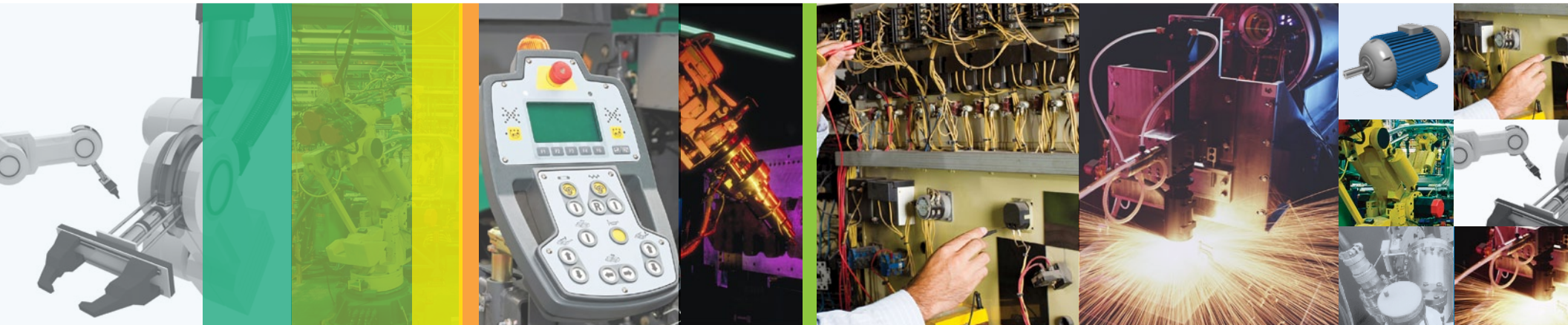




Vishay Intertechnology, Inc.

Industrial / Power Factory Automation





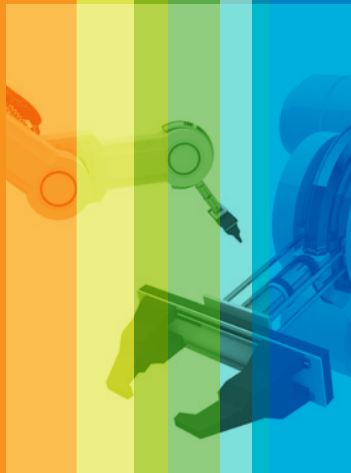
Industrial / Power

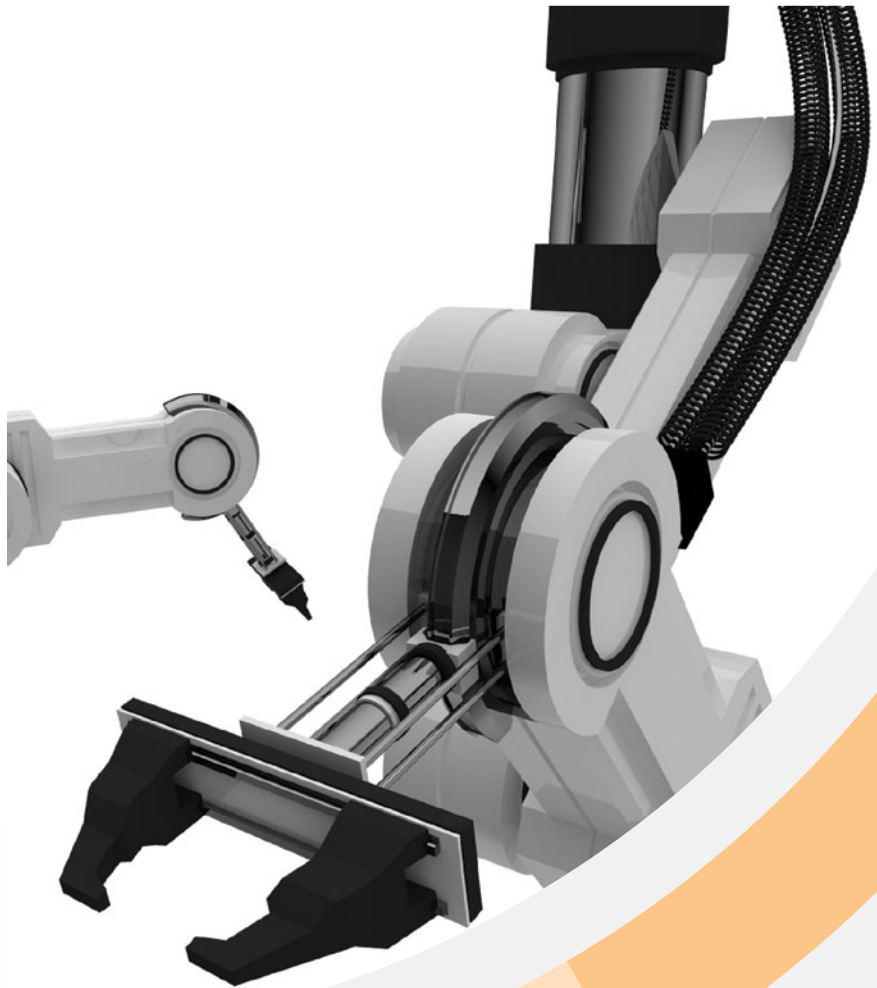
Factory Automation

| | |
|---------------|---|
| Motor Drives | 4 |
| Testers | 5 |
| Control Units | 6 |

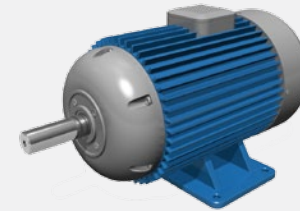
The Engineer's Toolbox highlights, by market application, some innovative components Vishay manufactures that help design engineers develop superior end products. We recognize that offering unique component solutions helps improve the performance of next-generation devices, overcome technical barriers, and create new markets.

More information on the Engineer's Toolbox, including product datasheet links, can be found at www.vishay.com/ref/et2. For inquiries, please contact your local sales representative.





Key components for
FACTORY AUTOMATION



MOTOR DRIVES



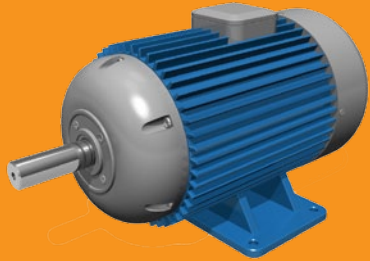
TESTERS



CONTROL UNITS

THE VISHAY ADVANTAGE

- Long Useful Life
- Safety Approvals
- Robust Design
- High Peak Pulse Power
- High Precision and Stability
- High Surge Current Capability
- and more...*



MOTOR DRIVES

CAPACITORS

095/096 PLL-4TSI

85 °C Snap-In Power Capacitors

Features

- Long useful life: up to 10 000 hours at 85 °C with high ripple current
- 4-terminal snap-in for stable mounting on PC board and keyed polarity
- Low ESR, high ripple current capability
- Sizes 35 x 50 up to 45 x 100; 350 V to 450 V



CAPACITORS

564R and 565R Series

Lower-Voltage Ceramic Disc Capacitors

Features

- Rated DC voltages: 2 kV_{DC} to 7.5 kV_{DC}
- Low dissipation factor: 0.2 % max at 1 MHz; 2.0 % max. at 1 kHz (1 V)
- Operating temperature range: - 25 °C to + 105 °C
- Wide capacitance range: 10 pF to 0.10 μF



ICs

SiP2802DY

Low Power PWM Current Mode Controller

Features

- Supports DC/DC and off-line power supplies
- Less than 500 μA operating current
- Internal soft start



CAPACITORS

440L Series

AC Line Rated Disc Capacitors

Features

- Class X1/Y1
- IEC 60384-14.3, UL 60384-14.1, CSA E60384-1:03 2nd edition, CSA E60384-14:09 2nd edition
- Operating temperature range: - 30 °C to + 125 °C
- Wide capacitance range: 10 pF to 0.01 μF



CAPACITORS

293D

SMD Tantalum Molded Chip Capacitor

Features

- TANTAMOUNT®, standard industrial grade
- Molded case available in six case codes
- Terminations: 100 % matte tin, standard, tin/lead available
- Compatible with high volume automatic pick and place equipment



INDUCTORS

IHB1

High-Current Radial Leaded Filter Inductor

Features

- Wide range of inductance values and current ratings
- Epoxy coated core
- Polyolefin tubing optional
- Pre-tinned leads



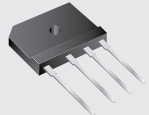
RECTIFIERS

GSIB2560

25 A, 600 V Single In-Line Bridge Rectifier

Features

- Glass-passivated chip
- Thin single in-line GSIB-5S package
- High surge current capability
- RoHS-compliant



RESISTORS

LPS 800

High Power Thick Film Resistor

Features

- High power for small size: up to 800 W at 25 °C
- Low weight: 83 g
- Non inductive down to 1 μH
- High pulse capability up to 1000 J short pulse



MOSFETs

SUM110N06-3M4L

Single 60 V N-Channel Power MOSFET

Features

- D²PAK (TO-263) packaging
- Maximum on-resistance down to 0.0034 Ω
- Typical gate charge of 200 nC at V_{GS} = 10 V



MOSFETs

SiHD7N60E

Single 600 V N-Channel Power MOSFET

Features

- High performance E Series high-voltage Super Junction technology
- Maximum current of 7 A
- DPAK (TO-252) package
- Maximum on-resistance of 0.6 Ω at V_{GS} = 10 V



MODULES

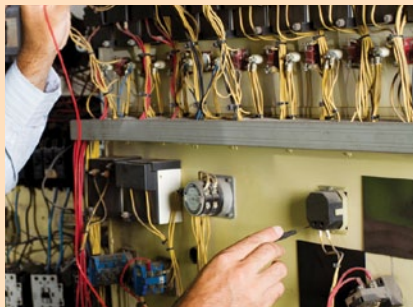
GB15XP120KTPBF

Three-Phase Inverter 1200 V IGBT Module

Features

- Very low stray inductance design for high-speed operation
- Low conduction and switching losses
- HEXFRED® diode with ultrasoft reverse recovery
- SMT thermistor (NTC)





TESTERS

RESISTORS

ORN

Precision Surface-Mount Resistor Network



Features

- Molded 8-pin SOIC package
- Resistance range from 33 Ω to 500 kΩ per resistor
- TCR tracking as low as ± 5 ppm/°C
- Ratio tolerance down to ± 0.05 %

RESISTORS

MC Series

Thin Film Chip Resistors



Features

- CECC approved according to EN 140401-801
- Available from 1R to 10M
- Low TCR down to ± 10 ppm/K, tight tolerance down to 0.1 %
- High pulse load robustness

RESISTORS

LPS 600

High-Power Thick Film Resistor



Features

- High power for small size up to 600 W at 25 °C
- Low weight 83 g
- Non inductive down to 1 μH
- High pulse capability up to 1000 J short pulse

CAPACITORS

146 RTI

High-Temperature Radial Aluminum Capacitor



Features

- Very long useful life: 2500 h to 6000 h at 125 °C, high stability, high reliability
- Very low ESR in a high temperature capable product
- AEC-Q200 qualified
- Sizes 10 x 12 up to 18 x 35; special mechanical configurations available

CAPACITORS

TR3

Molded Case SMD Tantalum Chip Capacitor



Features

- Low ESR
- 100 % surge current tested (C, D, and E case sizes)
- Molded case available in seven case codes
- Terminations: 100 % matte tin, standard tin/lead available

INDUCTORS

IMC-1210

Surface-Mount Molded Inductor



Features

- Molded construction provides superior strength and moisture resistance
- Compatible with vapor phase and infrared reflow soldering
- Lead (Pb)-free and tin/lead options available

DIODES

SMCJxx

1500 W SMC TRANSZORB® TVS V_{WM} = 5 V ~ 188 V



Features

- 1500 W peak pulse power capability at 10/1000 μs waveform
- Very fast response time
- Low-profile SMC package
- Excellent clamping capability

MOSFETs

Si2319CDS

Single - 40 V P-Channel Power MOSFET



Features

- 40 V p-channel technology
- Maximum current of 2.5 A
- SOT-23 packaging
- Maximum on-resistance of 0.077 Ω at V_{GS} = 10 V

ICs

DG508B

High-Precision Analog Multiplexer



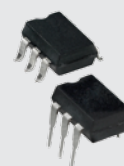
Features

- Low switching noise
- Low parasitic capacitance and charge injection
- Superior settling and switching noise under a wide amplitude and bias voltage range
- Operates with single and dual power rail over a wide voltage range

OPTOELECTRONICS

VO14642AT

Normally Open (Form A) Solid-State Relay



Features

- 0.25 Ω R_{ON}
- 5300 V isolation voltage
- DC current of 2 A
- 800 μs > switching speed

RECTIFIERS

VS-15ETH06FPPbF

Hyperfast Rectifier, 15 A FRED Pt®



Features

- Hyperfast recovery time
- Low forward voltage drop
- 175 °C operating junction temperature
- Fully isolated package (V_{INS} = 2500 V_{RMS})



CONTROL UNITS

RESISTORS

P Series (5 ppm)

High-Precision Wraparound

Features

- Low temperature coefficient down to 5 ppm/°C (- 55 °C; + 155 °C)
- Load life stability 0.02 % typical at 8000 h at 70 °C under P_d (0.033 % maximum)
- Very low noise < - 35 dB and voltage coefficient < 0.01 ppm/V
- Wide resistance range: 10 Ω to 76 MΩ depending on size



CAPACITORS

HBZ472KBBCF0KR

Ceramic High-Voltage Disc Capacitor

Features

- Rated voltage: 2 kV_{DC}
- Class 2 ceramic
- Low dissipation factor: ≤ 25 • 10⁻³
- Radial leaded



CAPACITORS

MKP338 1

RFI Suppression X1 Class Film Capacitor

Features

- Rated capacitance from 0.01 μF up to 1 μF
- Rated AC voltage of 440 V_{AC}
- Lead space from 7.5 mm up to 27.5 mm
- Maximum application temperature of 105 °C



CAPACITORS

TH4

SMD Tantalum Capacitors Hi-TMP®

Features

- Operating temperature up to 175 °C
- RoHS-compliant terminations available: matte tin (all cases)
- 100 % surge current tested



INDUCTORS

IHLP-2525

Low-Profile, High-Current IHLP® Inductor

Features

- Shielded construction
- Handles high transient current spikes without saturation
- Ultra-low buzz noise due to composite construction
- 100 % lead (Pb)-free and RoHS-compliant



MOSFETs

Si7621DN

Single - 20 V P-Channel Power MOSFET

Features

- Thermally enhanced PowerPAK® 1212-8 is 1/3 the size of an SO-8
- Typical gate charge of 3.9 nC at V_{GS} = 4.5 V



MOSFETs

IRFBG20

Single, 1000 V P-Channel Power MOSFET

Features

- Maximum current of 1.4 A
- TO-220 package
- Maximum on-resistance of 11 Ω at V_{GS} = 10 V
- Typical gate charge of 25.3 nC at V_{GS} = 10 V



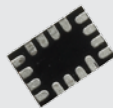
ICs

DG9451

High-Precision 8-Channel Analog Multiplexer

Features

- < 0.5 pC charge injection for minimized switching noise
- 1 pF switch off parasitic capacitance
- 2.7 V to 12 V single-supply or ± 2.7 V to ± 6 V dual-supply operation
- 270 MHz bandwidth and - 44 dB isolation at 100 MHz



OPTOELECTRONICS

VO1400AEFTR

1 Form A Solid-State Relay

Features

- Maximum on resistance = 5 Ω
- Load voltage 60 V
- Load current 100 mA
- SOP-4 package



MODULES

VSKT162/12PBF

162 A Dual SCR Isolated Module

Features

- Thyristor/diode module also available
- High surge capability
- High voltage (up to 1600 V)
- 3500 V_{RMS} isolating voltage



DIODES

VBUS54CV-HSF

4-Line ESD-Protection

Features

- Ultra compact LLP75-6L package
- 4-line USB ESD protection
- Low leakage current
- Low load capacitance C_D = 1.2 pF





Vishay Intertechnology, Inc.

BUILD VISHAY

into your **DESIGN**

