



Vishay Intertechnology, Inc.

Industrial Fabrication





Industrial

Fabrication

Welding

4

Cutting

5

Melting

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
FABRICATION



WELDING



CUTTING



MELTING

THE VISHAY ADVANTAGE
Long Useful Life
Safety Approvals
High Peak Pulse Power
High Operating Temperature
High Surge Current Capability
and more...



WELDING

CAPACITORS

095/096 PLL-4TSI

85 °C Long Life Snap-in Power Capacitors



Features

- Long useful life: up to 10 000 h 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 mm x 50 mm up to 45 mm x 100 mm; 350 V to 450 V

MOSFETs

SUP90N15-18P

Single, 150 V N-Channel Power MOSFET



Features

- TO-220 packaging
- Maximum on-resistance down to 0.018 Ω
- Typical gate charge of 64 nC at $V_{GS} = 10 V$

MODULES

GB200TS60NPBF

Half Bridge IGBT Module



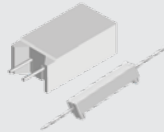
Features

- 200 A, 600 V ultrafast IGBT module
- 10 μs short circuit capability
- Low $V_{CE(on)}$ with positive temperature coefficient
- Optimized for hard switching speed: 8 kHz to 60 kHz

RESISTORS

CP/CPC/CPCF/CPCP

Wirewound and Metal Film Resistors



Features

- CPCx saves board space with vertical design
- High power to size ratio
- Potting compound/ceramic case provide high thermal conductivity and fireproof package
- Useful in ambient temperatures up to 275 °C

CAPACITORS

MKP385

AC and Pulse Single Metallized MKP Capacitor



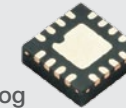
Features

- Low contact resistance, low loss dielectric
- High pulse strength (up to 4000 V/μs)
- Rated capacitance from 470 pF up to 82 μF
- 5 mm to 37.5 mm lead pitch

ICs

DG9409

Precision Dual 4-Channel Analog Multiplexer



Features

- 2.7 V to 12 V single supply or ± 2.7 V to ± 6 V dual supply operation
- 4 Ω low switch resistance for better signal attenuation
- Fast transition time
- Compact QFN16 package

MOSFETs

SiHP24N65E

Single, 650 V N-Channel Power MOSFET



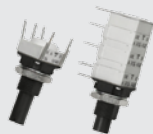
Features

- High-performance E Series high-voltage Super Junction technology
- Maximum current of 24 A
- TO-220 packaging
- Maximum on-resistance of 0.145 Ω at $V_{GS} = 10 V$

RESISTORS, VARIABLE

P11P

12.5 mm Modular Panel Potentiometer



Features

- High dielectric strength potentiometer up to 5000 V_{RMS}
- Single turn versatile options
- Plastic shaft and bushing
- Test according to CECC 41000 or IEC 60393-1

INDUCTORS

IHD3

Axial Leaded Filter Inductor



Features

- Protected by polyolefin tubing
- High saturation bobbin for high inductance and low DCR
- Pre-tinned leads

DIODES

1N5255B

Hermetically Sealed 5 % Zener Diode



Features

- Junction temperature rating of 175 °C
- AEC-Q101 qualified
- 2.4 V to 75 V Zener voltage

RESISTORS

WSC4527/WSC0002

Wirewound SMD Resistors



Features

- Superior surge capability
- Available in non-inductively wound style (model WSN)
- Excellent stability in different environmental conditions



CUTTING

CAPACITORS

PS55

RF Power Plate Capacitor, Contoured Rim



Features

- Class 1 and class 2 ceramics
- Operating temperature range: class 1: - 55 °C to + 100 °C class 2: - 25 °C to + 85 °C
- Rated voltage: class 1: 5 kV_p, class 2: 2 kV_p to 4 kV_p
- Capacitance range: class 1: 22 pF to 2 nF, class 2: 10 nF to 27 nF

DIODES

SF1600

Ultrafast Avalanche Sinterglass Diode



Features

- Very low switching losses
- Glass passivated
- High reverse voltage
- Hermetically sealed axial-leaded glass envelope

MODULES

VSUD400CW60

Ultrafast Soft Recovery Diode, 400 A



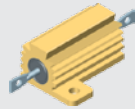
Features

- Common cathode, anodes on lug
- Reduced RFI and EMI
- Allows higher frequency operation in the application
- Features 600 V FRED Pt® ultrafast recovery diodes

RESISTORS

RH025

Wirewound, Aluminum Housed, Resistor



Features

- Molded construction for total environmental protection
- Mounts on chassis to utilize heat-sink effect
- Excellent stability in operation (< 1 % change in resistance)
- Available in non-inductive styles (type NH) with Ayrton-Perry winding

CAPACITORS

MMKP 386

Double Metallized MKP Snubber Capacitor



Features

- Reduces or eliminates voltages and current spikes
- Rated capacitance range from 0.1 µF up to 4.7 µF
- Rated voltage range from 630 V_{DC} up to 2500 V_{DC}
- High pulse strength (dV/dt up to 5500 V/µs)

OPTOELECTRONICS

VO3120

2.5 A Output Current Optoisolated IGBT/MOSFET Gate Driver



Features

- 2.5 A peak driver current
- 5300 V isolation voltage
- 25 kV/µs CMR
- 110 °C operating temperature

MODULES

VS-UFB230FA60

Ultrafast Rectifier Module, 230 A, 600 V



Features

- Fully insulated package
- Ultrafast, soft reverse recovery, with high operation temperature (T_j max = 175 °C)
- Low forward voltage drop
- Fully insulated package

RESISTORS

LPS 800

High-Power Thick Film Resistor



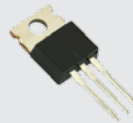
Features

- 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

SUP90N10-8m8P

Single, 100 V N-Channel Power MOSFET



Features

- TO-220 packaging
- Maximum on-resistance down to 0.0088 Ω
- Typical gate charge of 97 nC at V_{GS} = 10 V

RECTIFIERS

70MT160BPBPF

70 A, 1600 V 3-Phase Rectifier Bridge



Features

- Low V_F, high voltage
- Low junction to case thermal resistance
- Press-fit connection available
- Available up to 100 A, 1600 V (100MT160BPBPF)

THE VISHAY ADVANTAGE

Long Useful Life

Safety Approvals

High Peak Pulse Power

High Operating Temperature

High Surge Current Capability

and more...



MELTING

OPTOELECTRONICS

CNY6x

Very High Isolation Voltage and Creepage Coupler

Features

- Isolation voltage as high as 13.9 kV
- 17 mm > creepage distance
- 3 mm > internal insulation thickness
- Installation CAT IV at ≤ 600 V mains voltage



CAPACITORS

101/102 PHR-ST

Power High-Ripple Current Screw Terminal

Features

- Long useful life: up to 15 000 h at 85 °C and 400 000 h at 40 °C
- Available voltage from 25 V to 450 V; capacitance values from 220 µF to 1 000 000 µF
- Sizes up to 90 mm x 220 mm; standard and high-current terminals



RESISTORS, NON-LINEAR

NTCLP450E3

NTC Pipe Type with Fast Time Response

Features

- Response time down to 3.5 s
- High resistance to humidity



CAPACITORS

135D

Wet Tantalum Capacitor, Axial Leaded

Features

- Hermetic glass-to-metal seal, all tantalum case
- - 55 °C to + 200 °C operation
- High CV per unit volume, low ESR
- Low leakage current, 3 V reverse capability



RESISTORS, NON-LINEAR

NTCAIMME3C90373

NTC Miniature Immersion Sensor

Features

- Fast time response down to 1.5 s for fluid immersion applications
- Reduced thermal gradient down to < 0.02 K/K
- Sensor for permanent contact with water or other liquids
- Stainless steel housing with brass collar for sealed mounting



Vishay Intertechnology's reputation for innovation, reliability, and quality is complemented by a decades-long record of service improvements for power management systems.

Detailed Applications Information

AC Motor Drives

www.vishay.com/applications/industrial/ac_motordrive/

Electronic Energy Meters

www.vishay.com/applications/industrial/electronic_energymeter/

Lighting Ballasts – American Standard

www.vishay.com/applications/industrial/lighting_ballastamericanstandard/

Lighting Ballasts – European Standard

www.vishay.com/applications/industrial/lighting_ballasteuropeanstandard/

Payment Systems

www.vishay.com/applications/industrial/payment_systems/

UPS

www.vishay.com/applications/industrial/uninterruptible_powersupply/

Power Management Virtual Trade Shows

Power Conversion, Power conditioning and Protection, Battery Management, and Load Switching
www.vishay.com/landingpage/tradeshows/virtual/power/

Design Support Tools

Thermal Simulation Tools, Performance Calculators, and SPICE and 3D Models
www.vishay.com/how/design-support-tools/

Technical Library
www.vishay.com/how/onlineliterature/technical-library/

Video Library
www.vishay.com/videos/

View datasheets for these products www.vishay.com/ref/et2in

RESISTORS

PHT

High-Stability, High-Temperature (230 °C)

Features

- Operating temperature range: - 55 °C; + 215 °C
- Storage temperature range: - 55 °C; + 230 °C
- Gold terminations (< 1 µm thick)
- Temperature coefficient down to 15 ppm (- 55 °C; + 215 °C)



THE VISHAY ADVANTAGE

- Long Useful Life
- Safety Approvals
- High Peak Pulse Power
- High Operating Temperature
- High Surge Current Capability
- and more...



Vishay Intertechnology, Inc.

BUILD VISHAY

into your **DESIGN**

