



Vishay Intertechnology, Inc.

Consumer

(Robotic Appliances / Domestic Robots)



One of the World's Largest Manufacturers of
Discrete Semiconductors and Passive Components





Consumer

Robotic Applications / Domestic Robots

Robotic Vacuum Cleaners / Robovacs	2
Robotic Lawn Mowers	3
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More information on the Engineer's Toolbox, including product datasheet links, can be found at www.vishay.com/ref/et3.

For inquiries, please contact your local sales representative.

Key components for
ROBOTIC APPLIANCES / DOMESTIC ROBOTS



THE VISHAY ADVANTAGE

- Fast Response
- Superior Sensitivity
- Low Self-Weight
- ESD Protection
- Low Switching Loss
- and more....

**Robotic Vacuum
Cleaners /
Robovacs**



**Robotic
Lawn Mowers**



**Companion
Robots**





Robotic Vacuum Cleaners / Robovac



MOSFETs

Dual N-Channel 40 V (D-S) MOSFET




[Si7938DP](#)

- TrenchFET® Gen III technology, maximum $R_{DS(on)}$ 5.8 mΩ
- Thermally enhanced PowerPAK® SO-8 packaging

RECTIFIERS

High-Current Density Surface-Mount Schottky Barrier Rectifier




[SS10P6-M3/86A](#)

- AEC-Q101 qualified
- Very low profile: typical height of 1.1 mm

OPTOELECTRONICS

Silicon NPN Phototransistor




[TEFT4300](#)

- Peak sensitivity of 925 nm with spectral bandwidth from 875 nm to 1000 nm ($\lambda_{0.5}$)
- Angle of half sensitivity of $\pm 30^\circ$, output current of 3.2 mA at $E_o = 1 \text{ mW/cm}^2$

OPTOELECTRONICS

IR Receiver Modules for Remote Control Systems




[TSOP34438](#)

- Industry leading range of 45 m, directivity of $\pm 45^\circ$, and 38 kHz carrier frequency
- Minimum irradiance of 0.08 mW/m², and featuring AGC-4 noise suppression

DIODES

Surface-Mount TRANSZORB® Transient Voltage Suppressors




[SMBJ26CA-E3/52](#)

- 600 W peak pulse power capability with a 100/1000 μs waveform
- Available in unidirectional and bidirectional

OPTOELECTRONICS

High-Speed Infrared-Emitting Diode with Peak Wavelength of 940 nm




[VSLB3948](#)

- 940 nm emitter in a T-1 clear package with intensity of 65 mW/sr, $I_F = 100 \text{ mA}$
- Angle of half intensity: $\phi = \pm 22^\circ$, and rise and fall time of 15 ns

CERAMIC CAPACITORS

IEC 60384-14:2005, CAN/CSA/cCSAus, and ANSI/UL CB Certificates




[MLCC SMD Safety Capacitor](#)

- Surface-mount design: simpler assembly and reduced board space requirement
- Available in NP0 (C0G) or X7R dielectrics

OPTOELECTRONICS

Optocoupler, Power Phototriac




[VO2223A](#)

- Optically coupled phototriac driving a power triac in a DIP-8 package
- Load current of 1 A_{RMS} and 5300 V of input-to-output isolation

DISPLAYS

High-Quality Displays Offer Excellent Human-to-Machine Interface Solutions




[LCD, Color TFT, OLED](#)

- Standard / custom options for LCD, OLED, and color TFT for operator monitoring
- High-brightness options as well as dimable for low-light operation

INDUCTORS

Low-Profile, High-Current IHLP® Inductors




[IHLP-6767GZ](#)

- Large size, high-current, low-saturation SMD inductor
- DC/DC conversion, filter applications

OPTOELECTRONICS

High-Power Infrared-Emitting Diode with Peak Wavelength of 940 nm in a T-1¾ Package




[TSAL6100](#)

- Typical radiant intensity of 170 mW/sr at $I_F = 100 \text{ mA}$, 1450 mW/sr at $I_F = 1 \text{ mA}$
- Angle of half intensity: $\phi = \pm 10^\circ$

OPTOELECTRONICS

Optocoupler, Non-Zero Crossing Phototriac



[VO3052](#)

- 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 V_{ISO} of 5300 V

View datasheets for these products www.vishay.com/ref/et3cn7a



Robotic Lawn Mowers



View datasheets for these products
www.vishay.com/ref/et3cn7b

RECTIFIERS

Surface-Mount Glass Passivated Rectifier

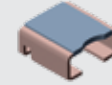


[S1J-E3/61T](#)

- AEC-Q101 qualified
- High forward surge capability

RESISTORS

Power Metal Strip® SMD Resistors, Very High Power (to 7 W), Low Value (to 0.0005 Ω)



[WSLP2726](#)

- High power rating of 5 W to 7 W in WSLP2726 package
- Very low resistance values from 0.0005 Ω to 0.002 Ω, in 4-terminal package

DISPLAYS

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- Standard / custom options for LCD, OLED, and color TFT for operator monitoring
- High-brightness options as well as dimmable for low-light operation

NON-LINEAR RESISTORS

SMD 0603, Glass Protected NTC Thermistors



[NTCS0603](#)

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

INDUCTORS

Low-Profile, High-Current IHLP® Inductors



[IHLP-5050](#)

- High-current, very low-profile power inductor for DC/DC conversion and filtering
- High-frequency operation up to 5 MHz

CERAMIC CAPACITORS

Ultra-Stable Dielectric, Low Dissipation Factor (DF)



[MLCC High Q Capacitors](#)

- Non-magnetic available with copper or epoxy bondable termination
- Robust design build with wet process

ICs

Dual 2 A, 1.2 V, Slew Rate Controlled Load Switch

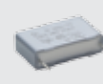


[SiP32416](#)

- Low and flat R_{ON} over the full operation voltage range of 1.2 V to 5.5 V
- Features 2 ms turn-on rise time, switch-off reverse blocking, and output discharge

FILM CAPACITORS

Interference Suppression Film Capacitor – Class Y2, Radial MKP 300 V_{AC}



[MKP338 6](#)

- RFI Y2 capacitor for bypass applications

ALUMINUM CAPACITORS

Aluminum Capacitors, SMD (Chip), High Temperature, Low Impedance



[146 CTI](#)

- High temperature to 125 °C, long life, low impedance, high ripple current
- Soldering according JEDEC-J-STD-020

TVS DIODES

Surface-Mount TRANSZORB® Transient Voltage Suppressors



[P4SMA220A](#)

- Glass passivated chip junction, available as unidirectional and bidirectional
- 400 W peak pulse power capability with a 10/1000 μs waveform, excellent clamping capability

OPTOELECTRONICS

IR Receiver Modules for Remote Control Systems



[TSOP31230](#)

- Very low supply current, photo detector, and preamplifier in one package
- Internal filter for PCM frequency, supply voltage from 2.5 V to 5.5 V

MOSFETS

N-Channel 40 V (D-S) MOSFET

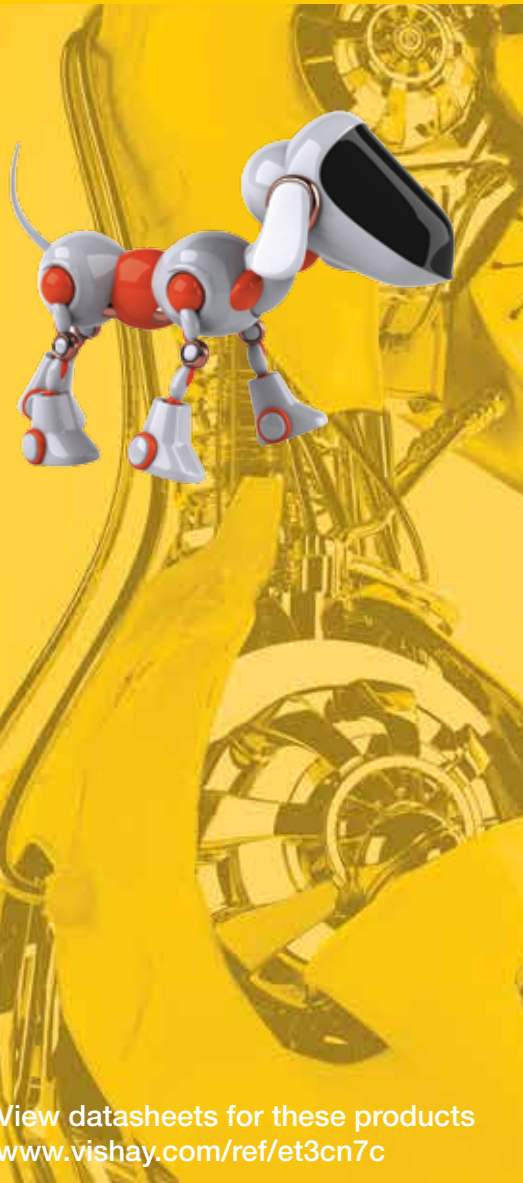


[SiR640ADP](#)

- TrenchFET® Gen IV technology for increased power density, maximum $R_{DS(on)}$ of 2 mΩ
- Thermally enhanced PowerPAK® SO-8 packaging



Companion Robots



MOSFETs

P-Channel 20 V (D-S) MOSFET




[Si7655ADN](#)

- Industry leading p-channel Gen III technology, maximum $R_{DS(on)}$ 3.6 m Ω
- Thermally enhanced PowerPAK® 1212-8 is 1/3 the size of an SO-8

RESISTORS

Power Metal Strip® Resistors, Low Value (Down to 0.0005 Ω), Surface-Mount




[WSL](#)

- Extremely low resistance values from 0.0005 Ω to 0.5 Ω and tolerance of 1 %
- Power Metal Strip all-welded construction offers high pulse capacity

OPTOELECTRONICS

Fully Integrated Proximity and Ambient Light Sensor with I²C Interface




[VCNL4020](#)

- Infrared emitter is included in the 4.9 mm x 2.4 mm x 0.83 mm SMD pkg.
- 16-bit resolution, proximity range of up to 20 cm with programmable thresholds

INDUCTORS

Low-Profile, High-Current IHLP® Inductors

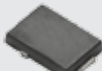


[IHLP-2525](#)

- Compact, high-current power inductor for DC/DC conversion and filter applications
- High-frequency operation up to 5 MHz

RECTIFIERS

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




[V10PL45](#)

- Trench MOS Schottky technology
- Very low profile – typical height of 1.1 mm

RECTIFIERS

Surface-Mount Schottky Barrier Rectifiers

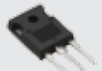


[MSS2P3](#)

- Very low profile: typical height of 0.65 mm
- AEC-Q101 qualified

MOSFETs

E Series 600 V N-Channel Power MOSFET



[SiHG33N60E](#)

- High-performance E Series, high-voltage technology, maximum $R_{DS(on)}$ 99 m Ω
- Popular TO-247 packaging, maximum continuous current of 33 A

TANTALUM CAPACITORS

Solid Tantalum Chip Capacitors 298D MICROTAN®, 298W Extended Range MICROTAN




[298D](#)

- High capacitance in small case sizes including 0603 and 0402 footprint
- Perfect for space constrained designs

DIODES

4-Line Bus-Port ESD Protection, Flow-Through Design




[VBUS54ED-FBL](#)

- Compact LLP2510-10L package
- Soldering can be checked by standard vision inspection

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NON-LINEAR RESISTORS

SMD 0603, Glass Protected NTC Thermistors



[NTCS0603](#)

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

ICs

6 A microBUCK® Integrated FET Buck Regulator with Programmable LDO



[SiC403A](#)

- Offers a scalable design with 10 A and 15 A parts in the same footprint
- Soft-start, UVP / OVP, OCP, selectable power-saving mode, LDO, PGOOD, OTP

View datasheets for these products www.vishay.com/ref/et3cn7c





Vishay Intertechnology, Inc.



A *WORLD OF*
SOLUTIONS