VISHAY®

COMPONENTS FOR THE INTERNET OF THINGS

BUILD VISHAY into your DESIGN

+ Touching the Human Body

+ In the Home

VISHAY and the INTERNET of THINGS (IoT)

Vishay has stepped up to the challenges of the Internet of Things (IoT) with a broad portfolio of unique passive and active solutions. These best-in-class components are optimally suited for the “Things” being controlled and monitored through IoT applications.

the Categories

Vishay offers many best-in-class components for equipment in IoT categories.

Touching The Human Body

Biometric Monitoring 02
Clip-On / Pocket-Worn Devices 03
Fitbands 04
Patient Monitoring 05
Smartwatches 06
Smart Glasses 07

In The Home

Smart Meters 09
Lighting Controls 10
Air Conditioners 11
Washing Machines 12
Induction Cooking 13
Refrigerators / Freezers 14
Robotic Vacuum Cleaners / Robovac 15

Biometric Monitoring

What is Biometric Monitoring?

Biometrics refers to metrics related to human characteristics and traits. Using distinctive, measurable characteristics, biometric identifiers are often categorized as physiological and include fingerprint, palm veins, face recognition, DNA, palm print, hand geometry, iris, and retina recognition.

CERAMIC CAPACITORS

MLCC Hi Q Capacitors

Ultra-stable dielectric low dissipation factor (DF) capacitors using robust design build with wet process. Non magnetic copper or epoxy bondable available.

OPTOELECTRONICS

VSMY7850X01

High-power SurfLight™ emitter with 850 nm peak wavelength and 170 mW/sr intensity at 1 A forward current, 780 mW/sr at 5 A forward current.

ICs

SiP32431

1.0 A slew rate controlled load switch with reverse blocking in SC70-6 and TDFN4 1.2 mm x 1.6 mm packages. Industry's lowest operating current (only 50 pA).

INDUCTORS

IHLP-2020CZER4R7M01

Low-profile, high-current IHLP® inductors. Compact composite for high-efficiency DC/DC conversion. High-frequency operation up to 5 MHz for excellent saturation.

OPTOELECTRONICS

VSMY98545

High-power SurfLight™ emitter with 850 nm peak wavelength. Radiant intensity of 350 mW/sr at 1 A and 1600 mW/sr at 5 A pulsed. Radiant power of 660 mW in a compact package.

OPTOELECTRONICS

TFBS4711

Infrared transceiver with data rate up to 115.2 kbit/s, idle current of: 70 µA, shutdown current of 10 nA, transmit range of 1 meter, in small 1.9 mm x 3 mm x 6 mm (H x L x W) package.

This Document Is Subject To Change Without Notice. The Products Described Herein And This Document Are Subject To Specific Disclaimers, Set Forth At www.vishay.com/doc?91000

(IoT)

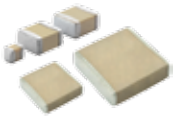
Clip-On / Pocket-Worn Devices

What are Clip-On / Pocket-Worn Devices?

Clip-on and pocket-worn devices measure steps in our day, analyze our sleeping patterns, track the whereabouts of friends and loved ones, or monitor health and safety of those most vulnerable.

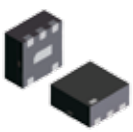
RESISTORS
MCT0603 / MCS0402
Professional and precision chip resistors with excellent stability. CECC approved and sulfur resistant.

RESISTORS
CRCW0201 …e3
Lead (Pb)-free commodity thick film chip resistors in a very small 0.6 mm x 0.3 mm package for high-volume commercial product applications.



CERAMIC CAPACITORS
MLCC RF Capacitors
Excellent power handling capabilities in sizes from 0402 to 3838. Non magnetic copper or epoxy bondable available and lead bearing for hi-rel applications.

TANTALUM CAPACITORS
T55
vPolyTan™ polymar tantalum capacitors. High-capacitance, low-ESR polymer tantalum capacitors for stable electrical performance over temperature and voltage.



ESD DIODES
VESD05A4A-HS4
ESD protection diode in LLP1010-6L ultra compact package with low package height < 0.4 mm. ESD protection acc. IEC 61000-4-2, ± 30 kV contact and air discharge.

MLCC CAPACITORS
MLCC Hi Q Capacitors
Ultra-stable dielectric low dissipation factor (DF) capacitors using robust design build with wet process. Non magnetic copper or epoxy bondable available.

ICs
SiP32458
20 mΩ smart load switch designed for 1.5 V to 5.5 V operation in compact WSCP6 package.

ICs
DG2501
Ultra-low power quad SPST switches optimized for sensors in portables/wearable technology with power consumption < 0.01 µW for superior switching characteristics in a compact WCSP16 package.

MOSFETs
Si8457DB
P-channel 12 V (D-S) MOSFET using TrenchFET® Gen III for extremely low on-resistance. MICRO FOOT® ultra-small 1.6 mm x 1.6 mm outline, ultra-thin 0.6 mm height package.

This Document Is Subject To Change Without Notice. The Products Described Herein And This Document Are Subject To Specific Disclaimers, Set Forth At www.vishay.com/doc?91000

Fitbands

What is a Fitband?

Worn on the wrist, fitbands track physical activity to monitor and record fitness metrics.

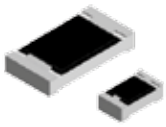
RESISTORS
CRCW0201 …e3
Lead (Pb)-free commodity thick film chip resistors in a very small package size of 0.6 mm x 0.3 mm for high volume commercial product applications.

RESISTORS
MCT0603 / MCS0402
Professional and precision chip resistors with excellent stability. CECC approved and sulfur resistant.

MOSFETS
Si8817DB
Industry leading p-channel 20 V (D-S) MOSFET with max $R_{DS(ON)}$ 76 mΩ in smallest 0.8 mm x 0.8 mm chipscale package with 0.4 mm height.

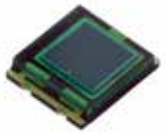
MOSFETS
SiB441EDK
Industry leading p-channel 12 V (D-S) MOSFET with max $R_{DS(ON)}$ down to 25.5 mΩ in 1.6 mm x 1.6 mm PowerPAK SC-70 package.

DIODES
VBUS05A1-SD0
Low-capacitance bidirectional symmetrical (BiSy) single line ESD-protection diode in ultra-compact package.

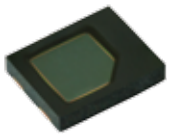


RESISTORS
RCWE
Thick film surface-mount chip resistors with extremely low resistance values from 0.01 Ω to 0.99 Ω, tolerance of 1 %, and high-power 2X power capacity.

OPTOELECTRONICS
TEMD5510FX01
Ambient light sensor with analog output with peak sensitivity at 540 nm with a 7.5 mm^2 detector chip in a low-profile package



OPTOELECTRONICS
VEMD5010X01
High-sensitivity PIN photodiode in leadless low-profile 0.8 mm high package, with 7.5 mm^2 sensitive area and daylight blocking filter.



NON LINEAR RESISTORS
NTCS0402
SMD NTC thermistors with glass protected flex terminations. and AEC-Q200 compliant

ICs
DG2501
Ultra-low power quad SPST switches optimized for sensors in portables/wearable technology with power consumption < 0.01 µW for superior switching characteristics in a compact WCSP16 package.

MLCC CAPACITORS
VJ0201
High capacitance per unit size in C0G, X5R and X7R dielectrics. Miniaturized case sizes for board space savings and better ESL performance.

TANTALUM CAPACITORS
298D / 298W
Solid tantalum chip capacitors. MICROTAN®, and extended range MICROTAN® in small case sizes for space constraigned designs.

This Document Is Subject To Change Without Notice. The Products Described Herein And This Document Are Subject To Specific Disclaimers, Set Forth At www.vishay.com/doc?91000

Patient Monitoring

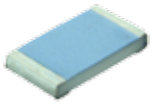
What is Patient Monitoring?

Wireless health systems for the next level of healthcare delivery. RPM (remote patient monitoring) devices support healthcare away from the hospital and into the patient's home.

RESISTORS

TNPW0402 …e3

High-stability thin film flat chip resistors with excellent overall stability, endurance < 0.05 %, TCR down to 10 ppm/K. AEC-Q200 qualified, sulfur resistant, and halogen free.



RESISTORS

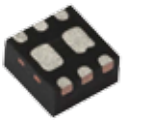
P (Sizes 0302 to 2512)

High-precision wraparound thin film chip resistors with low TCR down to 5 ppm/°C and tight tolerance down to 0.01 %. Sulfur resistant.

ICs

DG2037

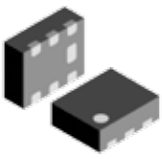
Low-voltage, low R_{ON} (down to 3 Ω), dual SPST analog switch in cost-effective SOT-23-8 and MSOP-8 packages.



MOSFETS

SiA906EDJ

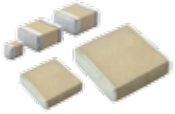
Dual n-channel 20-V (D-S) MOSFET with TrenchFET technology. Low maximum $R_{DS(on)}$ down to 0.046 mΩ at V_{GS} = 4.5 V in compact 2 mm x 2 mm PowerPAK SC-70 package.



DIODES

VBUS052CD-FAH

2-line bus-port ESD-protection with flow through design. Low load capacitance at C_D = 0.8 pF in compact LLP1713-7L package.



CERAMIC CAPACITORS

MLCC RF Capacitors

Excellent power handling capabilities in sizes from 0402 to 3838. Non magnetic copper or epoxy bondable available and lead bearing for high-rel.

DISPLAYS

LCD, Color TFT, OLED

High-quality displays offer excellent human to machine interface solutions using standard and custom display modules and high brightness options for LCD, OLED, and color TFT.

OPTOELECTRONICS

TFDU4101

115.2 kbit/s infrared transceiver in an SMD package measuring 9.7 mm × 4.7 mm × 4 mm, capable of surface-mount soldering in side or top view orientation.

NON LINEAR RESISTORS

NTCS0805E3

SMD 0805 NTC thermistors with glass protected flex terminations and tolerance on R25 down to 1 %.

CERAMIC CAPACITORS

Hi-Rel MLCCs

MIL-PRF-55681 qualified facility. Reliability testing done on maintenance basis with multiple screening options and customized certification available.

IC's

SiC403A

microBUCK® 6 A, 28 V integrated buck regulator with programmable LDO. Offers a scalable design with 10 A and 15 A parts in the same footprint.

This Document Is Subject To Change Without Notice. The Products Described Herein And This Document Are Subject To Specific Disclaimers, Set Forth At www.vishay.com/doc?91000

Smartwatches

What is a Smartwatch?

The next generation of wristwatch. Computerized functionality providing mobile apps, games, media players, phone, cameras, even video recording. And it tells you the time.

RESISTORS

MCT0603 / MCS0402

Professional and precision chip resistors with excellent stability. CECC approved and sulfur resistant.

NON LINEAR RESISTORS

NTCS0402

SMD glass protected NTC thermistors with glass protected flex terminations. AEC-Q200 compliant.

MOSFETS

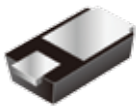
Si8805EDB

Low on-resistance, guaranteed with gate voltages down to 1.2 V. In industry-smallest 0.8 mm by 0.8 mm chipscale package with 0.4 mm height

INDUCTORS

IWAS and Custom Rx Coils

Wireless charging receiving coil/shield with thin, high-efficiency, low saturation Rx coils. Custom designs available.



RECTIFIERS

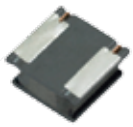
MSS2P2

Surface-mount schottky barrier rectifiers in low-profile AEC-Q101 package.

INDUCTORS

IFSC

Low-profile, high-current inductors for DC/DC converter filtering.



DIODE

VBUS05A1-SD0

Low-capacitance bidirectional symmetrical (BiSy) single line ESD protection diode in ultra-compact package

TANTALUM CAPACITORS

298D / 298W

Solid tantalum chip capacitors. MICROTAN® and extended range MICROTAN® in small case sizes for space constrained designs.

OPTOELECTRONICS

VCNL4020

Fully integrated proximity and ambient light sensor with I^2C interface. 16-bit resolution, proximity range of up to 20 cm with programmable thresholds

ICs

SiP32461

50 mΩ, slew rate controlled load switch in WCSP package.

OPTOELECTRONICS

TEMD6200FX01

Ambient light sensor with high-speed and high-sensitivity. PIN photodiode output.

This Document Is Subject To Change Without Notice. The Products Described Herein And This Document Are Subject To Specific Disclaimers, Set Forth At www.vishay.com/doc?91000

(IoT)

Smart Glasses

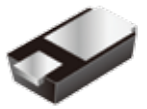
What are Smart Glasses?

The next wave in wearable computers. Offering heads-up display (HUD) or augmented reality (AR) with transparent overlay of projected digital images.

RESISTORS

MCT0603 / MCS0402

Professional and precision chip resistors with excellent stability. CECC approved and sulfur resistant.



RECTIFIERS

MSS2P2

Surface-mount Schottky barrier rectifiers in low-profile AEC-Q101 package.

DIODE

VBUS05A1-SD0

Low-capacitance bidirectional symmetrical (BiSy) single line ESD protection diode in ultra-compact package.

OPTOELECTRONICS

VCNL4020

Fully integrated proximity and ambient light sensor with I^2C interface. 16-bit resolution, proximity range of up to 20 cm with programmable thresholds.

OPTOELECTRONICS

TEMD6200FX01

Ambient light sensor with high-speed and high-sensitivity PIN photodiode output.

OPTOELECTRONICS

VSMY3850/ VSMY3700

High-speed infrared emitting diode, 850 nm, SurfLight™ surface emitter technology with high radiant intensity of 17 mW/sr.

TANTALUM CAPACITORS

TL8

Solid tantalum Microtan® chip capacitors. High-CV leadframeless molded low-profile devices for space constrained designs.

NON LINEAR RESISTORS

NTCS0402

SMD glass protected NTC thermistors with glass protected flex terminations. AEC-Q200 compliant.

INDUCTORS

IWAS and Custom Rx Coils

Wireless charging receiving coil/shield with thin, high-efficiency, low-saturation Rx coils. Custom designs available.

INDUCTORS

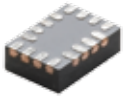
IFSC

Low-profile, high-current inductors for DC/DC converter filtering.

ICs

DG9451

8-channel, dual 4-channel, triple 2-channel multiplexers.



ENERGY STORAGE CAPACITORS

196 HVC ENYCAP™

Hybrid storage capacitors with extremely small profile and high energy density. Instant rechargable, suitable for solar power charging.

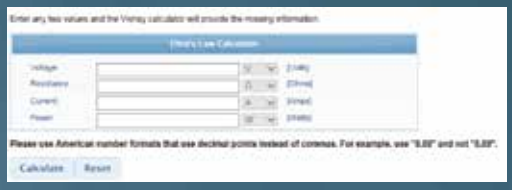
This Document Is Subject To Change Without Notice. The Products Described Herein And This Document Are Subject To Specific Disclaimers, Set Forth At www.vishay.com/doc?91000

DESIGN SUPPORT TOOLS

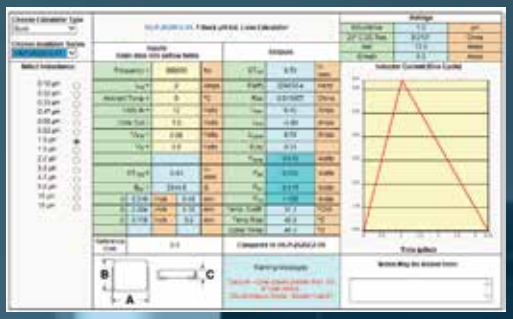
Vishay has developed a number of software support tools to assist design engineers. These include SPICE models, custom calculators, and thermal simulation tools. The full list of support tools can be found at http://www.vishay.com/how/design-support-tools/

Here are a few examples:

Ohm's Law Calculator



IHLP® Inductor Loss Calculator Tool



Optical Sensor Current Estimator

(IoT)

Smart Meters

What are Smart Meters?

Remotely record and monitor energy consumption within the home with the ability to reduce load and disconnect-reconnect in emergencies.

RESISTORS

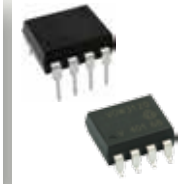
Z300-C

Axial cemented wirewound resistors with high voltage surge (up to 12 kV) capability and non flammable cement coating.

OPTOELECTRONICS

VOW2611

10 MBd widebody high-speed, high-isolation optocoupler with > 10 mm creepage/clearance.



FILM CAPACITORS

F1772S

Interference suppression film capacitor, class X2, MKT 310 V_{AC}, high stability grade. Withstanding 85 °C / 85 % RH for 1000 h at 240 V_{AC}.

NON LINEAR RESISTORS

VDRH14-VDRH20

VDR metal oxide varistors high surge resistor with extended operating temperature to 125°C. UL recognized up to 105°C (selected types).

MOSFETS

SiHD7N60E

E Series 600 V Power MOSFET with maximum $R_{DS(ON)}$ of 600 mΩ and continuous current of 7 A in popular DPAK package.

OPTOELECTRONICS

VSMB2020X01

High-speed and high-power infrared emitting diodes with peak wavelength of 940 nm, radiant intensity of 40 mW/sr at I_F = 100 mA, 15 ns rise/fall time, and angle of half intensity of ± 12°.

DIODES

SMAJxx

Surface-mount TRANSZORB transient voltage suppressors with 400 W peak pulse power capability with a 10/1000 µs waveform. AEC-Q101 qualified.

INDUCTORS

IDCP2218

High-current, surface mount non-shielded inductors with low cost filtering and DC/DC conversion.

RESISTORS

WSMS

Power Metal Strip® meter shunt resistor with very low resistance value (down to 0.0001 Ω) offering high accuracy for smart meter applications.

CERAMIC CAPACITORS

MLCC Hi Q Capacitors

Ultra-stable dielectric low dissipation factor (DF) capacitors using robust design build with wet process. Non magnetic copper or epoxy bondable available.

RESISTORS

MM / SMM

Thin film Mini-MELF resistors with unrivaled surge handling capability for ultimate stability over lifetime. AEC-Q200 qualified, approved acc. EN 140401-803, sulfur resistant, and Vishay Green.

ICs

SiP32419/SiP32429

28 V, 56 mΩ, load switch with programmable current limit and slew rate control. Simplifies design while increasing reliability of the circuit.

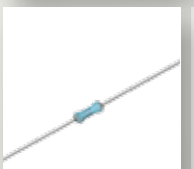
This Document Is Subject To Change Without Notice. The Products Described Herein And This Document Are Subject To Specific Disclaimers, Set Forth At www.vishay.com/doc?91000

Lighting Controls

What are Lighting Controls?

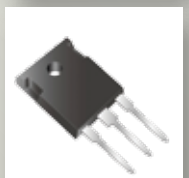
Control and monitor lighting in the home for safety and energy savings.

RESISTORS
VR25
High-ohmic (100K - 22 MΩ), high-voltage metal glaze leaded resistors with continuous voltage of 1600 V and pulse loading capacity of 7 kV in small 0207 package.



RESISTORS
PR01/02/03
High-power metal film leaded resistors with power ratings of 1 W, 2 W, and 3 W. Non flammable lacquer coating in small package with various lead forming options.

MOSFETS
SiHD7N60E
E Series 600 V power MOSFET with maximum $R_{DS(ON)}$ of 600 mΩ and continuous current of 7 A in popular DPAK package.



RECTIFIERS
VT10200C
Trench MOS barrier Schottky rectifier with low forward voltage drop and low power losses.

DIODES
BZD27CxxP Series
Zener diodes with surge current specification. AEC-Q101 qualified.

RESISTORS
ROX
Metal oxide resistors. Special purpose. High-voltage up to 45 kV and wide value range of 100 Ω to 3 GΩ.

RESISTORS
HVW
Carbon film (metal alloy) resistors. Special purpose, high-voltage up to 15 kV with wide value range of 1 kΩ to 200 MΩ.

OPTOELECTRONICS
TEMT6200FX01
Ambient light sensor in miniature 0805 package with phototransistor output. Wavelength of peak sensitivity of 550 nm and linearity over operating temperature range of -40 to +100 °C.

FILM CAPACITORS
MKP385
Single metallized AC and pulse capacitors. MKP radial plotted type. Low loss dielectric, small dimensions for high density packaging.

OPTOELECTRONICS
VO4157
Zero crossing phototriac optocoupler. 5000 V/µs dV/dt minimum with 800 V blocking voltage, 300 mA on-state output current, and 1.6 mA trigger current with VISO of 5300 V.

OPTOELECTRONICS
VO2223A
Power phototriac optocoupler with optically coupled phototriac driving a power triac, load current of 1 A_{RMS}, and 5300 V of input to output isolation in a DIP-8 package

NON LINEAR RESISTORS
PTCCL…
PTC thermistors for overload protection with best current/size ratio. UL recognized.

This Document Is Subject To Change Without Notice. The Products Described Herein And This Document Are Subject To Specific Disclaimers, Set Forth At www.vishay.com/doc?91000

White Goods
Air Conditioners

What are White Goods?

Control and monitor the home environment to maximize comfort and efficiency.

Air Conditioners

MOSFETS

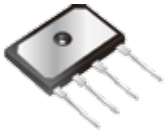
SUP85N10-10

N-channel 100-V (D-S) 175 °C MOSFET with TrenchFET technology. Max $R_{DS(on)}$ down to 10 mΩ in popular TO-220 package.

RECTIFIERS

PB3510

Enhanced isoCink+™ bridge rectifiers with enhanced high-current density single in-line and UL recognition (file number E312394).



MOSFETs

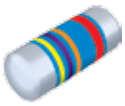
IRFI9Z34G

P-channel 60 V (D-S) MOSFET with rugged planar technology for maximum $R_{DS(on)}$ 140 mΩ and continuous current of -12 A in TO-220 FullPAK package.

RESISTORS

CMA0204

High pulse load MELF resistors with ESD capability to 6 kV. Up to 4 kV single pulse capability. Advanced carbon technology. Sulfur resistant, Vishay Green.



FILM CAPACITORS

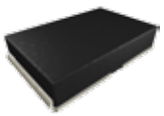
MKP1848C

Metallized polypropylene DC-Link film capacitor. Compact, high performance device. Built with environmentally friendly materials.

RESISTORS

WSHM2818

Power Metal Strip® resistors with very high power rating of 7 W. Low resistance values, 0.001 Ω to 0.10 Ω, with tolerance of 1 % in small 2818 package.



DIODES

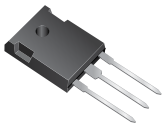
P6KE200A

TRANSZORB® transient voltage suppressors. 600 W peak pulse power capability with 10/1000 µs waveform. AEC-Q101 qualified

RECTIFIERS

FEP30JP

Dual common cathode ultrafast recovery rectifier with low switching losses and high efficiency.



INDUCTORS

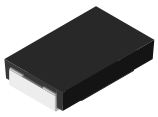
IMC1812

Wirewound, surface-mount, molded RF inductors for high-frequency filtering

RESISTORS

WSR

Power Metal Strip® resistors with high power ratings to 5 W and low values down to 0.001 Ω in 4527 surface-mount package.



NON LINEAR RESISTORS

NTCLP450..

NTC thermistor sensors. Miniature pipe sensor with fast time response against industry standards.

OPTOELECTRONICS

TSOP34xxxR

IR receiver with industry leading range of 45 m, directivity of ± 45°, and 38 kHz carrier frequency in copper leadframe for high humidity / saline atmospheres.

This Document Is Subject To Change Without Notice. The Products Described Herein And This Document Are Subject To Specific Disclaimers, Set Forth At www.vishay.com/doc?91000

White Goods
Washing Machines

What are White Goods?

Control and monitor the home environment to maximize safety and energy savings.

Washing Machines

ALUMINUM CAPACITORS

093PMG-Si

Miniaturized general-purpose snap-in power aluminum capacitors with useful life of 2000 h at 85°C.

CERAMIC CAPACITORS

VJ OMD Series

Internal design reduces risk of shorts caused by board flex. Polymer termination available for intensive board flex requirements and 100 % voltage conditioning available up to 630 V_{DC} rating.

MOSFETS

IRFBE20

N-channel 800-V (D-S) Power MOSFET built on rugged planar technology. Max $R_{DS(on)}$ of 6.5 Ω and maximum continuous current of 1.8 A. Available in popular TO-220 package.

MOSFETS

Si2307CDS

P-channel 30-V (D-S) MOSFET using TrenchFET technology. Max $R_{DS(ON)}$ down to 88 mΩ in popular SOT-23 package.

NON LINEAR RESISTORS

NTCS0603

SMD 0603 NTC thermistors with glass protected flex terminations. AEC-Q200 compliant.

OPTOELECTRONICS

VCNL4020

Fully integrated proximity and ambient light sensor with I^2C interface.

OPTOELECTRONICS

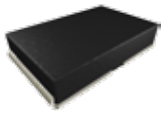
VO615A

Phototransistor output optocoupler with broad operating temperature range of - 55 °C to + 110 °C and 6 kV peak transient overvoltage protection in a 4-pin DIP or SMD package. VDE, BSI, FIMKO, UL certified.

RESISTORS

WSHM2818

Power Metal Strip® resistors with very high power rating of 7 W. Low resistance values, 0.001 Ω to 0.10 Ω, with tolerance of 1 % in small 2818 package.



RESISTORS

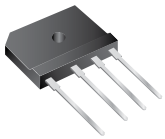
VR25

High-ohmic (100K - 22 MΩ), high-voltage metal glaze leaded resistors with continuous voltage of 1600 V and pulse loading capacity of 7 kV in small 0207 package.

RECTIFIERS

GSIB2560-E3

Single-phase, single in-line bridge rectifiers with UL recognition and high surge current capability.



RESISTORS

AC03...CS

Cemented fusible wirewound safety resistors with 3 W, UL 1412 approved, non-flammable cement coating, and surge handling of 4 kV.

FILM CAPACITORS

MKP339

Interference suppression film capacitors, MKP radial potted type, RFI X2 for standard across-the-line applications.

This Document Is Subject To Change Without Notice. The Products Described Herein And This Document Are Subject To Specific Disclaimers, Set Forth At www.vishay.com/doc?91000

White Goods
Induction Cooking

What are White Goods?

Control and monitor the home environment to maximize safety and energy savings.

Induction Cooking

CERAMIC CAPACITORS

VY1

AC line rated ceramic disc capacitors. Class X1, 760 V_{AC} and class Y1, 500 V_{AC}. X1/Y1 safety rating according to IEC 60384-14 (3rd edition) for highest reliability and lifetime over operating temperature range of -40 °C to +125 °C.

FILM CAPACITORS

MKP1848C

Metallized polypropylene film capacitor with compact and high performance DC-link. Built with environmentally friendly materials.

MOSFETS

Si2307CDS

P-channel 30-V (D-S) MOSFET with TrenchFET technology. Max $R_{DS(ON)}$ down to 88 mΩ in popular SOT-23 package.

OPTOELECTRONICS

VCNL4010

Fully integrated proximity and ambient light sensor with I_2C interface. 16-bit resolution, proximity range of up to 20 cm with programmable thresholds.

RESISTORS

AC03

Cemented wirewound resistors. Non flammable cement coating, power to 3 W, excellent pulse handling capability with good size to power ratio and various lead forming options

MOSFETs

Si2307CDS

P-channel 30 V (D-S) MOSFET with TrenchFET® technology for max $R_{DS(on)}$ down to 88 mΩ in SOT-23 package

MOSFETs

SiHB15N60E

E Series 600 V n-channel MOSFET. High-performance, high-voltage technology with maximum $R_{DS(on)}$ 280 mΩ, maximum continuous current of 15 A, in popular D^2PAK package.

DIODES

BAT54 / MMSZ5242B

Small-signal Schottky diodes, single and dual, featuring very low turn-on voltage and AEC-Q101 qualified.

FILM CAPACITORS

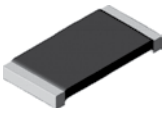
MKP1839HQ

AC and pulse metallized polypropylene film capacitors. MKP axial type for low building height and precision applications down to ± 1 %.

RESISTORS

WSLP2512

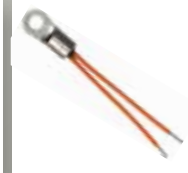
Power Metal Strip® resistors. Surface-mount with extremely low resistance values from 0.0005 Ω to 0.5 Ω, tolerance of 1 %, and high power of 1 W in 2512 size.



NON LINEAR RESISTORS

NTCALUG01A

NTC thermistors, standard lug for robust surface temperature sensor. AEC-Q200 compliant, UL recognized.



OPTOELECTRONICS

6N136

1 MBd high-speed optocoupler with photodiode-to-transistor output. Transmit signal frequency of 2 MHz and isolation test voltage of 5300 V_{RMS}.

This Document Is Subject To Change Without Notice. The Products Described Herein And This Document Are Subject To Specific Disclaimers, Set Forth At www.vishay.com/doc?91000

White Goods
Refrigerators / Freezers

What are White Goods?

Control and monitor the home environment to maximize safety and energy savings.

Refrigerators / Freezers

DIODES
BAT54S-V-GS08
Small-signal Schottky diodes, single and dual, featuring very low turn-on voltage. AEC-Q101 qualified.

CERAMIC CAPACITORS
VJ2220Y182KXUSTX1
Robust design build with wet process. IEC 60384-14:2005, CAN/CSA/cCSAus, and ANSI/UL CB certificates. Surface-mount design for simpler assembly and reduced board space requirements.

NON LINEAR RESISTORS
NTCACAPE3…
NTC thermistors, double insulated refrigerator sensors.

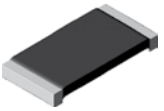
MOSFETs
IRF740B
High-voltage 400 V V_{DS} MOSFET with dynamic dV/dt rating, repetitive avalanche rated, fast switching, ease of paralleling, and simple drive requirements.

RESISTORS
AC03
Cemented wirewound resistors. Non flammable cement coating, power ratings to 3 W, excellent pulse handling capability with good size to power ratio, and various lead forming options.

MOSFETs
Si9407BDY
P-channel 60 V (D-S) MOSFET using classic TrenchFET® technology with maximum $R_{DS(on)}$ down to 120 mΩ in popular SO-8 package.

RESISTORS
AC05...CS
Cemented fusible wirewound safety resistors. Power rating to 5 W, UL 1412 approved, non flammable cement coating for surge handling of 6 kV. Safe and silent fusing to prevent flame or explosion.

RESISTORS
WSL2512
Power Metal Strip® resistors. Surface-mount with extremely low resistance values from 0.0005 Ω to 0.5 Ω, tolerance of 1 %, and high power of 1 W in 2512 size.



CERAMIC CAPACITORS
VY1
AC line rated ceramic disc capacitors. Class X1, 760 V_{AC} and class Y1, 500 V_{AC}. X1/Y1 safety rating according to IEC 60384-14 (3rd edition) for highest reliability and lifetime over operating temperature of -40 °C to +125 °C.

FILM CAPACITORS
MKP339
Interference suppression film capacitors, MKP radial potted type, RFI X2 for standard across-the-line applications.

RECTIFIERS
MURS160-M3
Surface-mount ultrafast plastic rectifier with low switching losses, ultrafast reverse recovery time, and high efficiency.

OPTOELECTRONICS
VO615A
Phototransistor output optocoupler with broad operating temperature range of -55 °C to +110 °C and 6 kV peak transient overvoltage protection in a 4-pin DIP or SMD package. VDE, BSI, FIMKO, UL certified.

This Document Is Subject To Change Without Notice. The Products Described Herein And This Document Are Subject To Specific Disclaimers, Set Forth At www.vishay.com/doc?91000

(IoT)

Robotic Appliances
Domestic Robots

What are Domestic Robots?

A domestic robot, or service robot, is an autonomous robot that is used for household chores.

Robotic Vacuum

MOSFETs

Si7938DP

Dual n-channel 40 V (D-S) MOSFET using TrenchFET® Gen III technology for maximum $R_{DS(on)}$ down to 5.8 mΩ in thermally enhanced PowerPAK® SO-8 package.

DIODES

SMBJ26CA-E3/52

Surface-mount TransZorb® transient voltage suppressors. 600 W peak pulse power capability with a 10/1000 µs waveform. Available in unidirectional and bidirectional.

DISPLAYS

LCD, Color TFT, OLED

High-quality displays offer excellent Human to Machine interface solutions using standard and custom display modules and high brightness options for LCD,OLED, and color TFT.

RECTIFIERS

SS10P6-M3/86A

High-current density surface-mount Schottky barrier rectifier in very low profile (typ. 1.1 mm). AEC-Q101 qualified.

OPTOELECTRONICS

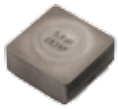
VSLB3948

High-speed infrared-emitting diode with peak wavelength of 940 nm in a T-1 clear package. Intensity of 65 mW/sr, I_F = 100 mA, angle of half intensity: ϕ = Ł} 22°, and rise / fall time of 15 ns

INDUCTORS

IHLP-6767GZ

Low-profile, high-current IHLP® inductors. Large size, low saturation, and high current SMD inductor. DC/DC conversion and filter applications



OPTOELECTRONICS

TEFT4300

Silicon NPN phototransistor with peak sensitivity of 925 nm, spectral bandwidth from 875 nm to 1000 nm (λ0.5), angle of half sensitivity of ± 30°, and output current of 3.2 mA at E_e = 1 mW/cm²

CERAMIC CAPACITORS

MLCC SMD Safety Capacitor

IEC 60384-14:2005, CAN/CSA/cCSAus, and ANSI/UL CB certificates. Surface-mount design for simpler assembly and reduced board space requirements. Available in NP0 (C0G) or X7R dielectrics.

OPTOELECTRONICS

TSAL6100

High-power infrared-emitting diode with peak wavelength of 940 nm in a T-1 package. Typ. radiant intensity of 170 mW/sr at I_F = 100 mA, 1450 mW/sr at I_F = 1 mA, and angle of half intensity: ϕ = ± 10°

OPTOELECTRONICS

TSOP34438

IR receiver modules with industry leading range of 45 m, directivity of ± 45°, minimum irradiance of 0.08 mW/m², and AGC-4 noise suppression.

OPTOELECTRONICS

VO2223A

Power phototriac optocoupler with optically coupled phototriac driving a power triac, load current of 1 A_{RMS}, and 5300 V of input to output isolation in a DIP-8 package.

OPTOELECTRONICS

VO3052

Optocoupler, non-zero crossing phototriac with 1500 V/µs dV/dt minimum, 2000 V/µs typical, 600 V blocking voltage, 100 mA on-state output current, and 10 mA trigger current with VISO of 5300 V.

This Document Is Subject To Change Without Notice. The Products Described Herein And This Document Are Subject To Specific Disclaimers, Set Forth At www.vishay.com/doc?91000

ENGINEER'S TOOLBOX
version 3.0

Automotive / Transportation

- Powertrain – 12 V / 24 V
- Powertrain – Injection Control and Fuel Pump
- Chassis Control
- Body Electronics
- Passive Safety
- Powertrain – 12 V / 24 V
- Exterior Lighting
- 48 V_{DC} Boardnet
- Micro Hybrid – Start / Stop (12 V)
- Full Hybrid Vehicles (HEVs)
- Full Electric Vehicles (FEVs)
- Off-Road Equipment
- AC and Hybrid Trains
- Forklifts, Lift Trucks
- Heavy Transportation

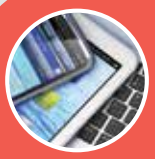
Alternative Energy

- Solar Energy
- Wind Turbines
- Smart Grids
- Energy Exploration
- Power Transmission / Distribution / Grid Quality

Industrial

- Factory Automation
- Fabrication
- Detection and Initial Safety Devices
- Surveillance Systems

Computer

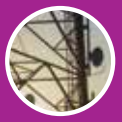


- Portable Computers
- Stationary Computing
- Computer Peripherals

Consumer

- Wearables
- Home Entertainment
- Gaming / E-Bikes
- Home Appliances
- Robotic Applications / Domestic Robots
- Lighting

Telecommunications



- Mobile
- Infrastructure

Medical

Medical Equipment

- X-ray / Computed Tomography (CT)
- Cardiac Pacing
- External Defibrillators
- Patient Monitoring
- Glucose Meters
- MRI / MRT

AMS (Avionics, Military, and Space)

- Airborne Systems
- Satellite / GPS
- Flight Control Computers
- Cockpit Panels
- Braking Systems
- UAVs (Unmanned Aerial Vehicles) / Drones

VISHAY
(IoT)
VISHAY
COMPONENTS FOR THE
INTERNET OF THINGS
www.vishay.com

INTERNET OF THINGS

WORLDWIDE SALES CONTACTS

UNITED STATES
VISHAY AMERICAS
ONE GREENWICH PLACE
SHELTON, CT 06484
UNITED STATES
PH: +1-402-563-6866
FAX: +1-402-563-6296

SINGAPORE
VISHAY INTERTECHNOLOGY ASIA PTE LTD.
37A TAMPINES STREET 92 #07-00
SINGAPORE 528886
PH: +65-6788-6668
FAX: +65-6788-0988

P.R. CHINA
VISHAY CHINA CO., LTD.
15D, SUN TONG INFOPORT PLAZA
55 HUAI HAI WEST ROAD
SHANGHAI 200030
P.R. CHINA
PH: +86-21-22315555
FAX: +86-21-22315551

JAPAN
VISHAY JAPAN CO., LTD.
SHIBUYA PRESTIGE BLDG. 4F
3-12-22, SHIBUYA
SHIBUYA-KU
TOKYO 150-0002
JAPAN
PH: +81-3-5466-7150
FAX: +81-3-5466-7160

GERMANY
VISHAY ELECTRONIC GMBH
DR.-FELIX-ZANDMAN-PLATZ 1
95100 SELB
GERMANY
PH: +49-9287-71-0
FAX: +49-9287-70435

FRANCE
VISHAY S.A.
199, BD DE LA MADELEINE
06003 NICE, CEDEX 1
FRANCE
PH: +33-4-9337-2727
FAX: +33-4-9337-2726

UNITED KINGDOM
VISHAY LTD.
SUITE 7A, TOWER HOUSE
ST. CATHERINE'S COURT
SUNDERLAND ENTERPRISE PARK
SUNDERLAND SR5 3XJ
UNITED KINGDOM
PH: +44-191-516-8584
FAX: +44-191-549-9556

VISHAY INTERTECHNOLOGY, INC.

VMN-MS6975-1502