



Vishay Intertechnology, Inc.

SUPER 12

Featured Products

S12



2012





Super 12 Featured Products



MKP1848S Film Capacitor

Film capacitors with slim design.

2



VCUT05D1-SD0 BiSy Single-Line ESD Protection Diode

Ultra-compact CLP0603 silicon package.

3

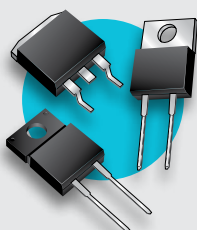


34 THE Non-Contacting Multi-Turn Sensor

*True power on-position sensor with
12-bit resolution. Fully configurable in
angle and output voltage.*



4



45 V Trench MOS Barrier Schottky Single Chip Rectifiers

*45 V TMBS® in power packages
for PV solar bypass protection.*



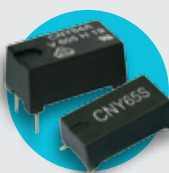
5



MPM Matched Pair Resistor Network

*Features tight ratio tolerance and close
TCR tracking.*

6



CNY6 Series CAT IV Optocouplers

*CAT IV, high-voltage isolation for
solar, wind, smart meter, and
smart grid connections.*



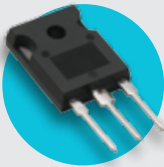
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IHLP[®] 3232 Series Low-Profile, High-Current Inductor

New size for the IHLP line-up.

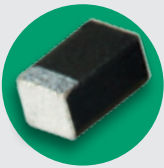
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SiHG73N60E E Series 600 V High-Voltage MOSFET

600 V, TO-247 MOSFET with very low on-resistance.

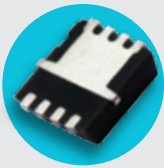
9



TM8 MicroTAN[®] Tantalum Capacitor

High reliability capacitor solutions for medical and military applications.

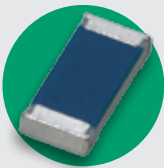
10



SiSA04DN 30 V MOSFET

30 V MOSFET using TrenchFET[®] Gen IV technology.

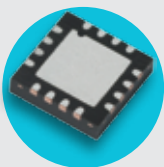
11



TNPU e3 High-Precision Thin Film Chip Resistor

Low temperature coefficient and tight tolerance.

12



SIP12107/8 Scalable Step-Down Regulator

3 A / 5 A, up to 4 MHz in MLP33-16L package, provides ultra-fast transient response with high efficiency at full and light loads.

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MKP1848S Film Capacitors

*Film capacitors with
slim design.*



Features:

- ▶ Slim design - low profile
- ▶ Voltage range: 500 V to 1000 V
- ▶ Capacitance: 2 μ F to 100 μ F
- ▶ Designed to handle high RMS and peak currents
- ▶ Long life: > 100 000 hours at U_{NDC} and 70 °C
- ▶ Operating temperature: up to 105 °C

Applications:

- ▶ Renewable energy sources: solar micro-inverters
- ▶ Public lighting: LED drives
- ▶ Hybrid electrical vehicles: on-board chargers

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PASSIVES

VCUT05D1-SD0 BiSy Single-Line ESD Protection Diode

*Ultra-compact CLP0603
silicon package.*



Features:

- ▶ Ultra-compact CLP0603 package
 - Tiny 0.6 mm x 0.3 mm footprint
 - Very low package height of < 0.3 mm
- ▶ Low capacitance of 10 pF
- ▶ Low leakage current of < 0.1 μ A at the working voltage of 5.5 V
- ▶ Reverse breakdown voltage of 8 V at 1 mA
- ▶ Maximum clamping voltage of 10 V at 1 A

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Applications:

- ▶ ESD protection for portable gaming systems, digital cameras, MP3 players, mobile phones, smartphones, and other portable systems

SEMIS

34 THE Non-Contacting Multi-Turn Sensor

True power on-position sensor with 12-bit resolution. Fully configurable in angle and output voltage.



Features:

- ▶ Continuous performance for the life of the device : no drift of linearity
- ▶ Non-contacting Hall effect technology perfectly suited for applications in harsh environments
- ▶ Wide choice of output types: analog, PWM, SPI
- ▶ Can be set up at any electrical angle up to 3600°
- ▶ Winner of EDN China Innovation Award 2011

Applications:

- ▶ Servo control of an electrical actuator
- ▶ Acting as a “master” on the steering wheel for boats or electric vehicles
- ▶ Acting as a “slave” for setting the position of a rudder (marine applications)
- ▶ Front wheel positioning control for forklift trucks
- ▶ Robotics applications involving gear drives (replacement of multi-turn wirewound precision potentiometers)

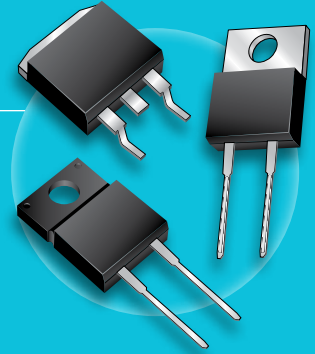
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PASSIVES

45 V Trench MOS Barrier Schottky Single Chip Rectifiers



***45 V TMBS[®] in power packages
for PV solar bypass protection.***



Features:

- ▶ Current ratings from 10 A to 40 A
- ▶ Low forward voltage drop: down to 0.51 V typical at 20 A
- ▶ Each device is offered in the power TO-220AC, ITO-220AC, and TO-263AB packages
- ▶ Single chip configuration
- ▶ Maximum junction temperature in DC forward current mode without reverse bias (time \leq 1 hour) at 200 °C
- ▶ Winner of EN-Genius Product of the Year 2011

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Applications:

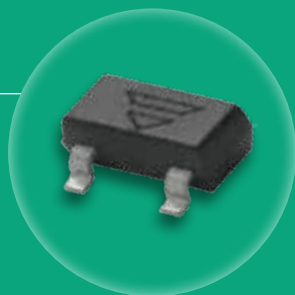
- ▶ Bypass diodes for protection in solar cell junction boxes

SEMI S



MPM Matched Pair Resistor Network

*Features tight ratio tolerance
and close TCR tracking.*



Features:

- ▶ Small size, SOT-23 package
- ▶ Popular resistor dividers 1:1 to 100:1
- ▶ Tight ratio tolerances: $\pm 0.01\%$ equal values
- ▶ Low TCR tracking: ± 2.0 ppm/ $^{\circ}\text{C}$
- ▶ Excellent long-term stability: $\pm 0.015\%$ ΔR ratio 2000 hours at 70°C

Applications:

- ▶ Industrial: process controls, test and measurement, instrumentation, signal conditioning, data acquisition

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PASSIVES



CNY6 Series CAT IV Optocouplers

*CAT IV, high voltage isolation
for solar, wind, smart meter,
and smart grid connections.*



Features:

- ▶ Certified for CAT IV installations per DIN EN 60747-5-2 (VDE 0884)
- ▶ Recurring peak voltage (V_{IORM}) of 1450 V_{PEAK}
- ▶ Transient overvoltage (V_{IOTM}) of 12 000 V_{PEAK}
- ▶ Creepage options of 9.5 mm, 14 mm, and 17 mm
- ▶ Distance from emitter to detector through insulation ≥ 3 mm
- ▶ Available in surface-mount and through-hole packages

Applications:

- ▶ Solar panel and wind turbine connections to the grid
- ▶ Smart meter and smart grid high-voltage isolation
- ▶ Welding and high-voltage motors

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SIMIS



IHLP® 3232 Series Low-Profile, High-Current Inductor

*New size for the
IHLP line-up.*



Features:

- ▶ New size fits gap in the IHLP footprint line-up
- ▶ Available in two standard height profiles: 3 mm and 4 mm
- ▶ Shielded construction
- ▶ Applications up to 5 MHz

Applications:

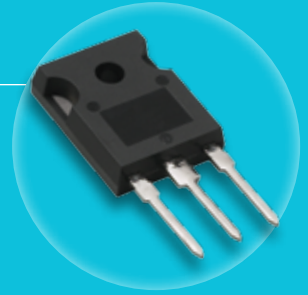
- ▶ PDA/notebook/desktop/server applications, high-current POL converters, low-profile, high-current power supplies, battery-powered devices, DC/DC converters in distributed power systems
- ▶ Automotive grade series available upon request

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PASSIVES

SiHG73N60E E Series 600 V High-Voltage MOSFET

**600 V, TO-247 MOSFET with
very low on-resistance.**



Features:

- ▶ Minimum 600 V breakdown voltage
- ▶ TO-247 package provides the lowest on-resistance
- ▶ Super Junction technology
 - Low $R_{DS(on)} \times Q_g$ figure of merit (FOM)
 - Reduced switching and conduction losses
 - Ultra-low gate charge (Q_g)
 - Low input capacitance (C_{iss})

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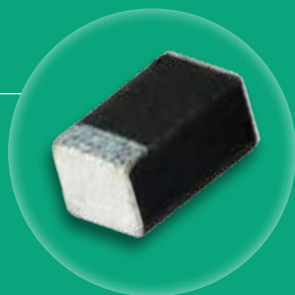
Applications:

- ▶ Renewable (photo-voltaic inverters)
- ▶ Servers/telecom SMPS (switch mode power supplies)
- ▶ ATX power supplies (ATX = Advanced Technology eXtended, motherboard)
- ▶ Industrial power supplies (welding, UPS, battery chargers)

SEMIS

TM8 MICROTAN[®] Tantalum Capacitor

High reliability capacitor solutions for medical and military applications.



Features:

- ▶ Robust designs ensure the highest possible reliability
- ▶ Small case sizes are ideal for space-constrained applications
- ▶ Tailorable high-reliability screening options: select the right screening regimen for your application needs
- ▶ Low DCL: efficient operation and long battery life

Applications:

- ▶ Handheld instrumentation
- ▶ Biometric sensors
- ▶ Hybrid integrated circuits
- ▶ Hearing aids
- ▶ Neurostimulators, pacemakers, and other implantable devices

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PASSIVES

SiSA04DN 30 V MOSFET

**30 V MOSFET using
TrenchFET[®] Gen IV technology.**



Features:

- ▶ Maximum on-resistance down to 2.15 mΩ in a 3.3 mm x 3.3 mm outline using state-of-the-art TrenchFET Gen IV technology
- ▶ Typical gate charge down to 22.5 nC, FOM down to 56
- ▶ Lowest $R_{DS(on)} * Q_{gd}$ combination for the most efficient high-frequency switching
- ▶ Low Q_{gd} and low $Q_{gd}:Q_{gs}$ ratio for high immunity to shoot-through
- ▶ Thermally advanced PowerPAK[®] 1212-8 package

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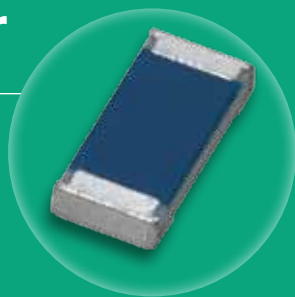
Applications:

- ▶ Synchronous rectification – isolated DC/DC power supply/telecom brick
- ▶ Synchronous buck converter – low-side MOSFET
- ▶ OR-ing, hot swap, solid-state relay

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TNPU e3 High-Precision Thin Film Chip Resistor

*Low temperature coefficient
and tight tolerance.*



Features:

- ▶ Low temperature coefficient (± 5 ppm/K) and tight tolerance (± 0.05 %)
- ▶ Superior moisture resistivity < 0.25 % (56 days / 85 °C / 85 % relative humidity)
- ▶ AEC-Q200 qualified
- ▶ Waste gas resistant

Applications:

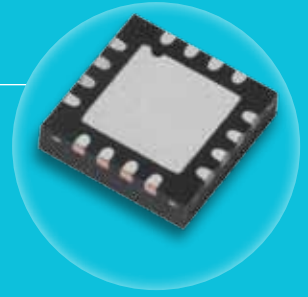
- ▶ Test and measuring equipment
- ▶ Medical equipment
- ▶ Automotive
- ▶ Instrumentation

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PASSIVES

SIP12107/8 Scalable Step-Down Regulator

*3 A / 5 A, up to 4 MHz in
MLP33-16L package provides
ultra-fast transient response
with high efficiency at full and
light loads.*



Features:

- ▶ High efficiency across the entire load
- ▶ Up to 4 MHz switching frequency
- ▶ Ultra-fast transient response with high efficiency
- ▶ Supports all ceramic capacitor solutions
- ▶ OVP, UVP, OCP, OTP, PGOOD

Applications:

- ▶ Point-of-load (POL) regulation for high-performance systems
- ▶ Driving DSPs, FPGAs, ASICs, microprocessors
- ▶ Telecom, servers
- ▶ Notebooks, SSDs

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