

VISHAY INTERTECHNOLOGY, INC.

# 2011 ANNUAL REPORT

DIVERSE COMPONENTS FOR DIVERSE MARKETS



# IN MEMORIAM

## DR. FELIX ZANDMAN

1928-2011

Vishay started as one man's vision. The Company has grown over the years to become one of the world's largest manufacturers of discrete semiconductors and passive electronic components and a leader in the global electronics industry.

In 1956, Dr. Zandman moved to the United States and began working for Tattall Measuring Systems, a division of the Budd Company in Philadelphia, as director of basic research. During this time he developed PhotoStress<sup>®</sup> measurement instruments and revolutionary temperature-resistant foil resistors. When the Budd Company declined to market Dr. Zandman's temperature-resistant resistors, Dr. Zandman left and, with a loan from his cousin Alfred P. Slaner, founded Vishay in 1962.

On February 23, 1962, the day after the signing of the lease for what is now Vishay's worldwide headquarters in Malvern, Pennsylvania, work began to get the premises ready for office and work space. In Dr. Zandman's words, "We built our laboratory at night, nailing wallboard and painting and doing everything on a shoestring. I bought furniture and equipment, and a month later we were ready to go."

Determined to give something back to society, Dr. Zandman imbued Vishay with morals and values rooted in his past, and worked tirelessly to make the company a success. Under his leadership, Vishay grew into a worldwide company with 20,900 employees and manufacturing facilities in the Americas, Asia, Europe, and Israel, as well as sales offices around the world.

Dr. Zandman served as Chief Executive Officer of the Company from its inception until 2004 and as President from 1962 through 1998. He served as a Board member when the Company started and assumed the position of Chairman of the Board in 1989. He later became Chief Technical Officer, Chief

Business Development Officer, and Executive Chairman.

Dr. Zandman published numerous scientific papers and four books, and held over 70 patents. He received many honors and awards in France, the United States, and Israel. In 1994, Dr. Zandman became a citizen of the state of Israel.

When Dr. Zandman passed away on June 4, 2011, he left a lasting legacy. Executive Chairman of the Board Marc Zandman said, "On behalf of Vishay and the entire Zandman and Shoshani family, I am deeply proud of the many contributions my father made to Vishay, this industry, and the state of Israel, as well as the legacy he leaves behind. My father's high standards and values are embedded in Vishay's culture and impact all that we do at Vishay, across the globe, every day, and he served our Company until the end." Chief Executive Officer Dr. Gerald Paul said, "Dr. Zandman will never be forgotten as his legacy will live on across the world throughout all Vishay's employees. Vishay will continue to implement the vision, strategy, and culture articulated by Dr. Zandman."

The story of Vishay is inextricably linked to the story of Dr. Felix Zandman. As a youth, he used inner strength, faith, and intellect to survive the nightmare of the Holocaust. He went on to become a brilliant scientist and inventor. Driven to succeed and undeterred by others' doubts, he founded a company and named it Vishay. The Company was named after Dr. Zandman's ancestral village in Lithuania, in memory of family members who perished in the Holocaust.

Felix Zandman was born in 1928 in Grodno, Poland. In October 1941, he and his family were arrested by the Nazis and sent to the Grodno Ghetto. The teenaged Felix Zandman survived the Holocaust by hiding with his uncle Sender and other people in a hole dug under the floor boards in the house of a Polish family for 17 months. While they were in hiding, Zandman's uncle taught him trigonometry and higher mathematics. Felix Zandman put these skills to good use after World War II ended.

In 1946, he immigrated to France and, teaching himself the language, embarked on a sterling academic career. After earning an engineering degree and master's degrees in general physics and applied mechanics from the University of Nancy (France), he earned a doctorate in mechanical physics from the University of Paris, Sorbonne in 1953. Following that, Dr. Zandman held several prestigious technical positions in France.

# LETTER FROM THE EXECUTIVE CHAIRMAN

Year 2011 was marked by the passing on June 4 of Dr. Felix Zandman, Vishay Intertechnology's founder, Executive Chairman, and my father.

I have humbly taken on the responsibilities of his roles as Executive Chairman of the Board and Chief Business Development Officer, and fully intend to continue his ideals in both business and personal matters. Continuity also is provided by Dr. Gerald Paul, President and CEO of Vishay, who continues to lead the Company's outstanding global management team.

2011 also was marked by the passing of Eli Hurvitz, a member of Vishay's Board of Directors since 1994. It is with deep regret that I mourn the loss of a true friend of the Company.

Vishay continues to be focused on increasing stockholder value. We intend to supplement our intensified organic growth with opportunistic small to mid-size niche acquisitions. In September 2011, we made our first acquisition since 2008 when we acquired the resistor businesses of Huntington Electric. The Huntington acquisition brought with it products and technologies that will enhance our broad resistor portfolio, especially in the high-power and high-current ranges. In January 2012, Vishay acquired HiRel Systems, a leading supplier of high-reliability transformers, inductors, coils, and

power conversion products. The HiRel Systems product and technology portfolio will enhance our magnetics portfolio, especially in the field of custom magnetics for medical, military, aerospace, and aviation applications, and applications in the industrial and commercial fields such as renewable energy and test and measurement equipment.

I thank Vishay's employees, customers, vendors, strategic business partners, and stockholders for their support during 2011. Vishay is an innovative Company that is well positioned for growth. I am very confident about Vishay's future and about the Company's continued success as a global industry leader.

Marc Zandman  
Executive Chairman of the Board

# LETTER FROM THE CHIEF EXECUTIVE OFFICER

2011 was, for Vishay, a year of challenges. For the Company as well as me personally, the year was overshadowed by the loss of our Founder and Executive Chairman, Dr. Felix Zandman. Both Marc Zandman, our Executive Chairman, and I are committed to carrying on Dr. Zandman's vision.

In 2011, we also demonstrated our increased earnings potential made possible by the fundamental restructuring that took place in 2008 and 2009. We demonstrated our ability to react quickly to a business downturn with tight management of manufacturing capacities, inventories, and fixed costs. And last but not least, we continued in 2011 to be an excellent generator of "free cash." ("Free cash" is the amount of cash generated from operations in excess of capital expenditures and net of proceeds from the sale of assets.) Vishay has consistently generated in excess of \$100 million "free cash" in each of the past six years and more than \$200 million "free cash" in each of the last three years.

Last year we presented a growth plan that will lead to increased EPS and cash available for enhancing stockholder value. Despite the industry downturn in the second half of 2011, we remain committed to pursuing our growth plan of intensified organic growth supplemented by opportunistic acquisitions.

Whatever current market conditions may be, Vishay is confident that, with its broad product portfolio, focus on "free cash" flow, and growth plan, the Company is well positioned to enhance stockholder value and achieve long-term success.

I would like to take this opportunity to thank Vishay's employees, customers, vendors, strategic business partners, and stockholders for their support during a very challenging year. I look forward to your continued support in 2012 and beyond.

Dr. Gerald Paul  
Chief Executive Officer

# THE VISHAY STORY

Dr. Felix Zandman, with a loan from his cousin Alfred P. Slaner, founded Vishay in 1962 to develop and manufacture Bulk Metal® foil resistors. The Company was named after Dr. Zandman's ancestral village in Lithuania, in memory of family members who perished in the Holocaust. The Company's initial product portfolio consisted of foil resistors and foil resistance strain gages.

## ACQUISITIONS IN PASSIVE COMPONENTS

During the 1960s and 1970s, Vishay became known as the world's leading manufacturer of foil resistors, PhotoStress® products, and strain gages. Vishay's subsequent decision to grow through acquisitions proved very successful. Starting in 1985, Vishay acquired resistor companies Dale Electronics (U.S.), Draloric Electronic (Germany), and Sfernice (France). These acquisitions helped produce dramatic sales growth. In the early 1990s, Vishay applied its acquisition strategy to the capacitor market by purchasing Sprague Electric (U.S.), Roederstein (Germany), and Vitramon (U.S.). In 2002, Vishay purchased BCcomponents (former passive component businesses of Philips Electronics [Netherlands] and Beyschlag [Germany]). This acquisition greatly enhanced Vishay's global market position in passive components. In 2008, Vishay acquired a specialty tantalum capacitor product line from KEMET.

In 2011, Vishay restarted its acquisition program with the acquisition of the resistor businesses of Huntington Electric, comprised of Huntington, Milwaukee, Central, and Mills Resistors. The focus now lies on supplementing Vishay's intensified organic growth with opportunistic small to mid-size acquisitions of niche businesses.

## GROWTH IN SEMICONDUCTORS

In 1998, Vishay acquired the Semiconductor Business Group of TEMIC, which included Telefunken (Germany) and 80.4% of Siliconix (U.S.), producers of MOSFETs, RF transistors, diodes, optoelectronics, and power and analog switching integrated circuits. Vishay's next semiconductor acquisition came in 2001, with the purchase of the infrared component business of Infineon Technologies (Germany). That was followed the same year by the acquisition of General Semiconductor (U.S.), a leading global manufacturer of rectifiers and diodes. The addition of Infineon's infrared components group and General Semiconductor enhanced Vishay's existing Telefunken and Siliconix businesses and propelled Vishay into the top ranks of discrete semiconductor manufacturers.

In 2005, Vishay purchased the remaining 19.6% of Siliconix shares. In 2007, Vishay acquired selected discrete semiconductor and module product lines from International Rectifier. This acquisition added manufacturing plants in Italy, China, and India and provided products that were new to Vishay: high-voltage planar MOSFETs and high-power diodes and thyristors.

## SPIN-OFF OF VISHAY PRECISION GROUP

In July 2010, Vishay Intertechnology completed the spin-off of Vishay Precision Group (NYSE: VPG). With the spin-off completed, Vishay became a pure-play discrete electronic components Company with a focus on strengthening its position as a global technology leader in discrete semiconductors and passive components. VPG is a leading producer of resistive foil technology products, precision sensors, and sensor-based systems. VPG provides vertically integrated products and solutions for multiple growing markets in the areas of current, stress, force, weight, and pressure measurements. It is an independent, publicly traded company.

## "ONE-STOP SHOP" SERVICES TO CUSTOMERS

Vishay's customer mix includes original equipment manufacturers (OEMs) of end products; distributors that, depending on their size, sell to end customers at an international, regional, or local level; and electronic manufacturing services (EMS) companies that design and/or manufacture end products on an outsourcing basis. Vishay offers one of the industry's broadest portfolios of electronic components. Its "one-stop shop" service for complete discrete component solutions enables customers to streamline their design and purchasing processes by ordering multiple types of components from Vishay.

## ONGOING COMMITMENT TO INNOVATION

Vishay, a leader in technology during five decades, remains deeply committed to innovation. Through its R&D, design, and manufacturing programs, it generates a steady stream of innovative components to help designers create new generations of end products — from tablet computers to hybrid and fully electric cars to wind and solar power systems. With its broad product portfolio, Vishay is well positioned to provide components for the new macroeconomic growth drivers: connectivity, mobility, and sustainability.

While many Vishay products are commodity products, others are high-margin specialty products based on proprietary technology. Vishay's mix of commodity and specialty products moderates the price erosion that is a fact of life in the electronics industry, an issue primarily for our semiconductor products.

Vishay is committed to intensifying organic growth by focusing on market-driven R&D and process engineering.

## TRANSITION AND CONTINUITY

Dr. Felix Zandman passed away on June 4, 2011. His son, Marc Zandman, succeeded him as Executive Chairman of the Board and Chief Business Development Officer. Marc Zandman said, "My father's high standards and values are embedded in Vishay's culture and impact all that we do at Vishay, across the globe, every day. I humbly take on the responsibilities of his role as Executive Chairman of the Board, and fully intend to continue his ideals in both business and personal matters."

Dr. Gerald Paul, President and CEO of Vishay, continues to lead the Company's outstanding global management team. He said, "I am personally committed to building upon Dr. Zandman's efforts and leading Vishay through its next phase of continued growth."

## GROWTH PLAN

Vishay's growth through innovation and acquisitions and its focus on cost control have enabled it to remain financially strong during both downturns and upturns in the highly cyclical electronics industry. Vishay has concentrated on conserving and generating cash, controlling costs, and rolling out new products.

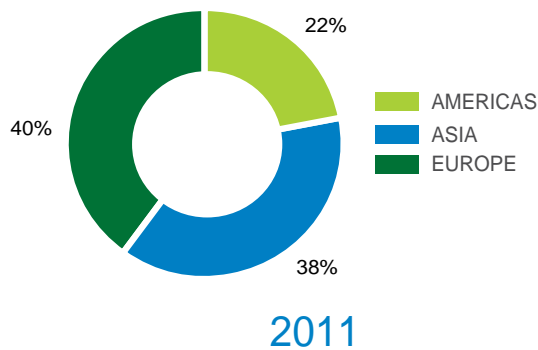
Today, Vishay has a broad and competitive product and technology portfolio. It provides discrete component solutions and is a valuable partner to its customers. It has broad market penetration with a wide range of end markets, a balanced geographic footprint, and a good mix of sales channels. Vishay is a reliable generator of "free cash." ("Free cash" is the amount of cash generated from operations in excess of capital expenditures and net of proceeds from the sale of assets). Vishay is committed to remaining cash positive regardless of the level of sales.

Vishay's growth plan is focused on driving stockholder value by increasing earnings per share (EPS). It will do this through intensified organic growth supplemented by opportunistic acquisitions, and stock buybacks, while at the same time maintaining a prudent capital structure. Vishay will continue to generate "free cash" to enhance stockholder value.

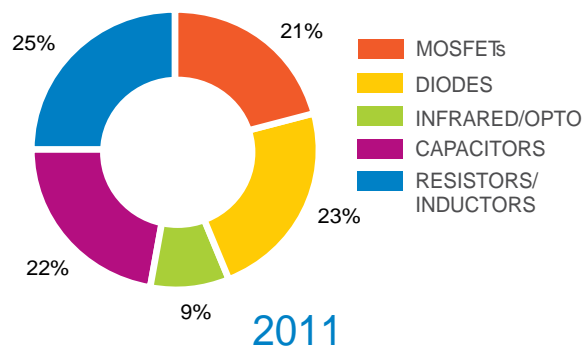
## RECENT VISHAY AWARDS

- † 55\* (MPCBM 0QFSBUJPOT & YDFMMFODF) TTI Supplier Excellence Awards in Asia, Europe, North America
- † China Electronic Market Editor's Choice Award: VJ Non-Magnetic Surface-Mount Multilayer Ceramic Chip Capacitors
- † EN-Genius Network Product of the Year Awards: CNY64ST and CNY65ST Optocouplers and 45 V TMBS® Rectifiers
- † Electronic Engineering & Product World Editor's Choice Award: WSMS2908 Power Metal Strip® Meter Shunt Resistor
- † Application of Electronic Technique China Leading Electronic Product Award: SiR662DP Power MOSFET
- † EDN China Innovation Awards: SiR870DP Power MOSFET and 34 THE Hall Effect Sensor
- † \$IJOB .BSLFU & MFDUSPOJD \$PNQPOFOU (CMECMA), Passive Components category
- † Electronic Products China Top-10 DC/DC Power Product Award: SR662DP 60 V TrenchFET® Power MOSFET
- ...and others

## REVENUE BY REGION



## REVENUE BY SEGMENT

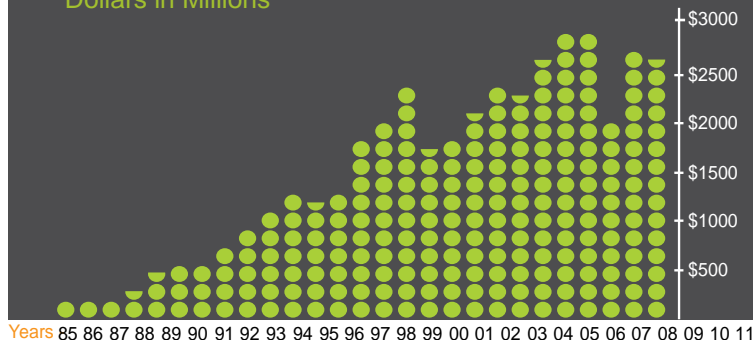


## 50-YEAR ANNIVERSAR

Year 2012 is the fiftieth anniversary of the founding of Vishay. Vishay has grown over the years to become a leader in the global electronics industry.

## VISHAY SALES GROWTH

Dollars in Millions



# DIVERSE COMPONENTS

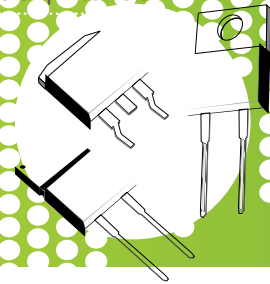
SiHG73N60E  
High-voltage MOSFET

CNY6 Series  
CAT IV Optocouplers

45 V Trench MOS Barrier  
Schottky Single Chip Rectifiers

VCUT05D1-SD0  
BiSy Single-Line ESD  
Protection Diode

SiSA04DN 30 V MOSFET



DISCRETE SEMICONDUCTORS (INCLUDING RECTIFIERS, DIODES, MOSFETS, AND OPTOELECTRONIC COMPONENTS) TYPICALLY PERFORM THE FUNCTION OF SWITCHING, AMPLIFYING, RECTIFYING, OR TRANSMITTING ELECTRICAL SIGNALS. SEMICONDUCTORS ARE REFERRED TO AS “ACTIVE” COMPONENTS BECAUSE THEY REQUIRE POWER TO FUNCTION.

## RECTIFIERS

Rectifiers convert alternating current (AC) into direct current (DC), a unidirectional current required for operation of many electronic systems. For example, a bridge rectifier is used in a phone charger to convert the AC voltage from a wall outlet to a specific DC voltage. Vishay Intertechnology rectifiers, including eSMP®, isoCink+™, and patented TMBS® devices, save space, reduce power losses, and improve efficiency in computing, automotive, industrial, telecommunications, and other applications. Vishay is a market and technology leader in power rectifiers.

## DIODES AND THYRISTORS

Diodes and thyristors are semiconductor components that allow voltage to be conducted in only one direction. Most diodes are based on semiconductor p-n junctions; in thyristors there are four layers of p-n material creating three p-n junctions, normally used to control alternating current in high-power applications. Diodes are used in a wide range of electronic systems to route, switch, and block radio frequency (RF) signals. The Vishay Intertechnology diodes portfolio includes Schottky, switching, PIN, and Zener diodes, as well as products for transient voltage suppression (TVS), electrostatic discharge (ESD) protection, and electromagnetic interference (EMI) filtering.

## MOSFETS

Metal-oxide-semiconductor field-effect transistors (MOSFETs) function as solid-state switches to control power. For example, they turn off specific functions of notebook computers and mobile phones when these functions are not in use, thereby extending battery life. They also help convert power into levels required by other components. Vishay Intertechnology offers low- and medium-voltage TrenchFET® MOSFETs, high-voltage planar MOSFETs, and high-voltage Super Junction MOSFETs in innovative package formats to switch and manage power very efficiently. Vishay is a market and technology leader in low-voltage power MOSFETs.

## MODULES

Power modules integrate multiple electronic components (semiconductors and passive components). This packaging provides an easy way to cool the devices and to connect them to outer circuitry, thus simplifying and optimizing designs. Vishay Intertechnology holds an important position in the rectifier modules (diode/thyristor) area and is expanding its product portfolio. It is increasing power management capabilities and focusing on energy savings and green energy generation, developing application-specific modules such as the Emipak2 for solar inverters. These products integrate Ultrafast diodes, SiC diodes, MOSFETs, and IGBTs.

## INFRARED OPTOELECTRONICS

Optoelectronic components emit light, detect light, or do both. Vishay Intertechnology's broad range of optoelectronic components includes infrared data communications devices (IRDCs) for wireless two-way data transfer, optocouplers and solid-state relays for circuit isolation, IR emitters and IR receivers for one-way remote controls, optical sensors for detection, LEDs for light sources, and 7-segment displays. Vishay is a market and technology leader in infrared components.

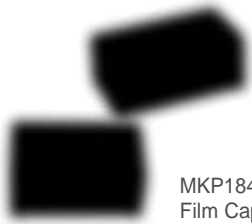
## INTEGRATED CIRCUITS (ICs)

Integrated circuits combine the functions of multiple semiconductors and passive components on a single chip. IC products from Vishay Intertechnology are focused on analog signal switching and routing, power conversion, and power management. They are used in end products such as tablet, notebook, and desktop computers; mobile phones; and fixed telecommunications systems. The Vishay IC portfolio includes switchmode and linear regulators, MOSFET drivers, bus interface devices, and analog switches and multiplexers.

MPM Matched Pair  
Resistor Network

TNPU e3 High-Precision  
Thin Film Chip Resistors

34 THE Non-Contacting  
Multi-Turn Sensor



MKP1848S  
Film Capacitors

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

TM8 MICROTAN®  
Tantalum Capacitors

**PASSIVE COMPONENTS (RESISTORS, CAPACITORS, INDUCTORS) DO NOT REQUIRE A POWER SUPPLY TO HANDLE THE SIGNALS THAT PASS THROUGH THEM. THEY ARE USED TO STORE ELECTRICAL CHARGES, TO LIMIT OR RESIST ELECTRICAL CURRENT, AND TO HELP IN FILTERING, SURGE SUPPRESSION, MEASUREMENTIMING, AND TUNING APPLICATIONS.**

## RESISTORS

Resistors restrict current flow. Vishay Intertechnology manufactures many different types of resistive products, including single (discrete) resistors based on thin film, thick film, metal oxide film, carbon film, Power Metal Strip®, and wirewound technologies, as well as resistor networks and arrays, in which multiple resistors are combined in a single package. Vishay also manufactures thermistors, used for current protection and temperature sensing, as well as potentiometers, trimmers, and resistive transducers. Resistors are used in all electronic circuits. Vishay is a market and technology leader in wirewound and other power resistors, leaded film resistors, and thin film surface-mount resistors.

## INDUCTORS

Inductors are categorized as magnetics. Inductors use an internal magnetic field to change AC current phase and resist AC current. Inductor applications include controlling AC current and voltage and filtering out unwanted electrical signals. Transformers, also characterized as magnetics, are made up of two inductors on a common core of magnetic material. Transformers increase or decrease AC voltage or AC currents. Vishay Intertechnology innovations include IHLP® inductors, which feature higher frequency operation, higher current ratings, and smaller sizes than competing devices.

## CAPACITORS

Capacitors store energy and discharge it when needed. Applications include power conversion, DC-linking, frequency conversion, bypass, decoupling, and filtering. Types of capacitors manufactured by Vishay Intertechnology include tantalum (both solid and wet), ceramic (both multilayer chip and disc), film, power, heavy-current, and aluminum. Capacitors are used in almost all electronic circuits. Vishay is a market and technology leader in wet and conformal-coated tantalum capacitors, as well as capacitors for power electronics. It is also one of the largest manufacturers of molded tantalum surface-mount capacitors.

## ABOUT VISHAY

Vishay Intertechnology is one of the world's largest manufacturers of discrete semiconductors and passive electronic components. These are used in virtually all types of electronic devices and equipment, in the industrial, computing, automotive, consumer, telecommunications, military, aerospace, power supplies, and medical markets. Vishay's global footprint includes manufacturing plants in the Americas, Asia, Europe, and Israel, as well as sales offices worldwide. Vishay is a market and technology leader in several key product areas. Vishay's technology innovations, acquisition strategy, focus on cost control, and ability to provide "one-stop shop" service to customers have made it a global industry leader.

Vishay Intertechnology components are integral parts of the electronic devices and systems used every day for energy generation, manufacturing, communications, transportation, entertainment, illumination, cooking, heating and cooling, health care, defense, and more. Highlighted below are some key Vishay components used in major market sectors.

## INDUSTRIAL

Electronic components manufactured by Vishay help to enable and control grid quality, manage and convert power, drive and control motors, process data, sense temperature, are used in smart metering, and perform other tasks. Their ability to handle wide voltage and current ranges, extreme temperatures, and other environmental stresses makes them ideal for use in wind and solar power systems, oil and gas exploration equipment, electric power grids, lighting, portable power tools, welding equipment, heating and air conditioning systems, factory equipment, and more. For example, aluminum electrolytic capacitors, optocouplers and solid-state relays, film capacitors, power Schottky bypass diodes, MELF resistors, high-performance MOSFETS, and inverter modules are found in solar panels, inverters, and controls.

## MILITARY AND AEROSPACE

Vishay's focus on innovation and its commitment to product quality have enabled it to build strong relationships with leading military and aerospace customers. It manufactures one of the industry's broadest lines of military-qualified resistors and capacitors, and offers components — including some semiconductors — with lead content to meet the needs of military and aerospace customers. Vishay components are used in aircraft and helicopters for flight, cockpit, and cabin equipment; navigation and weather satellites; radar and sonar units; radio and satellite communications; guidance systems; and a variety of other military and aerospace systems.

## MEDICAL

Medical implantable devices include glucose monitors, nerve stimulators, pacemakers, and defibrillators. Patient monitoring systems and medical instrumentation range from blood pressure cuffs to tomography scanners and imaging, radiation, and CRT equipment. Medical communications systems link medical monitoring systems and patients. Vishay is a leading manufacturer of telemetry coils for pacemakers and defibrillators and transformers for defibrillators, as well as multilayer ceramic chip capacitors (MLCCs) and tantalum capacitors for implantable devices and hearing aids. Vishay components for pacemakers include MICROTAN® tantalum chip capacitors, MLCCs, MOSFETS, thin film top-contact resistors, telemetry coils, and thick film resistors. Vishay provides close engineering support to medical customers.

## AUTOMOTIVE

Very hot under-the-hood temperatures, cold weather, and vibration are just some of the stresses placed upon automotive components. Reliability is essential. Vishay components in automobiles support functions such as engine control, steering, braking, traction control, emission control, security, climate control, lighting, and onboard information and entertainment. Vishay manufactures a variety of components that meet the high quality and reliability standards set by the automotive industry. To cite just one area, Vishay components for hybrid inverters include customized planar transformers, IGBT modules, high-current fully shielded inductors, battery shunt current sense resistors, MOSFETS, dc-link film capacitors and modules, and optocouplers.

## COMPUTING

Computers and smart portable communication devices, from network servers to tablet PCs and ultrabooks, need to handle high current, fast transients, and excessive heat associated with rapid microprocessing speed; manage power; filter out unwanted electrical signals; and perform other functions. Vishay IHLP® inductors, TMBS® diodes, PowerPAK® and PowerPAIR® MOSFETS, DrMOS solutions, smart load switches, and Power Metal Strip® current sense resistors are components of choice for servers. Vishay components store energy and switch power, suppress radio frequency interference (RFI), protect against electrical shock, support disk drive motor controls and CPU power, and more. In portable computing devices, they monitor power usage, extend battery life, and enable short-range, two-way, wireless connectivity. Vishay components also are used in monitors, printers, photocopiers, and related hardware.

## TELECOMMUNICATIONS

Telecommunications can be simple point-to-point interface or can require complex exchange networks. Mobile communications devices must be powerful, smart, thin, and lightweight and must have long battery life. Vishay components for mobile and wireless access devices include solid tantalum capacitors; chip fuses; current sense resistors; analog switches; MicroFOOT® and PowerPAIR® MOSFETS; protected load switches; LDOs; MicroSMP rectifiers; ESD protection products; optical products for ambient light sensing, proximity detection, and IrDA® data communications; and chip antennas for digital TVs. Vishay also provides a very broad range of components for power supplies and chargers, DC/DC conversion, EMI filtering, and line card protection for



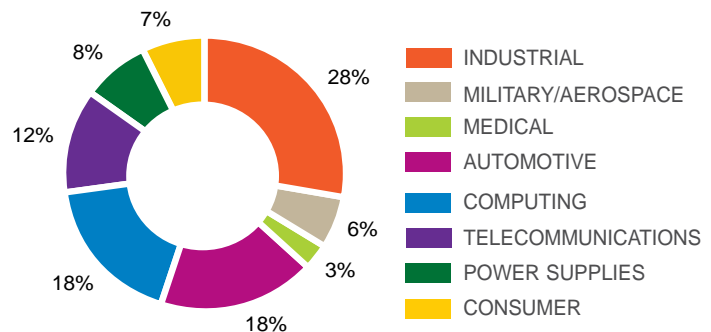
## Vishay's Blue-Chip Customers and Distributors

Apple	General Electric	Sanmina-SCI
Arrow	Hella	Schneider
Avnet	Hewlett-Packard	Siemens
Bosch	Huawei	Sony
Celestica	IBM	Tomen
Cisco	Jabil	TRW
Compal	LG Electronics	TTI
Continental	Motorola	Weikeng
Dell	Nokia	Western Digital
Delphi	Nokia Siemens	Wistron
Delta	Networks	WPG
Digi-Key	Nintendo	Yosun
Emerson	Philips	Zenitron
Ericsson	Power One	ZTE
Flextronics	Quanta	...and others
Foxconn	Rutronik	
Future	Samsung	

### CONSUMER

Each new generation of digital cameras, e-book readers, electronic toys, video game consoles, and other consumer products requires more and more sophisticated electronic circuitry. And this circuitry requires types of components manufactured by Vishay. They are used to extend battery life and perform other functions in portable devices. They support key functions in household appliances, gaming consoles, high-definition (HD) televisions, flat-panel video displays, and wireless remote control technologies, as well as cable, fiber optic, and satellite broadcasting. Key Vishay components for set-top boxes include IHLP® inductors, PowerPAK® MOSFETs, TMBS® diodes, microBUCK® ICs, infrared receivers, and electrostatic discharge/electromagnetic interference (ESD/EMI) protection diode arrays.

### REVENUE BY END MARKET



2011

# PRODUCT LIST

## SEMICONDUCTORS

### MOSFETs Segment

#### MOSFETs

- Low-Voltage TrenchFET® Power MOSFETs
- Medium-Voltage TrenchFET® Power MOSFETs
- High-Voltage Planar MOSFETs
- High-Voltage Super Junction MOSFETs

#### ICs

- Power ICs
- Analog Switches

### Diodes Segment

#### Rectifiers

- Schottky Rectifiers
- Ultra-Fast Recovery Rectifiers
- Standard and Fast Recovery Rectifiers
- High-Power Rectifiers/Diodes

#### Small-Signal Diodes

- Schottky and Switching Diodes
- Zener Diodes
- Tuner/Capacitance Diodes

#### Bandswitching Diodes

#### RF PIN Diodes

#### Protection Diodes

- TVS Diodes or TRANSZORB®  
(uni-directional, bi-directional)
- ESD Protection Diodes (including arrays)

#### Thyristors/SCRs

- Phase-Control Thyristors
- Fast Thyristors

#### Power Modules

- Input Modules (diodes and thyristors)
- Output and Switching Modules  
(contain MOSFETs, IGBTs, and diodes)
- Custom Modules

### Optoelectronic Components Segment

#### Infrared Emitters and Detectors

#### Optical Sensors

#### Infrared Remote Control Receivers

#### Optocouplers

- Phototransistor, Photodarlington
- Linear
- Phototriac
- High-Speed
- IGBT and MOSFET Driver

#### Solid-State Relays

#### LEDs and 7-Segment Displays

#### Infrared Data Transceiver Modules

#### Custom Products

## PASSIVE COMPONENTS

### Resistors and Inductors Segment

#### Film Resistors

- Metal Film Resistors
- Thin Film Resistors
- Thick Film Resistors
- Metal Oxide Film Resistors
- Carbon Film Resistors

#### Wirewound Resistors

#### Grid Resistors

#### Dynamic Braking Resistors

#### Neutral Grounding Resistors

#### Custom Load Banks

#### Power Metal Strip® Resistors

#### Battery Management Shunts

#### Chip Fuses

#### Variable Resistors

- Cermet Variable Resistors
- Wirewound Variable Resistors
- Conductive Plastic Variable Resistors

#### Networks/Arrays

#### Non-Linear Resistors

- NTC Thermistors
- PTC Thermistors

#### Varistors

#### Magnetics

- Inductors
- Transformers
- Coils

#### Connectors

### Capacitors Segment

#### Tantalum Capacitors

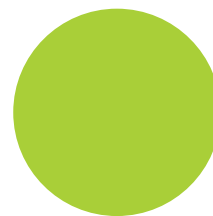
- Molded Chip Tantalum Capacitors
- Coated Chip Tantalum Capacitors
- Solid Through-Hole Tantalum Capacitors
- Wet Tantalum Capacitors

#### Ceramic Capacitors

- Multilayer Chip Capacitors
- Disc Capacitors

#### Film Capacitors

- Power Capacitors
- Heavy-Current Capacitors
- Aluminum Capacitors



# CORPORATE INFORMATION

## BOARD OF DIRECTORS

**Marc Zandman**  
Executive Chairman of the Board  
Chief Business Development Officer  
Vishay Intertechnology, Inc.

**Dr. Abraham Ludomirski**  
Founder and Managing Director of  
Vitalife Fund, a venture capital company  
specializing in high-tech electronic  
medical devices

**Frank D. Maier**  
Retired Managing Director  
TEMIC GmbH

**Dr. Gerald Paul**  
President  
Chief Executive Officer  
Vishay Intertechnology, Inc.

**Wayne M. Rogers**  
Investor, specializing in small and mid-size  
acquisitions; stock commentator and analyst for  
Fox News Channel

**Ronald M. Ruzic**  
Retired Group President  
BorgWarner Automotive, Inc.

**Ziv Shoshani**  
President  
Chief Executive Officer  
Vishay Precision Group, Inc.

**Thomas C. Wertheimer**  
Accounting Consultant,  
previously partner of  
PricewaterhouseCoopers LLP

**Ruta Zandman**  
Private Stockholder  
Vishay Intertechnology, Inc.

## HONORARY EXECUTIVE CHAIRMAN OF THE BOARD

**Dr. Felix Zandman**  
(Deceased June 4, 2011)

## CORPORATE OFFICERS

**Marc Zandman**  
Executive Chairman of the Board  
Chief Business Development Officer

**Dr. Gerald Paul**  
President  
Chief Executive Officer

**Lori Lipcaman**  
Executive Vice President  
Chief Financial Officer

**Dieter Wunderlich**  
Executive Vice President  
Chief Operating Officer

**Johan Vandoorn**  
Executive Vice President  
Chief Technical Officer

**David Valletta**  
Executive Vice President  
Worldwide Sales

**Peter Henrici**  
Senior Vice President  
Corporate Secretary

**David L. Tomlinson**  
Senior Vice President  
Corporate Controller

**David E. McConnell**  
Vice President  
Corporate Treasurer

## CORPORATE OFFICE

Vishay Intertechnology, Inc.  
63 Lancaster Ave.  
Malvern, PA 19355-2120 USA  
Phone: 610-644-1300  
Fax: 610-296-0657  
www.vishay.com

## ANNUAL MEETING

May 24, 2012 at 10:30 a.m.  
The Rittenhouse Hotel  
Ballroom, 2nd Floor  
210 West Rittenhouse Square  
Philadelphia, PA 19103

## STOCKHOLDER ASSISTANCE Common Stock

For information about stock transfers, address changes, account consolidation, registration changes, lost stock certificates and Form 1099, contact the Company's Transfer Agent and Registrar.

**Transfer Agent and Registrar**  
American Stock Transfer & Trust Company  
59 Maiden Lane  
New York, NY 10038  
Phone: 800-937-5449  
Fax: 718-921-8331  
Email: info@amstock.com

For other information or questions, contact:  
Investor Relations, at (610) 644-1300.

Ticker symbol: VSH  
The common stock is listed and  
principally traded on the New York  
Stock Exchange.

### Duplicate Mailings

If you receive more than one Annual Report and Proxy Statement and wish to help us reduce costs by discontinuing multiple mailings, contact our Transfer Agent American Stock Transfer & Trust Company.



## Electronic Proxy Materials

You can receive Vishay's Annual Report and proxy materials electronically, which will give you immediate access to these materials, and will save the Company printing and mailing costs. If you are a registered holder (you own the stock in your name), and wish to receive your proxy materials electronically, go to [www.icsdelivery.com/vsh](http://www.icsdelivery.com/vsh).

If you are a street holder (you own this stock through a bank or broker), please contact your broker and ask for electronic delivery of Vishay's proxy materials.



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Malvern, PA 19355-2120 // United States  
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into your Design

