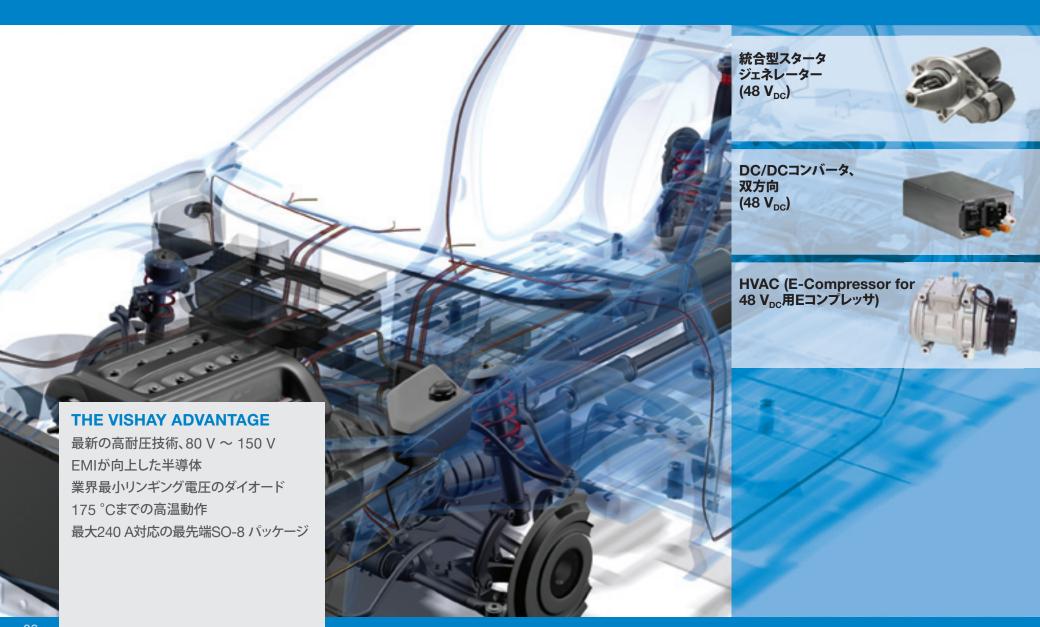


# 48 VДС ボードネット用主要部品







# 統合型スタータ ジェネレーター (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 D²PAK 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

#### **MOSFETs**

N-Channel MOSFETs as Known Good Die, 100 V, 3.6  $m\Omega$ 



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

#### RESISTORS

Power Metal Strip<sup>®</sup> Meter Shunt Resistor, Very Low Value (Down to 100  $\mu\Omega$ )



### WSMS2908

- Extremely low resistance values: 100  $\mu\Omega$  to 1000  $\mu\Omega$
- 3 W power capability with sensing terminals to mount on PCB

### 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

### 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

#### MODULES

MOSFET H Bridges or B6 Bridges Based on Customer Specifications



#### EMIPAK 1B/2B Customized

• 80 V to 100 V MOSFET power modules

# FILM CAPACITORS

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



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

# 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

#### 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





# DC/DCコンバータ、 双方向 (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  $|\Delta R/R| \le 0.1$  %, intrinsically sulfur-resistant

AEC-Q101 qualified, 100 % UIS and RG

tested with up to 175 °C operation

• Ultra-low R<sub>DS(on)</sub>, thermally enhanced

#### **RESISTORS**

TNPW e3

Thin Film Resistors, 4.7  $\Omega$  to 3.01 MΩ. 0402 to 1210 Case Sizes, 50 V to 200 V



 Excellent stability |ΔR/R| ≤ 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,  $2.7 m\Omega$ 



#### **MOSFETs**

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



#### **RESISTORS**

Power Metal Strip® SMD Resistors, 4-Terminal, Low Values (Down to 0.0001  $\Omega$ )



#### SQJQ100EL

- 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 D2PAK in less than half of the area

# WSK1216

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

#### INDUCTORS

SQJQ480E

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

Very high-current and high-temperature

package reduces board area



#### INDUCTORS

Coupled Inductors for SEPIC Converter



- 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



MKT1820S

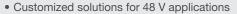
IHLP-6767GZ-5A

operation for filters

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



• Low voltage DC-link capacitors with high-temperature capabilities



# FILM CAPACITORS

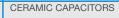
IHCL-3232DZ-5A

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



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 (48 V<sub>DC</sub> 用Eコンプレッサ)



#### 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

#### NON-LINEAR RESISTORS

SMD Glass-Protected NTC Thermistors



#### NTCS...e3

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

#### **MOSFETs**

N-Channel MOSFETs in 8 mm x 8 mm PowerPAK $^{\circ}$  8x8L, 80 V, 150 A, 2.7 m $^{\Omega}$ 



#### SQJQ480E

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- Ultra-low R<sub>DS(on)</sub>, thermally enhanced package reduces board area

#### **RESISTORS**

Power Metal Strip® SMD Resistors, 4-Terminal; Low Value (Down to 0.0001  $\Omega$ )



#### WSK1216

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

#### INDUCTORS

Low Profile, High Current IHLP® Inductors



# IHLP-8787MZ-5A

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

#### **INDUCTORS**

Shielded EMI Filters Up to 190 A  $I_{DCR}$ , 2.2 $\mu$ H, Ultra-Low DCR (0.22 m $\Omega$ )



# IHXL-2000VZ-5A

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

#### CAPACITORS MLCC

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

VJ...31X RoHS Automotive MLCCs

AgPd termination available for epoxy

• RoHS and Green compliant parts available



# FILM CAPACITORS

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



### MKT1820

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

# 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

#### CERAMIC CAPACITORS

bondina

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



