

外部照明装置用主要部品



THE VISHAY ADVANTAGE

- 車載品質
- 高SFR部品
- EMIが向上した部品
- 高温動作対応の受動部品($\geq 155^{\circ}\text{C}$)

LEDヘッドライト
ユニット



DRL



LEDフォグランプ



テールランプ、シグナル
LEDランプ



LEDヘッドライトユニット



MOSFETs

Dual N-Channel MOSFETs in 5 mm x 6 mm PowerPAK® SO-8L, 60 V, 12 mΩ



[SQJB60EP](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- Dual configuration in thermally enhanced PowerPAK® SO-8L saves board space

INDUCTORS

Low Profile, High Current Inductors with E-Field Shield




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

- High temperature operation up to 155 °C
- Integrated e-field shield eliminates need for separate shielding

DIODES

Surface-Mount TRANSZORB® TVS



[P6SMB36CA](#)

- AEC-Q101 qualified
- 600 W peak pulse power capability with 10/1000 μs waveform

RESISTORS

Professional Thin Film MELF Resistors




[MMB 0207](#)

- Unrivaled surge handling capability, ultimate stability over lifetime
- AEC-Q200 qualified, approved according to EN 140401-803, intrinsically sulfur-resistant, Green product

RESISTORS

Power Metal Strip® SMD Resistors, Very High Power (to 3 W), Extremely Low Resistance (to 0.0005 Ω)



[WSLP](#)

- Very high power rating, to 3 W
- Extremely low resistance values from 0.0005 Ω to 0.1 Ω and tolerance of 1 %

NON-LINEAR RESISTORS

SMD Glass-Protected NTC Thermistors




[NTCS...e3](#)

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

RECTIFIERS

High Current Density, Surface-Mount Trench MOS Barrier Schottky Rectifiers




[V8P10HM3](#)

- Ultra-low $V_f = 0.466$ V at $I_f = 4$ A
- Very low profile - typical height of 1.1 mm

INDUCTORS

Low-Profile, High-Current Coupled Inductor




[IHCL-4040DZ-5A](#)

- High-temperature operation up to 155 °C
- Shielded construction

INDUCTORS

Low-Profile, High-Current IHLP® Inductors




[IHLP-5050EZ-5A](#)

- High saturation current
- High-temperature operation up to 155 °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, Tantamount® Molded Case, Automotive Grade



[TH3](#)

- High-temperature molded tantalum capacitors, HI-TMP®, up to 150 °C




DRL



RESISTORS

Pulse-Proof, High-Power Thick Film Chip Resistors




[CRCW-HP e3](#)

- Excellent pulse load capability
- Enhanced power rating

MOSFETs

Dual N-Channel MOSFETs in 5 mm x 6 mm PowerPAK SO-8L, 40 V, 33 mΩ



[SQJ946EP](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- Optimized for high-frequency DC/DC applications, lower switching losses

MOSFETs

N-Channel MOSFETs in 3 mm x 3 mm PowerPAK® 1212 with Wettable Flanks, 80 V, 25 mΩ



[SQSA80ENW](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- For higher currents

MOSFETs

N-Channel MOSFETs in Small 3 mm x 3 mm SOT-23, 100 V, 1.6 A, 300 mΩ




[SQ2398ES](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation
- 100 V MOSFETs for switching low currents in small packages

RECTIFIERS

High Current Density, Surface-Mount Trench MOS Barrier Schottky Rectifier




[V8P10HM3](#)

- Ultra-low $V_F = 0.466\text{ V}$ at $I_F = 4\text{ A}$
- Very low profile - typical height of 1.1 mm

RECTIFIERS

High-Voltage Schottky Diode, 100 V, 2 A, $T_j = 175\text{ °C}$




[SS2PH10](#)

- Very low profile - typical height of 1.0 mm
- Low forward voltage drop, low power losses

DIODES

High Power Density Surface-Mount PAR® TVS




[TPSMP](#)

- AEC-Q101 qualified, $T_j = 185\text{ °C}$ capability, suitable for automotive applications
- Very low profile - typical height of 1.0 mm

RESISTORS

Thick Film Surface-Mount Chip Resistors, Wraparound, Extremely Low Value



[RCWE](#)

- Low resistance values from $0.01\ \Omega$ to $0.976\ \Omega$ and tolerance of 1 %
- Thick film construction with 2x power capacity

RESISTORS

Professional Thin Film MELF Resistors




[MMB 0207](#)

- Unrivaled surge handling capability, ultimate stability over lifetime
- AEC-Q200 qualified, approved according to EN 140401-803, intrinsically sulfur-resistant, Green product

OPTOELECTRONICS

SMD PLCC-2 Plus 0.5 W White LEDs




[VLMW51Q2R3](#)

- Luminous intensity up to 51 lm in compact $3.5\text{ x }3.5\text{ x }1.2\text{ mm}$ surface-mount package
- White color coordinates of 0.33 (X) and 0.33 (Y) with 120° viewing angle

NON-LINEAR RESISTORS

SMD Glass-Protected NTC Thermistors



[NTCS...e3](#)

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

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



LEDフォグランプ



RESISTORS

Pulse-Proof, High-Power Thick Film Chip Resistors




[CRCW-HP e3](#)

- Excellent pulse load capability
- Enhanced power rating

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

RECTIFIERS

2 A, 40 V Schottky Diodes




[SS2P4](#)

- Low-profile DO-220AA (SMP) package for low-voltage, high-frequency DC/DC converters; switching power supplies; free-wheeling diodes; and polarity protection

RECTIFIERS

45 V, 3 A Trench Schottky Diodes, Ultra-Low V_f



[V3PAL45](#)

- Low-profile DO-221BC (SMPA) package for low-voltage, high-frequency DC/DC converters; switching power supplies; freewheeling diodes; and polarity protection

RESISTORS

Professional Thin Film MELF Resistors




[MMB 0207](#)

- Unrivaled surge handling capability, ultimate stability over lifetime
- AEC-Q200 qualified, approved according to EN 140401-803, intrinsically sulfur-resistant, Green product

RESISTORS

Thick Film Surface Mount Chip Resistors, Wraparound, Extremely Low Values




[RCWE](#)

- Low resistance values from 0.01 Ω to 0.976 Ω and tolerance of 1 %
- Thick film construction with 2x power capacity

DIODES

Surface-Mount PAR® TVS



[TPSMA](#)

- 400 W peak pulse power capability with a 10/1000 μs waveform

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

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

Low-Profile, High-Current IHLP® Inductors



[IHLP-2020CZ-5A](#)


- Compact size and high current, low saturation for noise filtering
- Up to 155 °C continuous operation

テールランプ、 シグナルLEDランプ



RESISTORS
Pulse-Proof, High-Power Thick Film Chip Resistors
[CRCW-HP e3](#)

- Excellent pulse load capability
- Enhanced power rating



RESISTORS
Professional Thin Film MELF Resistors
[MMB 0207](#)

- Unrivaled surge handling capability, ultimate stability over lifetime
- AEC-Q200 qualified, approved according to EN 140401-803, intrinsically sulfur-resistant, Green product




MOSFETS
N-Channel MOSFETs in 3 mm x 3 mm PowerPAK® 1212 with Wettable Flanks Rated at 40 V, 9 mΩ
[SQS484ENW](#)

- AEC-Q101 qualified, 100 % UIS and RG tested with up to 175 °C operation




RECTIFIERS
Surface-Mount Schottky Barrier Rectifiers
[MSS1P6HM3](#)

- Low-profile MicroSMP package for low-voltage, high-frequency inverters; DC/DC converters; and polarity protection applications
- AEC-Q101 qualified




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



RESISTORS
Thick Film Surface Mount Chip Resistors, Wraparound, Extremely Low Value
[RCWE](#)

- Low resistance values from 0.01 Ω to 0.976 Ω and tolerance of 1 %
- Thick film construction with 2x power capacity




RESISTORS
Power Metal Strip® SMD Resistors, Wide Terminal, 1 mΩ to 3 mΩ, 1 W
[WSL0612](#)

- Low EMF, high temperature up to 170 °C




OPTOELECTRONICS
SMD High-Power, 1 W Visible LEDs (Red, Amber, and Yellow)
[VLMR71AAAC](#)

- Compact, high-power SMD package: 6 x 6 x 1.5 mm
- Wide viewing angle of 120°



NON-LINEAR RESISTORS
SMD Glass-Protected NTC Thermistors
[NTCS...e3](#)

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



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
Low-Profile, High-Current IHLP® Inductors
[IHLP-2020CZ-5A](#)

- Compact size and high current, low saturation for noise filtering
- Up to 155 °C continuous operation



車載品質タンタルコンデンサの特長



TP8 MICROTAN® 薄型高CVリードフレームレスコンデンサ

TP8シリーズは、スペース制限のある設計に最適で、100 μF までの容量、0805(2012mm)と0603(1608mm)までの小型ケースサイズで提供されます。下記表は従来のモールドタンタルデバイスと比較したMICROTANシリーズの利点を示しています。



TH4高耐圧モールドタンタルチップコンデンサ

TP8次世代タンタルチップコンデンサ

ADVANTAGES

業界最高の体積効率	→	通常より小さいサイズで高い電圧、容量を提供
リードフレーム無し	→	信頼性の向上、低ESR、コストの削減
L字形の端子	→	優れた固着性、半田フィレットの目視確認可能
タンタルコンデンサの強み	→	MLCCのようなピエゾノイズ(鳴き)の心配不要
RoHS準拠、ハロゲンフリー	→	環境に配慮

タンタルコンデンサの使用例

電力管理・変換

ビシェイの車載用タンタルコンデンサには幅広いケースサイズだけでなく、高い定格温度のオプションもあります。スイッチモード電源で効果的なフィルタリングを実現し、長寿命、高温(エンジンルーム内)環境にて非常に安定した大容量性能を提供します。

エネルギーストレージ

今日の車載回路は、様々な負荷とピーク電力要件に応じた安定性が求められます。ビシェイ社のタンタルコンデンサは、パワーバスの電圧維持用途に、低コストで大容量のエネルギーストレージソリューションを提供します。

カップリング

オーディオ、センサー、テレマティクスなどの車載アナログ回路は、二つの回路を接続するカップリングコンデンサにより、AC信号のみが回路間を流れるように制御する必要があります。ブロッキングコンデンサとも称されるこのコンデンサは、回路間のDCバイアスを絶縁することでDC信号をブロックします。ビシェイ社のタンタルコンデンサは車載アナログカップリング向けに、十分な容量、低DCリーク電流性能を、使用される全温度範囲、時間にわたり安定的に提供します。

機能概要

シリーズ	TP3	TP8	TH3	TH4
特徴	低ESR SMD	MICROTAN リードフレーム無し SMD	高温(+150 °C) SMD	高温(+175 °C) SMD
静電容量範囲	0.1 μF to 470 μF	1 μF to 100 μF	0.33 μF to 220 μF	10 μF to 47 μF
定格電圧範囲	4 V to 50 V	6.3 V to 40 V	6.3 V to 50 V	6.3 V to 35 V
容量許容差	$\pm 10\%$, $\pm 20\%$	$\pm 10\%$, $\pm 20\%$	$\pm 10\%$, $\pm 20\%$	$\pm 10\%$, $\pm 20\%$
ケースコード	A, B, C, D, E	M, W, R, P, A, N, T, B	A, B, C, D, E	B, C, D