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

## 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**

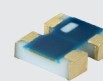


[IHLP-2525CZ-5A](#)

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

## RESISTORS

**Precision Gold Terminated Thin Film Chip Resistor Arrays for Conductive Gluing**



[ACAS 0606 ATAU Precision](#)

- Glueable gold terminations, resistance ratio up to 1:20, tolerance  $\pm 0.05\%$
- AEC-Q200 qualified, extreme sulfur resistance, superior tracking stability