



Vishay Intertechnology, Inc.

# Consumer

(Home Appliances)



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





**Consumer**

## Home Appliances

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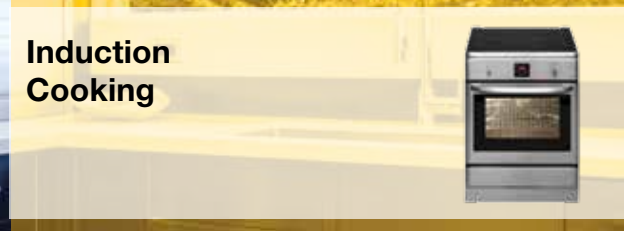
More information on the Engineer's Toolbox, including product datasheet links, can be found at [www.vishay.com/ref/et3](http://www.vishay.com/ref/et3).

For inquiries, please contact your local sales representative.

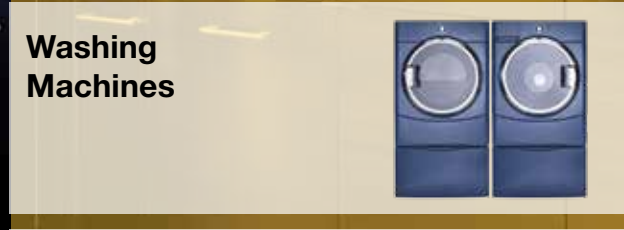
*Key components for*  
**HOME APPLIANCES**



**Air Conditioners**



**Induction  
Cooking**



**Washing  
Machines**



**Refrigerators /  
Freezers**



**THE VISHAY ADVANTAGE**

- Efficiency
- Compact Dimensions
- Low Weight
- Safety Approvals
- ESD Protection
- High-Voltage Capabilities
- Long Useful Life  
and more....




# Air Conditioners



RESISTORS  
**High Pulse Load MELF Resistors**  
[CMA0204...e3](#)  

- Extreme surge capability up to 6 kV ESD, 4 kV 1.2 / 50 pulse
- Advanced carbon film technology, sulfur resistant, GREEN product




MOSFETs  
**N-Channel 100 V (D-S) 175 °C MOSFET**  
[SUP85N10-10](#)  

- Classic TrenchFET® technology, maximum  $R_{DS(on)}$  10 mΩ
- Popular TO-220 packaging



RECTIFIERS  
**Enhanced isoCink+™ Bridge Rectifiers**  
[PB3510](#)  

- Enhanced high current density single in-line
- UL recognition file number E312394




MOSFETs  
**P-Channel 60 V (D-S) Power MOSFET**  
[IRFI9Z34G](#)  

- Rugged planar technology, maximum  $R_{DS(on)}$  140 mΩ
- FullPAK packaging eliminates isolation, maximum continuous current of -12 A



DIODES  
**TRANSZORB® Transient Voltage Suppressors**  
[P6KE200A](#)  

- 600 W peak pulse power capability with a 100/1000 μs waveform
- AEC-Q101 qualified




RESISTORS  
**Power Metal Strip® Resistors, High Power (7 W) Low Value, Surface-Mount**  
[WSHM2818](#)  

- Very high power rating of 7 W in small 2818 package
- Very low resistance values from 0.001 Ω to 0.10 Ω, with tolerance of 1 %




RECTIFIERS  
**Dual Common Cathode Ultrafast Rectifier**  
[FEP30JP](#)  

- Ultrafast recovery time
- Low switching losses, high efficiency




RESISTORS  
**Power Metal Strip® Resistors, Low Value (Down to 0.001 Ω), Surface-Mount**  
[WSR](#)  

- High power ratings to 5 W in molded 4527 size package
- Molded package with compliant leads, give superior thermal shock resilience




OPTOELECTRONICS  
**Optocoupler, Power Phototriac**  
[VO2223A](#)  

- Optically coupled phototriac driving a power triac in a DIP-8 package
- Load current of 1 A<sub>RMS</sub> and 5300 V of input-to-output isolation




NON-LINEAR RESISTORS  
**NTC Thermistor Sensors – Pipe Type with Fast Time Response**  
[NTCLP450...](#)  

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




OPTOELECTRONICS  
**IR Receiver with Copper Leadframe for High Humidity / Saline Atmosphere**  
[TSOP34xxxR](#)  

- Industry leading range of 45 m, directivity of ± 45°, and 38 kHz carrier frequency
- Minimum irradiance of 0.08 mW/m², and featuring AGC-4 noise suppression



FILM CAPACITORS  
**Metallized Polypropylene Film Capacitor, DC-Link Capacitor**  
[MKP1848C](#)  

- Compact and high-performance DC-Link
- Environment-friendly materials (halogen-free and Vishay GREEN)



View datasheets for these products  
www.vishay.com/ref/et3cn6a



# Induction Cooking



### CERAMIC CAPACITORS

**AC Line Rated Disc Capacitors, Class X1, 760 V<sub>AC</sub>; Class Y1, 500 V<sub>AC</sub>**



[VY1](#)

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

### RECTIFIERS

**Enhanced isoCink+™ Bridge Rectifiers**



[PB3006-E3](#)

- UL recognition file number E312394
- Enhanced high current density single in-line package

### FILM CAPACITORS

**AC and Pulse Metallized Polypropylene Film Capacitors, MKP Axial Type**



[MKP1839HQ](#)

- For low building height applications
- For precision applications, with tolerances down to ± 1 %

### NON-LINEAR RESISTORS

**NTC Thermistors, Standard Lug Sensors**



[NTCALUG01A](#)

- Robust surface temperature sensor
- AEC-Q200 compliant, UL recognized

### RESISTORS

**Cemented Wirewound Resistors**

[AC03](#)

- Non-flammable cement coating, good size-to-power ratio
- Power: 3 W, excellent pulse handling capability, various lead forming options



### MOSFETs

**E Series 600 V N-Channel Power MOSFET**



[SiHB15N60E](#)

- High-performance E Series, high-voltage technology, maximum R<sub>DS(on)</sub> 280 mΩ
- Popular D<sup>2</sup>PAK packaging, maximum continuous current of 15 A

### RESISTORS

**Power Metal Strip® Resistors, Very High Power (to 3 W)**



[WSLP2512](#)

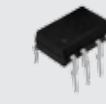
- Very high power rating of 3 W in 2512 package
- Extremely low resistance values from 0.0005 Ω to 0.01 Ω, and tolerance of 1 %

### OPTOELECTRONICS

**1 MBd High-Speed Optocoupler with Photodiode-to-Transistor Output**

[6N136](#)

- Transmit signals between two optically separated circuits to frequencies of 2 MHz
- Isolation test voltage of 5300 V<sub>RMS</sub>, TTL compatible, 1 Mbit/s data rate



### MOSFETs

**P-Channel 30 V (D-S) MOSFET**

[Si2307CDS](#)

- Classic TrenchFET® technology, maximum R<sub>DS(on)</sub> 88 mΩ
- Popular SOT-23 packaging



### DIODES

**Small-Signal Schottky Diodes, Single and Dual**

[BAT54 / MMSZ5242B](#)

- AEC-Q101 qualified
- Very low turn-on voltage



### OPTOELECTRONICS

**Fully Integrated Proximity and Ambient Light Sensor with I<sup>2</sup>C Interface**

[VCNL4010](#)

- Infrared emitter is included in the 3.95 mm x 3.95 mm x 0.75 mm SMD pkg.
- 16-bit resolution, proximity range of up to 20 cm with programmable thresholds



### FILM CAPACITORS

**Metallized Polypropylene Film Capacitors, DC-Link Capacitor**

[MKP1848C](#)

- Compact and high-performance DC-Link
- Environment-friendly materials (halogen-free and Vishay GREEN)



View datasheets for these products  
[www.vishay.com/ref/et3cn6b](http://www.vishay.com/ref/et3cn6b)




# Washing Machines



**RESISTORS**

**High-Ohmic / High-Voltage Metal Glaze Leaded Resistors**



[VR25](#)

- Small size (0207), suitable for high-humidity environments
- High continuous voltage of 1600 V, and high pulse loading capability of 7 kV

**MOSFETs**

**P-Channel 30 V (D-S) MOSFET**

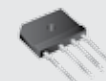


[Si2307CDS](#)

- Classic TrenchFET® technology, maximum  $R_{DS(on)}$  88 m $\Omega$
- Popular SOT-23 packaging

**RECTIFIERS**

**Single-Phase, Single In-Line Bridge Rectifiers**




[GSIB2560-E3](#)

- UL recognition file number E54214
- High surge current capability

**DIODES**

**TRANSZORB® Transient Voltage Suppressors**




[P6KE200A](#)

- 600 W peak pulse power capability with a 100/1000  $\mu$ s waveform
- Excellent clamping capability, very fast response time, low incremental surge resistance

**NON-LINEAR RESISTORS**

**SMD 0603, Glass Protected NTC Thermistors**




[NTCS0603](#)

- AEC-Q200 compliant
- Glass protected with flex terminations

**CERAMIC CAPACITORS**

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

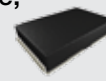


[VJ OMD Series](#)

- Polymer termination available for intensive board flex requirements
- 100 % voltage conditioning available up to 630 V<sub>DC</sub> rating (process code "5H")

**RESISTORS**

**Power Metal Strip® Resistors, High Power (7 W), Low Value, Surface-Mount**




[WSHM2818](#)

- Very high power rating of 7 W in small 2818 package
- Very low resistance values, 0.001  $\Omega$  to 0.10  $\Omega$ , with tolerance of 1 %

**OPTOELECTRONICS**

**Optocoupler, Phototransistor Output with Broad Operating Temperature Range**




[VO615A](#)

- 6 kV peak transient overvoltage protection in a 4-pin DIP or SMD package
- Temp. range -55 °C to +110 °C with VDE, BSI, FIMKO, UL, cUL, and CQC certification

**FILM CAPACITORS**

**Interference Suppression Film Capacitors, MKP Radial Potted Type**




[MKP339](#)

- RFI X2 capacitor for standard across-the-line applications

**MOSFETs**

**N-Channel 800 V (D-S) Power MOSFET**



[IRFBE20](#)

- Rugged planar technology, maximum  $R_{DS(on)}$  6.5  $\Omega$
- Popular TO-220 packaging, maximum continuous current of 1.8 A

**ALUMINUM CAPACITORS**

**Aluminum Capacitors, Power Miniaturized, General Purpose Snap-In**



[093PMG-SI](#)

- Standard snap-in series
- Useful life: 2000 h at 85 °C

**RESISTORS**

**Cemented Fusible Wirewound Safety Resistors**



[AC03...CS](#)

- 3 W, UL 1412 approved, non-flammable cement coating
- Surge handling of 4 kV, safe and silent fusing without flame and explosion

View datasheets for these products  
[www.vishay.com/ref/et3cn6c](http://www.vishay.com/ref/et3cn6c)



# Refrigerators / Freezers



CERAMIC CAPACITORS

**AC Line Rated Disc Capacitors, Class X1, 760 V<sub>AC</sub>; Class Y1, 500 V<sub>AC</sub>**



[VY1](#)

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

RESISTORS

**Cemented Wirewound Resistors**



[AC03](#)

- Non-flammable cement coating, good size-to-power ratio
- Power: 3 W, excellent pulse handling capability, various lead forming options

MOSFETs

**P-Channel 60 V (D-S) MOSFET**




[Si9407BDY](#)

- Classic TrenchFET® technology, maximum R<sub>DS(on)</sub> 120 mΩ
- Popular SO-8 packaging

RECTIFIERS

**Surface-Mount Ultrafast Plastic Rectifier**




[MURS160-M3](#)

- Low switching losses, high efficiency
- Ultrafast reverse recovery time

DIODES

**Small-Signal Schottky Diodes, Single and Dual**




[BAT54S-V-GS08](#)

- AEC-Q101 qualified
- Very low turn-on voltage

RESISTORS

**Power Metal Strip® Resistors, Low Value (Down to 0.0005 Ω), Surface-Mount**



[WSL2512](#)

- Extremely low resistance values from 0.0005 Ω to 0.5 Ω and tolerance of 1 %
- High power of 1 W in 2512 size resistor

CERAMIC CAPACITORS

**IEC 60384-14:2005, CAN/CSA/cCSAus, and ANSI/UL CB Certificates**




[VJ2220Y182KXUSTX1](#)

- Surface-mount design: simpler assembly and reduced board space requirement
- Robust design build with wet process

NON-LINEAR RESISTORS

**NTC Thermistors, Refrigerator Sensors**

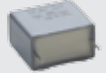


[NTCACAPE3...](#)

- Refrigerator sensor
- Double insulated

FILM CAPACITORS

**Interference Suppression Film Capacitors, MKP Radial Potted Type**




[MKP339](#)

- RFI X2 capacitor for standard across-the-line applications

MOSFETs

**High-Voltage 400 V V<sub>DS</sub> Power MOSFET**



[IRF740PBF](#)

- Dynamic dV/dt rating, repetitive avalanche rated
- Fast switching, ease of paralleling, simple drive requirement

RESISTORS

**Cemented Fusible Wirewound Safety Resistors**




[AC05...CS](#)

- 5 W, UL 1412 approved, non-flammable cement coating
- Surge handling of 6 kV, safe and silent fusing without flame and explosion

OPTOELECTRONICS

**Optocoupler, Phototransistor Output with Broad Operating Temperature Range**



[VO615A](#)

- 6 kV peak transient overvoltage protection in a 4-pin DIP or SMD package
- Temp. range -55 °C to +110 °C with VDE, BSI, FIMKO, UL, cUL, and CQC certification

View datasheets for these products [www.vishay.com/ref/et3cn6d](http://www.vishay.com/ref/et3cn6d)



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A *WORLD OF*  
*SOLUTIONS*