



Passives Quarterly Newsletter #06-Q3/2011

Welcome to my sixth Passives Quarterly Newsletter covering Q3 of 2011. Included in this newsletter are brief items on recent product releases, divisional news, new and updated literature, and other highlights of the past 90 days. Please remember that we encourage your feedback or suggestions on any additional pieces of information or improvements that we could consider for inclusion.

Paul Harrison

Product News

Capacitors: Aluminum

New Online Selector Tool for Aluminum Capacitors

A new selector tool for aluminum capacitors is now available on the Vishay Intertechnology website. The time-saving tool aids designers in choosing the appropriate device for their application. Vishay's new selector tool quickly sorts through our entire offering of aluminum capacitors based on a number of specifications, including capacitance, voltage, form (e.g. axial, radial, SMD, snap-in or screw terminal), case size, maximum temperature, useful life, and style (e.g. low profile or blister tape on reel). Designers can define their search by one, some, or all of these parameters. Results are given as part order codes with key device specifications. For more information on the part, simply click on the order code to access the product's datasheet and other documentation.



Link to selector tool:

<http://www.vishay.com/capacitors/selection-tool/>

Ceramic - Singlelayer

Vishay Introduces New Halogen-Free Safety Capacitors

Vishay is introducing two new series of AC line rated ceramic disc capacitors with a halogen-free, flame retardant epoxy coating that meets the IEC 61249-2-21 standard. The new high-reliability devices feature a through-hole construction with silver plating on both sides of a ceramic disc.

For more information please visit:

http://www.vishay.com/whatsnew/doc/ff_110902_Vishay_FastFacts_newhalogenfreesafetycapacitors.pdf

Ceramic - MLCCs

New VJ Series Non-Magnetic Surface-Mount MLCCs

Vishay's new VJ series non-magnetic surface-mount MLCCs for MRI diagnostic equipment are available with both C0G (NP0) and X7R/X5R dielectrics, and feature 11 case sizes, voltage ratings from 6.3 VDC to 3,000 VDC, and capacitance values from 0.5 pF to 6.8 μ F.

Product Benefits:

- 100 % safety screened for magnetic properties before final packaging
- Can be assembled in SMT process using conductive epoxy bonding or IR reflow
- Offered in 11 case sizes ranging from 0402 to 3640
- Wide range of capacitance values:
- 0.5 pF to 56 nF (with C0G dielectric)
- 100 pF to 6.8 μ F (with X7R/X5R dielectric)





- Operating temperature range of - 55 °C to + 125 °C

Market Applications:

- Filter circuits for MRI equipment, implantable medical devices, ferromagnetic sensitive instrumentation, electronic test systems, and high-end audio amplifiers

Datasheet link:

<http://www.vishay.com/doc?45128> (VJ Non-Magnetic Series)

Tantalum

HE3 High Energy Wet Tantalum Capacitor Update

Vishay continues to expand the HE3 series of high energy wet tantalum capacitors. With its combinations of extremely high capacitance and voltage, the HE3 is becoming the wet tantalum capacitor of choice for radar, pulse energy, and energy storage applications in the AMS market. Unlike an aluminum capacitor, the HE3 utilizes a hermetic sealed tantalum case, which insures long life and performance under the harsh conditions of many avionics programs. Seventeen new capacitance ratings have been added since the series was introduced in 2007.

For more information please visit:

http://www.vishay.com/whatsnew/doc/ff_110817_Vishay_FastFacts_HE3update.pdf

134D Hi TMP[®] Wet Tantalum Capacitor Update

Vishay continues to expand the 134D series of high-temperature + 200 °C wet tantalum capacitors. The 134D capacitor combines the extended range capacitance of our SuperTan[®] series, with the Vishay high-temperature design and materials. The 134D is fast becoming the wet tantalum capacitor of choice for the harsh application environment of oil and gas exploration. Twenty-three new capacitance ratings have been added since the series was introduced in 2005.

For more information please visit:

http://www.vishay.com/whatsnew/doc/ff_110901_Vishay_FastFacts_134Dupdate.pdf

SuperTan[®] Extended or STE Wet Tantalum Capacitor Update

Vishay continues to expand the STE series of wet tantalum capacitors. Four new T4 case size ratings have been added recently.

For more information please visit:

http://www.vishay.com/whatsnew/doc/ff_110908_Vishay_FastFacts_STEupdate.pdf

TR3 – W Case Low-ESR, Large Case Size Molded Tantalum Capacitor Update

Vishay is adding to the TR3 molded tantalum chip capacitors available in the new W-size case. The low-ESR TR3 W case version underscores our commitment to offering robust components with maximum voltage ratings and the highest capacitance available in the industry. By utilizing the W case capacitor, designers can reduce component counts in applications where they previously used multiple components in parallel to achieve large bulk capacitance for energy storage. This saves board space, reduces costs, and improves reliability in telecom base stations, data storage and high-end computing, industrial computers, automotive, and military applications, in addition to medical instrumentation, and more.

For more information please visit:

http://www.vishay.com/whatsnew/doc/ff_111006_Vishay_FastFacts_TR3WCASEupdate.pdf



Inductors:
Vishay Dale

New IHLP-3232DZ-01 Low-Profile, High-Current Inductor

Featuring an 8.18 mm by 8.64 mm footprint and ultra-low 4.0 mm profile, Vishay's new IHLP-3232DZ-01 IHLP® low-profile, high-current inductor in the 3232 case size offers maximum DCR down to 1.68 mΩ, a wide range of standard inductance values from 0.22 μH through 10.0 μH, and a frequency range up to 5 MHz.

Product Benefits:

- Maximum DCR from 1.68 mΩ to 59.90 mΩ
- Standard inductance values from 0.22 μH through 10.0 μH
- Frequency range up to 5 MHz
- Saturation current range from 9.0 A up to 34.0 A
- Heat rating current range from 5.2 A to 30.7 A
- Handles high transient current spikes without hard saturation



Market Applications:

- Voltage regulator module (VRM) and DC/DC converter applications in end products including next-generation mobile devices; notebooks, desktop computers, servers, graphic cards, portable gaming systems, personal navigation systems, personal multimedia devices, and automotive systems; low-profile, high-current power supplies and point of load (POL) converters; distributed power systems; and field-programmable gate arrays (FPGAs)

Datasheet link:

<http://www.vishay.com/doc?34316> (IHLP-3232DZ-01)

New IHLP-3232CZ-01 Low-Profile, High-Current Inductor

Featuring an ultra-low 3.0 mm profile, Vishay's new IHLP-3232CZ-01 IHLP® low-profile, high-current inductor in the 3232 case offers maximum DCR down to 1.61 mΩ, a wide range of standard inductance values from 0.22 μH through 10.0 μH, and a frequency range up to 5 MHz.

Product Benefits:

- Maximum DCR from 1.61 mΩ to 71.20 mΩ
- Standard inductance values from 0.22 μH through 10.0 μH
- Frequency range up to 5 MHz
- Saturation current range from 8.2 A up to 43.0 A
- Heat rating current range from 4.7 A to 32.0 A
- Handles high transient current spikes without hard saturation



Market Applications:

- Voltage regulator module (VRM) and DC/DC converter applications in end products including next-generation mobile devices; notebooks, desktop computers, servers, graphic cards, portable gaming systems, personal navigation systems, personal multimedia devices, and automotive systems; low-profile, high-current power supplies and point of load (POL) converters; distributed power systems; and field-programmable gate arrays (FPGAs)

Datasheet link:

<http://www.vishay.com/doc?34320> (IHLP-3232CZ-01)

New XT23 and XT35 Ultra-Miniature SMD Quartz Crystals

Optimized for handheld electronic devices, Vishay's new XT23 and XT35 ultra-miniature SMD quartz crystals offer wide frequency ranges of 12 MHz to 25 MHz in compact ceramic packages featuring low profiles of 0.8 mm.

Product Benefits:

- Compact ceramic packages measuring 3.2 mm by 2.5 mm and 5.0 mm by 3.2 mm, with low 0.8 mm profiles
- Frequency tolerance of ± 30 ppm at + 25 °C
- Temperature range of 0 °C to + 70 °C
- Temperature stability of ± 50 ppm
- ESR ranges from 70 Ω to 100 Ω



Market Applications:

- Handheld electronic devices such as PDAs, GPS units, MP3 players, notebook computers, PCMCIA cards, and Bluetooth® communication equipment

Datasheet links:

<http://www.vishay.com/doc?35063> (XT23)

<http://www.vishay.com/doc?35064> (XT35)

Automotive Grade IHLP® Inductors Available

The Inductor Division has released a new series of Automotive Grade IHLP® power inductors. In addition to the automotive AEC-Q200 qualification for all IHLP products, the Automotive Grade parts have the following quality systems in place for increased reliability:

1. Maverick lot
2. Safe launch
3. Continuous quality monitoring
4. Design for manufacturability
5. Limit of two date codes per reel

For more information please visit:

http://www.vishay.com/whatsnew/doc/ff_110815_Vishay_FastFacts_IHLPAutomotive.pdf

Vishay IHLP® Inductors Presented at Distributor Forum

Power inductors have become a very important consideration when designing a board for high-current applications. At Avnet's Virtual Power Forum on September 21, Doug Lillie explained what an inductor's function is in the design and how it works, including important parameters and how they vary in applications.

Resistors:

Vishay Dale

New WSK0612 Surface-Mount Power Metal Strip® Resistor

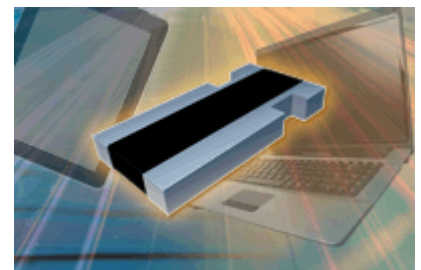
Vishay's new WSK0612 4-terminal, 1 W surface-mount Power Metal Strip® resistor is the industry's first in the compact 0612 package size to feature an ultra-low resistance range from 0.5 m Ω to 5 m Ω .

Product Benefits:

- Solid metal nickel-chrome or manganese-copper alloy resistive element with low TCR (< 20 ppm/°C)
- High-temperature performance to + 170 °C
- Low thermal EMF of < 3 μ V/°C
- Compliant to RoHS Directive 2002/95/EC

Market Applications:

- Current sensing, voltage division, and pulse applications in DC/DC converters





for computers, VRMs for laptops, Li-Ion battery safety and management, and LCD TVs; and electronic automotive systems, including engine controls, multi-media electronics, climate controls, and anti-lock brakes

Datasheet link:

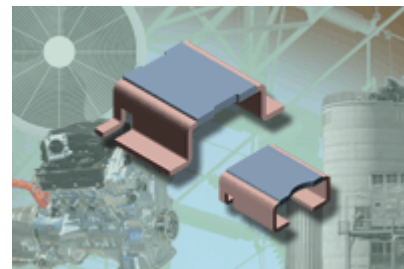
<http://www.vishay.com/doc?30161> (WSK0612)

New WSLP2726 and WSLP4026 Surface-Mount Power Metal Strip® Resistors

Vishay's new WSLP2726 and WSLP4026 surface-mount Power Metal Strip® resistors combine compact 2726 and 4026 case sizes with high power ratings from 5 W to 7 W, extremely low resistance values down to 0.5 mΩ, and tight tolerances to 1.0 %.

Product Benefits:

- Low profiles of 0.117 in. [3.0 mm]
- 4-terminal design
- Tight tolerances of 1.0 % and 5.0 %
- Extremely low resistance values ranging from 0.5 mΩ to 2.0 mΩ
- High-temperature operation to + 170 °C
- AEC-Q200-qualified versions available
- All-welded construction
- Very low inductance of 0.5 nH to 5 nH
- Low thermal EMF (< 3 μV/°C)
- Compliant to RoHS Directive 2002/95/EC



Market Applications:

- Current sensing, voltage division, and pulse applications, including switching and linear power supplies, instruments, power amplifiers, and shunts
- Automotive electronic controls such as engine, brushless DC motor, anti-lock brake, and climate controls
- Industrial controls, including down-hole test/measurement equipment for oil/gas well drilling
- Inverter controls for HVAC systems

Datasheet links:

<http://www.vishay.com/doc?30179> (WSLP2726)

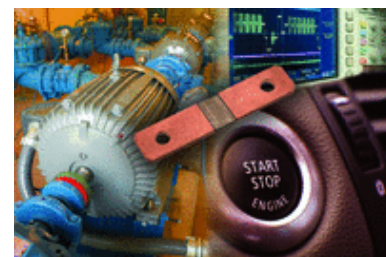
<http://www.vishay.com/doc?30180> (WSLP4026)

WSBS8518 – Power Metal Strip® Battery Shunt Resistor

Vishay Dale announced a new Power Metal Strip® battery shunt resistor that combines a 36-W power capability in the 8518 size package with extremely low resistance values down to 100 μΩ. The **WSBS8518** battery shunt resistor features a proprietary processing technique that produces extremely low resistance values of 100 μΩ, 125 μΩ, and 250 μΩ. This provides increased accuracy in battery shunt applications for gas, diesel, hybrid, and electric cars, trucks, and scooters, as well as electric forklifts and other heavy industrial applications. With a tolerance of 5.0 %, the new resistor provides more accurate data to determine battery charge and discharge, thus helping designers meet specific customer battery management requirements. The **WSBS8518** features an all-welded construction that allows operation with continuous currents as high as 600A. The resistor offers low inductance values of < 5 nH and a low thermal EMF of < 3 μV/°C. The device is lead (Pb)-free and RoHS-compliant.

To learn more about **WSBS8518**, please visit:

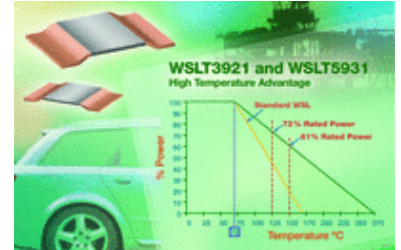
<http://www.vishay.com/product?docid=30134&query=wsbs>.





WSLT3921 and WSLT5931 – Power Metal Strip® High Temperature Resistors

Vishay Intertechnology, Inc. announces a new high-temperature 3-W and 5-W surface-mount Power Metal Strip® resistor that is the industry's first current sensing resistor in the 3921 and 5931 case size to operate over a temperature range of -65 °C to +275 °C. The **WSLT3921 and WSLT5931** resistors are manufactured using proprietary techniques that offers extremely low resistance values from 0.3-mΩ to 4-mΩ, feature tight tolerance down to ±1%, and low TCR values down to ±75 ppm/°C. The device's high-temperature capability and high power ratings allow designers to use the **WSLT3921 and WSLT5931** in harsh, high-temperature environments without sacrificing power rating or electrical performance. The range of systems into which the **WSLT3921 and WSLT5931** will be designed includes automotive engine and transmission controls, audio electronics, and anti-lock brakes; and industrial oil/gas well drilling, including down hole test/measurement equipment. To learn more about **WSLT3921 and WSLT5931**, please visit <http://www.vishay.com/product?docid=30136&query=WSLT>



RS, NS – Precision Axial Leaded Wirewound Resistors

The **RS, NS** series are Precision Wirewound resistors that come in sizes, from 1/8 W to 10 W. The all welded Wirewound construction allows the **RS, NS** to perform in high-voltage, high-power and high-pulse requirements. The silicone coated construction provides complete environmental protection that allows these resistors meet a broad range of low and high temperature applications. As optional construction, the RS products are available in the NS non-inductive version. The **RS, NS** resistors can also be customized to meet specific application needs, including special testing, or many other custom options. The RS, NS series are available in either Pb-Bearing, or Pb-Free (compliant to RoHS directive 2002/95/EC) construction.



Features and Benefits:

- High temperature silicone coated construction for total environmental protection.
- Complete welded construction.
- Available in non-inductive styles (type NS) with Aryton-Perry winding for lowest reactive components.
- Meets applicable requirements of MIL-PRF-26
- Excellent stability in operation (< 1 % change in resistance)

To learn more about the **RS, NS**, please visit:
<http://www.vishay.com/ppg?30204>

CW – Commercial Axial Leaded Wirewound Resistors

The **CW** series are Commercial Wirewound resistors that come in sizes from 1/2 W to 13 W with resistance tolerances of 5 % to 10 %. The all welded Wirewound construction allows the **CW** to perform in high-voltage, high-power and high-pulse applications. The silicone coated construction provides complete environmental protection that allows these resistors to meet a broad range of low and high temperature applications. The **CW** resistors can also be customized to meet specific application needs, including special testing, formed terminals or many other custom options. The **CW** series are available in either Pb-Bearing, or Pb-Free (compliant to RoHS directive 2002/95/EC) construction.



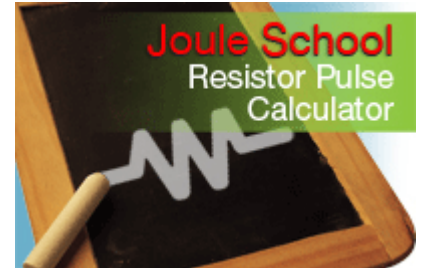
Features and Benefits:

- High temperature silicone coated construction for total environmental protection.
- Complete welded construction.
- Meets applicable requirements of MIL-PRF-26 Characteristic V
- Excellent stability in operation (< 3 % change in resistance)

To learn more about the **CW** series, please visit:
<http://www.vishay.com/ppg?30215>

Free Joule School Online Pulse Energy Calculator Helps Designers Select the Best Wirewound Resistor

A free online pulse energy calculator that helps designers select the right wirewound resistor for their application is now available on the Vishay website. Our new Joule School online pulse energy calculator allows designers to determine the energy of a pulse that could go through a resistor in their application. The calculator is perfect for selecting wirewound resistors for applications exposed to large pulses such as a capacitive charge/discharge or lighting surge, including phone towers, solar power systems, windmills, welders, test equipment, and power supplies. Simple to use, Joule School offers designers a choice of three pulse types to calculate: square wave pulse, capacitive charge/discharge pulse, and exponentially decaying pulse. After selecting the pulse type, users enter the required variables for their application and click "Compute" to determine the pulse energy and average power. To help determine the best wirewound resistor to meet the needs of their application, designers can then contact Vishay with the pulse information.



Link to calculator:

<http://www.vishay.com/resistors/pulse-energy-calculator> (Joule School)

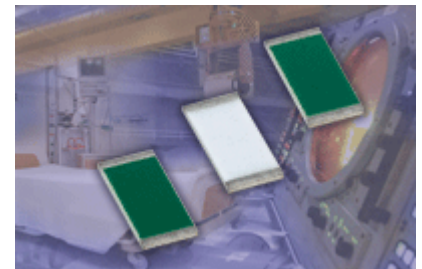
Vishay Dale Thin Film

Enhanced PLT Series of Precision Low-TCR Thin Film Resistors

Vishay's enhanced PLT series of precision low-TCR thin film resistors features improved tolerances down to $\pm 0.01\%$ and low standard TCR of $\pm 5 \text{ ppm}/^\circ\text{C}$ in three case sizes.

Product Benefits:

- Wide temperature range of -55°C to $+125^\circ\text{C}$
- Stable film and performance characteristics of 500 ppm at $+70^\circ\text{C}$ for 10 000 hours
- Offered in 0603, 0805, and 1206 case sizes
- Provides a resistance range from 250Ω to $100 \text{ k}\Omega$
- Very low noise of $< -30 \text{ dB}$
- Low voltage coefficients of 0.1 ppm/V
- Power ratings from 150 mW to 400 mW at $+70^\circ\text{C}$



Market Applications:

- High-precision applications in industrial, telecommunications, medical imaging, test and measurement, and military and aerospace equipment and instrumentation

Datasheet link:

<http://www.vishay.com/doc?60030> (PLT)

Extended PLTT Precision Low-TCR, High-Temperature Thin Film Resistor

Vishay's PLTT precision low-TCR, high-temperature thin film resistor is now offered in the 0805, 1206, 2010, and 2512 case sizes, and features an expanded resistance range from 250Ω to $3 \text{ M}\Omega$.

Product Benefits:

- Wide operating temperature range of -55°C to $+215^\circ\text{C}$
- Low standard TCR of $\pm 5 \text{ ppm}/^\circ\text{C}$
- Tolerances down to $\pm 0.02\%$
- Very low noise of $< -35 \text{ dB}$
- Low voltage coefficients of 0.1 ppm/V
- Power rating from 250 mW to $1,000 \text{ mW}$
- 100 V to 200 V working voltage range
- Stable film and performance characteristics of 500 ppm at $+215^\circ\text{C}$ for 2000





hours

Market Applications:

- Low-noise, single-signal processing in down-hole applications, high-precision oil and gas exploration, and telecommunications and industrial equipment

Datasheet link:

<http://www.vishay.com/doc?60082> (PLTT)

Vishay Dale Thin Film Extends Resistance Range on Moisture-Resistant Chip Resistors

The Defense Logistics Agency Land and Maritime specifications 4008 and 4009 describe the requirements for 0.040 by 0.020 wraparound chip resistors, and a 0.060 x 0.030 size wraparound chip resistor which is resistant to the degrading effects of moisture while under power. This new resistance range has been extended to the following devices:

Specification number	Case size	Resistance range	Tolerances
04008	0402	20 Ω to 50 k Ω	0.1% to 10%
04009	0603	10 Ω to 130 k Ω	0.1% to 10%

Vishay Draloric/Beyschlag

The Vishay Draloric/Beyschlag division have introduced three new demo videos:

Super 12 Technology Minute 3.0 - ACAS AT Thin Film Chip Resistor Array

In this short video the main advantages such as defined tolerance matching, TCR tracking, and high stability over time are described along with the applications for the ACAS AT Thin Film Chip Resistor Array

<http://www.vishay.com/videos/resistors/super-12-technology-minute-30-8211-acas-at-thin-film-chip-resistor-array>



Pulse Handling Capabilities of MELF Resistors

This video demonstrates the pulse load capabilities of resistors, it shows the significant differences comparing the pulse handling capabilities of 4 different resistors. It demonstrates that MELF resistors can handle a much higher pulse load than standard thick film resistors, thanks mainly to their larger resistive area.

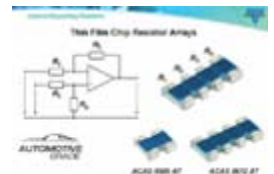
<http://www.vishay.com/videos/resistors/pulse-handling-capabilities-of-melf-resistors>



ACAS Vishay Thin Film Chip Resistor Arrays

This Vishay TechCast takes a look at the construction and the manufacturing process of the ACAS product, and explores the advantages and applications of the Thin Film Chip Resistor Arrays covering thermal coupling, TCR tracking and tolerance matching.

<http://www.vishay.com/videos/resistors/acas-vishay-thin-film-chip-resistor-arrays>



Vishay EFI

New Thin Film Design Guide

Vishay EFI has released a new design guide, Thin Film Design Guide for RF and UWave Substrates (VMN-PL0456-1106). This design guide reviews design rule information and provides technical information on Vishay EFI's custom thin film capabilities. This design guide is available for immediate distribution.

If you would like to order a printed copy of this piece of literature, please contact the distribution center listed below. Please include the title of the document and the reference number (listed in parentheses above) with your request. For a full listing of printed Vishay sales tools and literature, please visit

<http://www.vishay.com/ref/literature>

Surface Mounts High Performance RF Capacitors

Vishay EFI has released the RFCS series of surface-mount, thin film capacitors. These parts offer industry leading capacitance stability over frequency. The RFCS series comes in 0402 case size, is designed for surface-mount attach and covers the capacitance range of .2 pF to 27 pF nH. Measured S parameter files and equivalent circuit models are available for all values. Parts are available either direct from Vishay EFI or from our distribution partners. (Refer to Vishay document numbers 61090)

Custom RF Components

Vishay EFI is a well established source of build to print thin film products for RF applications; however, Vishay EFI can now design, manufacture and test RF filters including distributed element, surface acoustic wave and lumped element filter technologies. In addition to filter fabrication, assembly and packaging of the filters in custom designed RF packages is available. EFI has the capability to measure RF performance at frequencies up to 50 GHz.

Vishay EFI has released a product overview to highlight this product offering, RF Custom Components (VMN-PL0449). This overview provides information on substrates, metallization stacks and RF ground pattern configurations as well as testing and characterization capabilities.

If you would like to order a printed copy of this piece of literature, please contact the distribution center listed below. Please include the title of the document and the reference number (listed in parentheses above) with your request. For a full listing of printed Vishay sales tools and literature, please visit: <http://www.vishay.com/ref/literature>

Vishay Sfernice

New P13SM Submersible Cermet Panel Potentiometer

Vishay's new P13SM submersible cermet panel potentiometer is the industry's first to be fully IP68 sealed, allowing for operation in deep salt water conditions up to 30 m (100 feet).

Product Benefits:

- Features a stainless steel shaft and bushing
- Salt corrosion proof to 960 hours
- High power rating to 1.5 W at + 70 °C
- Tight TCR of ± 75 ppm/°C typical
- Cermet element provides better stability than carbon elements
- Available in 3.17 mm and 6 mm shaft diameters, and multiple shaft lengths
- Offers a temperature range of - 55 °C to + 125 °C



Market Applications:

- Voltage divider operator interface for underwater equipment, submarine scooters/tractors, and lighthouses

Datasheet link:

<http://www.vishay.com/doc?51064> (P13SM)

New High-Temperature CHPHT Thick Film Chip Resistor

Vishay Sfernice has been working on increasing the range of its products suitable for high-temperature applications. Adding to a portfolio that includes the PHT wraparound chip resistors and RMKHT wirebondable chip resistors and networks, Vishay Sfernice is now offering a thick film chip resistor, CHPHT, which can operate at temperatures up to 230 °C and be stored at temperatures up to 245 °C.

Product Benefits:

Multiples case sizes: 0603, 0805, 1206, and 2010
 Ohmic range: 0.1 Ω to 100 M Ω , with non standard values
 Operating temperature range: - 55 °C to + 230 °C
 Storage temperature range: - 55 °C to + 245 °C



Tolerance available: down to 1 %
Long term stability: 1 % after 1000 h at 230 °C
Shelf life stability: 1 % after 1000 h at 245 °C
MOQ: as low as 100 pieces

Market Applications:

Down hole

Datasheet Link:

<http://www.vishay.com/docs/52032/chpht.pdf>

New 230 °C PRAHT SMD Chip Array

Vishay Sfernice is also offering a wraparound chip array for applications operating at temperatures up to 215 °C and which can be stored at 230 °C.

Product Benefits:

Multiples case sizes: 100, 135, and 182
Operating temperature range: – 55 °C to + 215 °C
Storage temperature range: – 55 °C to + 230 °C
Tolerance ratio available: 0.05 %
Long term stability: 0.7 % after 8000 h at 215 °C (50.4 % on ratio)
Shelf life stability: 0.1 % after 1000 h at 230 °C (0.02 % on ratio)
MOQ: as low as 100 pieces

Market Applications:

Down hole (measurement of oil pressure)

Datasheet Link:

<http://www.vishay.com/docs/53057/praht.pdf>

High Ohmic Value Wire-Bondable CS44 Chip Resistor

Vishay Sfernice is glad to announce a new wirebondable high ohmic value chip resistor. The new CS44 is available in a 40 mil by 40 mil package with an ohmic range up to 100 MΩ.

Product Benefit:

Case size: 40 mil x 40 mil (1 mm x 1 mm)
Ohmic range: 400 kΩ to 100 MΩ
Temperature range: – 55 °C to + 155 °C
Tolerance available: down to 0.5 %
Long term stability: 0.2 % after 2000 h at 70 °C at Pn
MOQ: as low as 100 pieces

Market Applications:

Industrial (down hole)
Medical

Datasheet Link:

<http://www.vishay.com/docs/60114/cs44.pdf>

Enhanced PHT Series with TCR of 15 ppm

Vishay Sfernice is glad to announce its enhanced PHT high-temperature thin film resistor series, with guaranteed TCR of 15 ppm /°C over the – 55 °C to + 215 °C temperature range, even after long term operation at 215 °C (1000 h).

Product Benefit:

Multiples case sizes: 0603, 0805, 1206, and 2010
Qualified ohmic range: 39 Ω to 5 MΩ, depending on case style
Operating Temperature range: – 55 °C to + 215 °C



Newsletter



Vishay MarCom / October 2011

Storage temperature range: – 55 °C to + 230 °C
Tolerance available: down to 0.02 %
Long Term Stability: 0.15 % after 2000 h at 70 °C
Storage stability: < 1 % after 15 000 h at 230 °C

Market Applications:

Down hole (measurement of oil pressure during extraction)
Aeronautics (braking systems of aircraft)

Datasheet Link:

<http://www.vishay.com/docs/53050/pht.pdf>

Vishay Sfernice Thin Film Documentation:

Vishay Sfernice announces publication of two selector guides in Chinese.
One of the selector guides is specific to products qualified for space, or in the process of qualifying for space, as well as products available for space applications under SCD (Source Control Drawing):

<http://www.vishay.com/doc?49083>

The other selector guide covers all Vishay Sfernice Thin Film products:

<http://www.vishay.com/doc?49082>

Displays:

Vishay Dale

Optional Resistive Touch Panels available for select Vishay LCD Displays.

Vishay has incorporated a 4-wire resistive touch panel option for selected graphic LCD modules to include 128 x 64, 240 x 128, and 320 x 240 monochrome series as well as options for the 3-5" to 10.2" color TFT displays. The 4-Wire resistive touch screen is the preferred solution for low cost applications. It consists of a conductive bottom layer (ITO glass or film) and a conductive top layer (ITO film). The two layers are suspended by many very small spacer dots. When a certain point is touched, the top layer contacts the bottom layer and a voltage charged by the controller is applied to the bottom layer's electrodes. Standard configurations are available, as well as our capability to review your custom design requirements. Resistive touch panels are not sold with a controller which are available through many suppliers.

For more information please visit:

<http://www.vishay.com/doc?37407>

MarCom News

New Super12, Version 3.0 2011

The new Super 12 brochures have been printed, and you should have seen a new literature announcement that enables you to order copies. The new Super 12 includes several industry-leading products.

Engineer's Toolbox

Vishay's new Engineer's Toolbox program highlights some of the innovative components Vishay manufactures to help design engineers develop superior end products. It covers six major market segments (Alternative Energy, Automotive, Industrial/Power, Lighting, Medical, and Military/Aerospace).

Each year Vishay releases thousands of new components that enable our customers to create new and superior end products. We recognize that offering unique component solutions helps designers improve the performance of next-generation devices, overcome technical barriers, and create new markets.

Inside the Engineer's Toolbox we have highlighted some of these innovative components, listing key features, potential application ideas, and relevant datasheets and support materials. For product inquiries, please contact your local sales representative. For a listing of Vishay sales representatives, visit www.vishay.com and click on Contact Us.



Newsletter



Vishay MarCom / October 2011



To access this program please visit: <http://www.vishay.com/landingpage/ET/>.

Mandarin eNewsletter

This publication provides translated press releases on new product introductions, information on translated technical articles and application notes, and highlighting key Vishay products in target applications for the China market.

Aug 2011 > Tablet Computers - <http://www.vishay.com/landingpage/newsletters/mandarin/0811/>

Jun 2011 > Wind Power - <http://www.vishay.com/landingpage/newsletters/mandarin/0611/>

Apr 2011 > Electric Vehicles & Hybrid Vehicles - <http://www.vishay.com/landingpage/newsletters/mandarin/0411/>

Feb 2011 > Industrial Power - <http://www.vishay.com/landingpage/newsletters/mandarin/0211/>

Distribution

Some of our recent Passive programs with NA distributors

Avnet

Defense Aero eNewsletter (Aug)	Aero/Defense	Resistors 101	25/7/2011
September Tech Review	Power Market	IHLP Inductors	16/8/2011
Defense Aero eNewsletter (Oct)	Aero/Defense	Thin Film	9/9/2011
Military eNewsletter	Military	RNC/RNR, RNR/RNN	19/9/2011
Power Forum – virtual conference	Power Market – NA	IHLPs	21/9/2011

DigiKey/Element 14

New product launch	NPW introduction	VJ Non-Magnetic Series	24/8/2011
--------------------	------------------	------------------------	-----------

Current Literature/Sales Tools

PDF Promotional Literature (Literature List) is Now Available

Vishay Intertechnology has created a web repository of all Company promotional materials available in PDF. These include selector guides, product sheets, product overviews, and more. The PDF documents have been divided into three main categories: Semiconductor Products, Passive Products, and Corporate. Each of these main categories is organized by product family (diodes, capacitors, etc.). To access this repository, go to www.vishay.com, expand the "How To Get" list, and click on "PDF Promotional Literature."

To review the current listing of available printed Vishay literature, please visit www.vishay.com/ref/literature.

New/Updated Promotional Material:

VMN-PL0456-1106	Capabilities - Thin Film Design Guide for RF and UWave Substrates
VMN-PT9068-1105	Product Sheet - Model MIC
VMN-PT0255-1103	Product Sheet - TH5
VMN-PT0259-1106	Product Sheet - P13SM
VMN-PT0275-1107	Product Sheet - RFCS
VMN-MS6595-1107	Quick Reference Listing - Vishay Spectrol
VMN-PT0276-1107	Product Sheet - VJ Non-Magnetic
VMN-PT0269-1107	Product Sheet - WSLP 2726, WSLP 4026
VMN-PT0270-1107	Product Sheet - WSK0612
VMN-PT0230-1108	Product Sheet - RCLe3
VMN-SG2169-1108	Product Overview - Ceramic RF Power Capacitors
VMN-PT0207-1109	Product Sheet - TFU 0603
VMN-PL0357-1109	Product Overview - ESTAsym MD



Newsletter



Vishay MarCom / October 2011

Trade Shows

Virtual Trade Shows

Medical > <http://www.vishay.com/landingpage/tradeshows/virtual/medical/>

Alternative Energy > <http://www.vishay.com/landingpage/tradeshows/virtual/alternative/>

Power Management > <http://www.vishay.com/landingpage/tradeshows/virtual/power/>

Asset Bank

This library of product images is continuing to grow and in turn it is becoming a very useful tool for Product Marketing. You may want to note that any good quality images you may have can be sent to me for upload. Any photography of new products shot will enable us to further populate the image library.

Most of our recent tradeshow posters can be found and downloaded from the Asset Bank library:

<http://images.vishay.com/asset-bank/action/viewHome>

If you'd like access to Asset Bank or to learn more about it, please contact either myself paul.harrison@vishay.com or Connie connie.kurzeknabe@vishay.com and information will be sent to you.

Published Articles

Several articles were published last year and a few of the more recent ones are listed below. Publishing articles is a great way to advertise Vishay and our offerings. However, as you may well know, we're restricted from marketing a particular product but we can tout our product offerings for certain applications and technologies. Please keep an open mind when we in MarCom (including Bob Decker and Rae Morrow from Wall Street Communications) approach you for an article.

- "The Cost of Miniaturization – Exploring overheating and prevention" by Dr. Kevin Raiber, *EE Times*, Sep 2011
- "Thermal Management in Surface-Mounted Resistor Applications" by Dr. Kevin Raiber, *Bodo's Power Systems*, Jun 2011
- "Using the Arrhenius Equation to Predict Drift in Thin Film Resistors" by Reiner W. Kuehl, *EDN*, Jun 2011
- "Wichtige Komponenten für Windkraftanlage" by Dr. Bertram Schott, *Elektronik Praxis*, Feb 2011
- "Key components for wind power systems" by Dr. Bertram Schott, *Electronic Products*, Dec 2010
- "Meet the Demands of High-Temperature Applications with Thin Film Resistors" by Dr. Claude Flassayer, *ECN*, Sep 2010.
- "Thin-Film Resistor Enhancements for High-Temperature Environments and Electrical Loads" by Reiner Kuehl, *Electronic Engineering & Product World*, Sep 2010.
- "Simplifying the Calculation of Core Losses in Composite Inductors" by Nicholas J. Schade, *ECDN*, Jul 2010.
- "Precision resistor arrays stabilize and enable miniaturization of electronic circuits" by Dr. Carsten Bronskowski, *Automotive DesignLine*, Jun 2010.

Contact Information:

MarCom

Paul Harrison

Vishay Electronic GmbH

Geheimrat-Rosenthal-Straße 100

95100 Selb Germany

Telephone: + 49 9287 712808

Fax: + 49 9287 712809

paul.harrison@vishay.com