



Vishay Intertechnology, Inc.

Industrial *(Fabrication)*



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





Industrial

Fabrication

Welding	2
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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 FABRICATION



THE VISHAY ADVANTAGE

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

Welding



Cutting



3D Printers



Melting / Forging / Hardening





Welding



RESISTORS

12.5 mm Modular Panel Potentiometer[P11P](#)

- High dielectric strength up to 5000 V_{RMS}, single turn versatile options
- Plastic shaft and bushing, test according to CECC

RECTIFIERS

High Voltage Input Rectifier Diode, 60 A[60CPH03](#)

- 175 °C operating junction temperature
- Hyperfast recovery time

RESISTORS

Wirewound / Metal Film Resistors, Commercial Power, Axial Leads[CP](#)

- High power-to-size ratio, meets / exceeds EIA RS-344 requirements, fireproof
- High thermal conductivity ceramic case, circuit board standoff option

MOSFETs

E Series 650 V Power MOSFET[SiHP24N65E](#)

- High performance E Series high-voltage technology, maximum R_{DS(on)} 145 mΩ
- Popular TO-220 packaging, maximum continuous current of 24 A

MOSFETs

N-Channel 150 V (D-S) MOSFET[SUP90N15-18P](#)

- Classic TrenchFET® technology, maximum R_{DS(on)} 21 mΩ
- Popular TO-220 packaging

INDUCTORS

Filter Inductors, High-Current, Axial Leaded[IHD3](#)

- Conventional high current axial leaded filter inductor

DIODES

Small-Signal Zener Diodes[1N5255B](#)

- Standard Zener voltage tolerance is ± 5 %
- AEC-Q101 qualified

ESTA POWER CAPACITORS

Capacitors for Power Electronic (PEC) – Rectangular[DCMKP Rectangular](#)

- Heavy duty
- Low self-inductance

CERAMIC CAPACITORS

AC Line Rated Disc Capacitors, Class X1, 760 V_{AC}, Class Y1, 500 V_{AC}[VY1](#)

- X1 / Y1 safety rating according to IEC 60384-14, 3rd edition
- Highest reliability and lifetime, operating temperature: -40 °C to +125 °C

MODULES

Dual INT-A-PAK Low-Profile Half-Bridge, 400 A[GA400TD60S](#)

- Optimized for hard switching speed DC to 1 kHz
- Very low V_{CE(on)}

OPTOELECTRONICS

Widebody IGBT and MOSFET Driver with High Creepage and Clearance of 10 mm[VOW3120](#)

- 10 mm min. external creepage distance, 8000 V max. transient isolation voltage
- 2.5 A peak output current, 45 kV/μs common mode rejection

RESISTORS

Wirewound Resistors, Precision Power, Surface-Mount[WSC4527](#)

- Molded package with compliant leads that give superior thermal shock resilience
- All welded wirewound construction provides accuracy and high reliability



Cutting



DIODES

Ultrafast Avalanche Sinterglass Diode[SF1600](#)

- Hermetically sealed axial-leaded glass
- High reverse voltage



RESISTORS

Cemented Wirewound Resistors[AC](#)

- Non-flammable cement coating, good size-to-power ratio
- Power: 1 W to 10 W, excellent pulse handling capability, various lead forming options



DISPLAYS

High-Quality Displays Offer Excellent Human-to-Machine Interface Solutions[LCD, Color TFT, OLED](#)

- Standard or customized glass / modules for specific applications and monitoring
- Low cost options for LCD / OLED / TFT for industrial applications



OPTOELECTRONICS

2.5 A Output Current IGBT and MOSFET Driver[VO3120](#)

- 2.5 A peak output current in a DIP or SMD package
- 35 kV/μs common mode rejection and UL, cUL, VDE certified



MODULES

Ultrafast Diode 300 A, 600 V in IAP Package H/B Configuration[VSKDU300/06](#)

- UL approved file E78996
- High surge capability



CERAMIC CAPACITORS

RF Power Plate Capacitors with Contoured Rim, Class 1 Ceramic[PS55](#)

- Class 1 ceramic dielectric featuring extremely low dissipation factors
- High power ratings, wide range of capacitance values available



MODULES

FRED Pt®, Ultrafast Soft Recovery Diode Module, 400 A[VSUD400CW60](#)

- UL approved file E222165
- Specifically designed for HF welding and plasma cutting



RESISTORS

Wirewound Resistors, Industrial Power, Aluminum Housed, Chassis Mount[RH](#)

- High pulse energy capability, high power ratings to 250 W, heatsink mount
- All welded construction ideal for harsh environments



MODULES

Buck PFC stage with Hyperfast IGBT and FRED Pt diode[100MT160PBPbF](#)

- Speed 25 kHz to 50 kHz
- Very low stray inductance design for high-speed operation



OPTOELECTRONICS

Optocoupler with Phototransistor Output and Trigger Current of $I_F = 1$ mA[VOL618A](#)

- High current transfer ratio, and high isolation voltage of 5000 V_{RMS}
- Operating temp. from -55 °C to +110 °C in a 4-pin LSOP, mini-flat package



RESISTORS

Power Resistor for Mounting onto a Heatsink Thick Film Technology[LPS 800](#)

- High power for small size of 57 mm x 57 mm, 800 W at 25 °C on heatsink, low weight of 83 g
- Non-inductive down to 1 μH, high pulse capability up to 1000 J short pulse



OPTOELECTRONICS

Widebody 1 MBd High-Speed Optocoupler with High Creepage and Clearance of 10 mm[VOW136](#)

- 8000 V max. transient isolation voltage
- Integrated Faraday shield provides very high input-to-output noise isolation of 40 kV/μs



View datasheets for these products
www.vishay.com/ref/et3in2b



3D Printers



RESISTORS

Power Metal Strip® Resistors, Very High Power, Low Value Surface-Mount



[WSLP0603](#)

- Very high power rating of 0.4 W in small 0603 package
- Extremely low resistance values from 0.01 Ω to 0.1 Ω and tolerance of 1 %

MOSFETs

N-Channel 30 V (D-S) MOSFET



[SiS414DN](#)

- TrenchFET® Gen III technology, maximum $R_{DS(on)}$ 16 m Ω
- Thermally enhanced PowerPAK® 1212-8 is 1/3 the size of an SO-8

OPTOELECTRONICS

AC and DC Linear Optocoupler with VDE, UL, BSI, FIMKO Certification



[IL300](#)

- Feedback photodiode compensates for LED's time and temperature characteristics
- Isolation test voltage, 5300 V_{RMS} in a DIP or SMD package

ICs

10 A microBUCK® SiC402A/B Integrated Buck Regulator with Programmable LDO



[SiC402A](#)

- Offers a scalable design with 6 A and 15 A parts in the same footprint
- Soft-start, UVP / OVP, OCP, selectable power-saving mode, LDO, PGOOD, OTP

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

NON-LINEAR RESISTORS

NTC Thermistors, Low Thermal Gradient Lug Sensors



[NTCALUG02...](#)

- Low thermal gradient surface temperature sensor
- High insulation voltage

OPTOELECTRONICS

Subminiature Dual-Channel Transmissive Optical Sensor with Phototransistor Outputs



[TCxT1350X01](#)

- Emitter wavelength: 950 nm, released for high operating temperatures up to 125 °C
- Gap: 3 mm, aperture: 0.3 mm, channel distance (center to center): 0.8 mm

DISPLAYS

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



[LCD, Color TFT, OLED](#)

- Standard or customized glass / modules for specific applications and monitoring
- Low cost options for LCD / OLED / TFT for industrial applications

INDUCTORS

Low-Profile, High-Current IHLP® Inductors



[IHLP-2525](#)

- Compact size, high-current DC/DC conversion and filtering

TANTALUM CAPACITORS

Solid Tantalum Surface-Mount Chip Capacitors, TANTAMOUNT®, Molded Case



[293D](#)

- Molded tantalum capacitor, standard industrial grade
- General purpose capacitor

ICs

3.2 Ω , 8-Channel, ± 15 V, ± 12 V, ± 5 V Precision Multiplexers



[DG1408](#)

- Low, flat, and highly matched channel resistance over a wide voltage range
- Low parasitics: 121 pF $C_{D(on)}$, 20 pC charge injection, and fast signal switching

ALUMINUM CAPACITORS

Aluminum Capacitors, Power Miniaturized General Purpose – Snap-In



[256 PMG-SI](#)

- Useful life: 2000 h at +105 °C, > 5000 h at +85 °C
- General purpose

View datasheets for these products
www.vishay.com/ref/et3in2c



Melting / Forging / Hardening



TANTALUM CAPACITORS

Wet Tantalum Capacitors, Tantalum-Case with Glass-to-Tantalum Hermetic Seal



[135D](#)

- High capacitance, voltage range 6 V to 125 V, -55 °C to +200 °C operation
- Axial leaded, industry standard case sizes (T1, T2, T3, T4)

DISPLAYS

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



[LCD, Color TFT, OLED](#)

- Standard or customized glass / modules for specific applications and monitoring
- LCD / OLED / TFT displays can withstand extreme industrial conditions

ALUMINUM CAPACITORS

Aluminum Capacitors, Power, High Ripple Current, Screw Terminals



[101/102 PHR-ST](#)

- Long life screw-terminal, high ripple current
- Custom made; the perfect aluminum capacitors for your application

CERAMIC CAPACITORS

Internal Design Reduces Risk of Shorts Caused by Board Flex, High Breakdown Voltage



[MLCC OMD Capacitors](#)

- Polymer termination available for intensive board flex requirements
- 100 % voltage conditioning available up to 630 V_{DC} rating (process code "5H")

RESISTORS

High-Stability, High-Temperature 230 °C Thin Film Wraparound Chip Resistors



[PHT \(Sizes 0402 to 2010\)](#)

- Operating temp. up to 215 °C, low TCR down to 15 ppm/°C (-55 °C to +215 °C)
- Sulfur resistant, from 10R up to 7.5M, tight tolerance down to 0.05 %

OPTOELECTRONICS

Optocouplers with Phototransistor Output with Reinforced, CAT IV Isolation

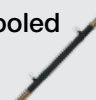


[CNY6x](#)

- Isolation test voltage up to 13.9 kV, rated recurring peak voltage V_{IORM} of 1450 V_{peak}
- For class I - IV at mains voltage up to 600 V and class I - III up to 1000 V

RESISTORS

Wirewound, 300 W Liquid Cooled Load Resistor



[SPR2232](#)

- Element wire precisely wound on insulated copper tubing and welded to terminals
- High-temperature silicone coating, non-inductive winding available

OPTOELECTRONICS

Photovoltaic MOSFET Driver with Integrated Fast Turn-Off, Solid-State Relay



[VOM1271](#)

- Drive current from primary side LED; one less external power supply needed
- Isolation test voltage 4500 V_{RMS} and integrated turn-off circuitry for high-speed switching

ESTA POWER CAPACITORS

Medium Frequency Capacitors, Water Cooled



[Phawo](#)

- Frequency range up to 10 kHz
- Maximum of 8 partial outputs

NON-LINEAR RESISTORS

NTC Thermistor Sensors – Pipe Type with Fast Time Response



[NTCLP450E3](#)

- Miniature pipe sensor
- Fast time response vs. industry standards

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

NON-LINEAR RESISTORS

NTC Thermistors



[NTCAIMME3C90373](#)

- Miniature fluid immersion sensor
- Fast response time < 3 s

View datasheets for these products
www.vishay.com/ref/et3in2d



Vishay Intertechnology, Inc.



A *WORLD OF*
SOLUTIONS