VISHAY 威世

主要元件

主动安全

VISHAY 优势

通过 AEC 认证
耐高温
小尺寸
高可靠性
长寿命

增强型电子制动 (EEB)

电子稳定控制系统 (ESP)
车身稳定控制系统 (VSC)

电子驻车制动 (EPB)
集成式驻车制动 (IPB)

高级驾驶辅助系统 (ADAS)

增强型电子制动 (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 |ΔR/R| ≤ 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

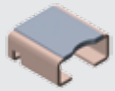
Power SMD IHLP® Storage Inductors, 0.22 µH to 22µH

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

MOSFETs

N-channel MOSFET in Reverse DPAK Rated at 40 V, 3.8 mΩ

SQR50N04-3m8_GE3

- AEC-Q101 Qualified, 100 % UIS & RG tested with up to 175 °C operation
- Reverse DPAK package allows excellent heat transfer and is good for high current application such as park brake

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电子稳定控制系统 (ESP)
车身稳定控制系统 (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 D^2PAK in less than half of the area

MOSFETs

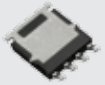
Dual N-Channel MOSFETs in 8 mm x 8 mm PowerPAK®, 40 V, 100 A, 3.9 mΩ

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

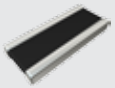
Low-Profile, High-Current IHLP® Inductors

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

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电子驻车制动 (EPB)
集成式驻车制动 (IPB)

ALUMINUM CAPACITORS

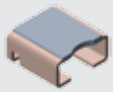
SMD Aluminum Capacitors, High Temperature Up to 150 °C, Low ESR

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

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 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

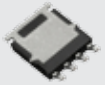
Dual N-Channel MOSFETs in 8 mm x 8 mm PowerPAK®, 40 V, 100 A, 3.9 mΩ

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-6767GZ-5A

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

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

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

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高级驾驶辅助系统 (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

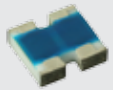
Low-Profile, High-Current IHLP® Inductors

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

IHLE-3232DD-5A

- Excellent EMI protection, double-shielded

MOSFETs

Dual N-channel MOSFET in Small 2 mm x 2 mm SC-70 Package Rated at 20 V, 28 mΩ

SQ1912AEEH-T1_GE3

- AEC-Q101 Qualified, 100 % UIS & RG tested with up to 175 °C operation
- Compact part for use in sync buck power supply for camera system

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聚焦 IHLP® 电感器损耗计算器工具

Vishay 的新 IHLP 损耗计算器是一种免费工具，可帮助设计工程师根据电路工作条件选择合适的 IHLP 电感器。该工具可模拟电感器的损耗，包括芯损以及交流和直流铜损。同时还可根据损耗估计来预测温度升幅和最终元件温度。该工具允许设计工程师对比多种不同电感器，包括尺寸和电感值，以帮助选型过程。该计算器可用于降压、升压和降压/升压型转换器。

计算器有十个输入参数：输入电压、输出电压、开关 (FET) 压降、二极管 (或同步 FET) 压降、输出电流、频率、环境温度和电感值。计算器会根据这些参数完成余下的工作。通过左侧的“radio”按钮可选择电感值。

请注意，因为该工具仅用于仿真，所以全部设计均应在电路中进行验证。

损耗计算器：www.vishay.com/inductors/calculator-home-list/

使用指南：www.vishay.com/doc?49421

重要设计标准

IHLP 电感器的建议最高元件温度为 125 °C，从中减去环境温度可得到元件的最大允许温度升幅。如果该数字超过 40 °C，则建议对允许温度升幅使用该值。建立纹波电流范围为电感器电流的 30 % - 50 %。该建议基于对电感器尺寸和成本与输出电容器尺寸与成本的权衡考虑。最大峰值电流应低于所选电感器的最终值，不过，考虑到粉末铁芯材料的软饱和特性，经慎重判断可略微超出该值。计算器功能仅基于连续导电工作模式，在断续导电模式下的计算结果需用户自行验证。