

## 主要元件 48 V<sub>DC</sub> 系统



集成式  
起动发电机  
(48 V<sub>DC</sub>)



DC/DC 转换器,  
双向 (48 V<sub>DC</sub>)



HVAC  
(用于 48 V<sub>DC</sub> 系统的  
电动压缩机)



### VISHAY 优势


80 V - 150 V 新半导体高压技术  
改进的 EMI 半导体  
具有最低振铃电压的二极管  
耐高温 (175 °C)  
最新 Power SO-8 封装,  
电流可达 240 A

# 集成式启动发电机 (48 V<sub>DC</sub>)



**MOSFETs**

**N-Channel MOSFETs in 5 mm x 6 mm PowerPAK® SO-8L Rated at 80 V, 7 mΩ**




[SQJA80EP](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- Ultra-low R<sub>DS(on)</sub>, thermally enhanced PowerPAK® 8x8L replaces D<sup>2</sup>PAK in less than half of the area

**NON-LINEAR RESISTORS**

**SMD Glass-Protected NTC Thermistors**

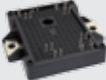


[NTCS...e3](#)

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

**MODULES**

**MOSFET H Bridges or B6 Bridges Based on Customer Specifications**




[EMIPAK 1B/2B Customized](#)

- 80 V to 100 V MOSFET power modules

**CERAMIC CAPACITORS**

**High Operating Temperature, Automotive Grade Leaded MLCC Capacitors**




[HOTcap® K...H, A...R, K...R](#)

- High-reliability MLCC insert with wet build process
- High operating temperature (up to 175 °C for K...H and up to 160 °C for A...R and K...R), rated voltages: 50 V, 100 V, 200 V

**MOSFETs**

**N-Channel MOSFETs as Known Good Die, 100 V, 3.6 mΩ**




[SQC260N10 3m6KDG](#)

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

**INDUCTORS**

**EMI Filters with Flat Copper Wire, SMD or Leaded Up to 260 A**



[Customized EMI Filters](#)

- Customized solutions for 48 V applications, low DCR, high current

**FILM CAPACITORS**

**DC-Link Polyester Film Capacitors, Operating Temperature Up to 150 °C, High Ripple Current**




[MKT1820S](#)

- Low voltage DC-link capacitors with high-temperature capabilities
- Customized solutions for 48 V applications

**RESISTORS**

**Power Metal Strip® Meter Shunt Resistor, Very Low Value (Down to 100 μΩ)**



[WSMS2908](#)

- Extremely low resistance values: 100 μΩ to 1000 μΩ
- 3 W power capability with sensing terminals to mount on PCB

**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**

**TVS Clamping Diodes, Up to 1.5 kW**



[1.5 SMC Series](#)

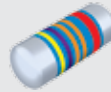
- DO-214AB (SMCJ) package to protect ICs, MOSFETs, and signal lines of sensor units against voltage transients induced by inductive load switching and lightning

# DC/DC 转换器, 双向 (48 V<sub>DC</sub>)



## RESISTORS

**Professional High-Temperature Mini-MELF Resistors**

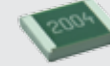


[MMA 0204 HT](#)

- Operating temperature up to 175 °C, power handling of 500 mW, high surge capability
- AEC-Q200 qualified, high overall stability  $|\Delta R/R| \leq 0.1\%$ , intrinsically sulfur-resistant

## 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

## INDUCTORS

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



[IHLP-8787MZ-5A](#)

- Highest current composite inductor available
- High temperature operation up to 155 °C, shielded construction

## MOSFETs

**N-Channel MOSFETs in 8 mm x 8 mm PowerPAK® 8x8L, 80 V, 150 A, 2.7 mΩ**



[SQJQ480E](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- Ultra-low  $R_{DS(on)}$ , thermally enhanced package reduces board area

## MOSFETs

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

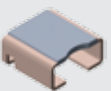


[SQJQ100EL](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- Ultra-low  $R_{DS(on)}$ , thermally enhanced PowerPAK® 8x8L replaces D<sup>2</sup>PAK in less than half of the area

## RESISTORS

**Power Metal Strip® SMD Resistors, 4-Terminal, Low Values (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 Filter, 155 °C, Low DCR**



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

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

## INDUCTORS

**Coupled Inductors for SEPIC Converter**



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

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

## INDUCTORS

**EMI Filters with Flat Copper Wire as SMD or Leaded, Up to 260 A**



[Customized EMI Filters](#)

- Customized solutions for 48 V applications, low DCR, high current

## FILM CAPACITORS

**DC-Link Polyester Film Capacitors, Operating Temperature Up to 150 °C, High Ripple Current**



[MKT1820S](#)

- Low voltage DC-link capacitors with high-temperature capabilities
- Customized solutions for 48 V applications

## FILM 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

## CERAMIC CAPACITORS

**X1/Y2 AC Line Rated Ceramic Disc Capacitors for Automotive Applications**



[AY2](#)

- AEC-Q200 qualified, X1/Y2 safety rating according to IEC 60384-14, 3rd edition
- Proven to withstand 3000 temperature cycles from -55 °C to +125 °C

# HVAC

## (用于 48 V<sub>DC</sub> 系统的 电动压缩机)



### CERAMIC CAPACITORS

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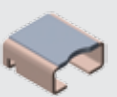


[MKT1820](#)

- Automotive general purpose capacitors with high temperature capabilities
- Capacitance up to 560 μF

### 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 EMI Filters Up to 190 A I<sub>DCR</sub>, 2.2μH, Ultra-Low DCR (0.22 mΩ)**



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

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

### 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