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Vishay Intertechnology, Inc.

Industrial

(Fabrication)



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



INDUSTRIAL



Industrial

Fabrication

Welding	2
Cutting	3
3D Printers	4
Melting / Forging / Hardening	5

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













<p>RESISTORS</p> <p>12.5 mm Modular Panel Potentiometer</p>  <p>P11P</p> <ul style="list-style-type: none"> • High dielectric strength up to 5000 V_{RMS}, single turn versatile options • Plastic shaft and bushing, test according to CECC 	<p>MOSFETs</p> <p>N-Channel 150 V (D-S) MOSFET</p>  <p>SUP90N15-18P</p> <ul style="list-style-type: none"> • Classic TrenchFET® technology, maximum R_{DS(on)} 21 mΩ • Popular TO-220 packaging 	<p>CERAMIC CAPACITORS</p> <p>AC Line Rated Disc Capacitors, Class X1, 760 V_{AC}, Class Y1, 500 V_{AC}</p>  <p>VY1</p> <ul style="list-style-type: none"> • X1 / Y1 safety rating according to IEC 60384-14, 3rd edition • Highest reliability and lifetime, operating temperature: -40 °C to +125 °C
<p>RECTIFIERS</p> <p>High Voltage Input Rectifier Diode, 60 A</p>  <p>60CPH03</p> <ul style="list-style-type: none"> • 175 °C operating junction temperature • Hyperfast recovery time 	<p>INDUCTORS</p> <p>Filter Inductors, High-Current, Axial Leaded</p>  <p>IHD3</p> <ul style="list-style-type: none"> • Conventional high current axial leaded filter inductor 	<p>MODULES</p> <p>Dual INT-A-PAK Low-Profile Half-Bridge, 400 A</p>  <p>GA400TD60S</p> <ul style="list-style-type: none"> • Optimized for hard switching speed DC to 1 kHz • Very low V_{CE(on)}
<p>RESISTORS</p> <p>Wirewound / Metal Film Resistors, Commercial Power, Axial Leads</p>  <p>CP</p> <ul style="list-style-type: none"> • High power-to-size ratio, meets / exceeds EIA RS-344 requirements, fireproof • High thermal conductivity ceramic case, circuit board standoff option 	<p>DIODES</p> <p>Small-Signal Zener Diodes</p>  <p>1N5255B</p> <ul style="list-style-type: none"> • Standard Zener voltage tolerance is ± 5 % • AEC-Q101 qualified 	<p>OPTOELECTRONICS</p> <p>Widebody IGBT and MOSFET Driver with High Creepage and Clearance of 10 mm</p>  <p>VOW3120</p> <ul style="list-style-type: none"> • 10 mm min. external creepage distance, 8000 V max. transient isolation voltage • 2.5 A peak output current, 45 kV/μs common mode rejection
<p>MOSFETs</p> <p>E Series 650 V Power MOSFET</p>  <p>SiHP24N65E</p> <ul style="list-style-type: none"> • High performance E Series high-voltage technology, maximum R_{DS(on)} 145 mΩ • Popular TO-220 packaging, maximum continuous current of 24 A 	<p>ESTA POWER CAPACITORS</p> <p>Capacitors for Power Electronic (PEC) – Rectangular</p>  <p>DCMKP Rectangular</p> <ul style="list-style-type: none"> • Heavy duty • Low self-inductance 	<p>RESISTORS</p> <p>Wirewound Resistors, Precision Power, Surface-Mount</p>  <p>WSC4527</p> <ul style="list-style-type: none"> • Molded package with compliant leads that give superior thermal shock resilience • All welded wirewound construction provides accuracy and high reliability

View datasheets for these products
www.vishay.com/ref/et3in2a

Cutting



<p>DIODES</p> <p>Ultrafast Avalanche Sinterglass Diode</p> <p>SF1600</p> <ul style="list-style-type: none"> • Hermetically sealed axial-leaded glass • High reverse voltage 	<p>RESISTORS</p> <p>Cemented Wirewound Resistors</p> <p>AC</p> <ul style="list-style-type: none"> • Non-flammable cement coating, good size-to-power ratio • Power: 1 W to 10 W, excellent pulse handling capability, various lead forming options 	<p>DISPLAYS</p> <p>High-Quality Displays Offer Excellent Human-to-Machine Interface Solutions</p> <p>LCD, Color TFT, OLED</p> <ul style="list-style-type: none"> • Standard or customized glass / modules for specific applications and monitoring • Low cost options for LCD / OLED / TFT for industrial applications 
<p>OPTOELECTRONICS</p> <p>2.5 A Output Current IGBT and MOSFET Driver</p> <p>VO3120</p> <ul style="list-style-type: none"> • 2.5 A peak output current in a DIP or SMD package • 35 kV/μs common mode rejection and UL, cUL, VDE certified 	<p>MODULES</p> <p>Ultrafast Diode 300 A, 600 V in IAP Package H/B Configuration</p> <p>VSKDU300/06</p> <ul style="list-style-type: none"> • UL approved file E78996 • High surge capability 	<p>CERAMIC CAPACITORS</p> <p>RF Power Plate Capacitors with Contoured Rim, Class 1 Ceramic</p> <p>PS55</p> <ul style="list-style-type: none"> • Class 1 ceramic dielectric featuring extremely low dissipation factors • High power ratings, wide range of capacitance values available 
<p>MODULES</p> <p>FRED Pt®, Ultrafast Soft Recovery Diode Module, 400 A</p> <p>VSUD400CW60</p> <ul style="list-style-type: none"> • UL approved file E222165 • Specifically designed for HF welding and plasma cutting 	<p>RESISTORS</p> <p>Wirewound Resistors, Industrial Power, Aluminum Housed, Chassis Mount</p> <p>RH</p> <ul style="list-style-type: none"> • High pulse energy capability, high power ratings to 250 W, heatsink mount • All welded construction ideal for harsh environments 	<p>MODULES</p> <p>Buck PFC stage with Hyperfast IGBT and FRED Pt diode</p> <p>100MT160PBPbF</p> <ul style="list-style-type: none"> • Speed 25 kHz to 50 kHz • Very low stray inductance design for high-speed operation 
<p>OPTOELECTRONICS</p> <p>Optocoupler with Phototransistor Output and Trigger Current of $I_F = 1$ mA</p> <p>VOL618A</p> <ul style="list-style-type: none"> • 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 	<p>RESISTORS</p> <p>Power Resistor for Mounting onto a Heatsink Thick Film Technology</p> <p>LPS 800</p> <ul style="list-style-type: none"> • 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 	<p>OPTOELECTRONICS</p> <p>Widebody 1 MBd High-Speed Optocoupler with High Creepage and Clearance of 10 mm</p> <p>VOW136</p> <ul style="list-style-type: none"> • 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

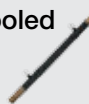


[CNY6x](#)

- 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



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ABOUT TTI, INC.

TTI Inc., a subsidiary of Berkshire Hathaway, is a world leading specialist distributor of connectors and passive, electromechanical and discrete components. TTI's philosophy is "Lead by Design", and the company differentiates itself by focusing on people, parts and processes. The company's aim is to become the distributor of choice for customers and suppliers in Europe alike by introducing new product technologies and by stocking broad and deep across its franchise base. TTI employs sophisticated inventory management processes which ensure that the company can react immediately to changes in component demand due to fluctuating markets and supply chains. For further information about TTI, please refer to: www.ttieurope.com.



**A WORLD OF
SOLUTIONS**

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