



Vishay Intertechnology, Inc.

2010

ANNUAL REPORT



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

[www.vishay.com](http://www.vishay.com)

# LETTER FROM THE EXECUTIVE CHAIRMAN AND THE CEO

In year 2010, Vishay had its best performance in 10 years. With sales close to pre-crisis levels, reduced fixed costs, and excellent business efficiencies, Vishay reached new levels of profitability. Vishay generated \$401 million in “free cash”<sup>\*</sup> during 2010, an all-time record for the Company. In a move that demonstrated confidence in the long-term prospects of Vishay and a commitment to creating long-term value for stockholders, Vishay repurchased 21.7 million shares of its common stock.

## YEAR 2010

Vishay’s revenues for 2010 were \$2.725 billion, an increase of approximately 33.4% compared to 2009. Vishay reported net earnings attributable to stockholders for the year ended December 31, 2010 of \$359.1 million, or \$1.89 per diluted share. Adjusted net earnings<sup>\*\*</sup> for 2010 were \$299.6 million, or \$1.58 per diluted share. During 2010, cash generated from continuing operations was \$545.3 million, compared to \$290.4 during 2009.

Year 2010 was a very good year for Vishay. The industry-wide upturn that started during the latter part of 2009 continued during 2010. Thanks to sales close to pre-crisis levels, reduced fixed costs, and excellent efficiencies in all divisions, Vishay reached new levels of profitability during 2010.

resistive sensors, weighing modules, and control systems for a wide variety of applications. The spin-off created value for stockholders of both companies. Vishay is now a pure-play discrete electronic components company that will focus on strengthening its position as a global technology and market leader in discrete semiconductors and passive components.

During the fourth quarter, we completed a repurchase of 21.7 million shares of our common stock, demonstrating our confidence in the long-term prospects of Vishay and our commitment to creating long-term value for our stockholders. Our healthy balance sheet and strong cash flow generation allowed us to use a low-coupon convertible debenture offering to finance the buy-back, which was more efficient than using our cash, most of which is off-shore.

In 2010, at a pre-crisis sales level, we more than doubled our earnings power.

Vishay, by fundamentally restructuring its business, has lowered the operational break-even point by about \$450 million. In 2010 we kept our fixed costs at the announced target levels. In 2010, total employment excluding Vishay Precision Group grew by 11% or 2,300 people; fixed personnel, as part of this total, was increased by just 3%, mostly in the context of manufacturing capacity increases.

During the last two years we generated cash from operations of \$836 million and had capital expenditures of \$196 million. In 2010, at close to pre-crisis sales levels, we achieved gross margin of 30% of net revenues, operating margin of 15% of net revenues, and adjusted earnings per share of \$1.58, meaning we more than doubled our earnings power.

On July 6, 2010, Vishay Intertechnology successfully completed the spin-off of Vishay Precision Group, Inc. (VPG) to its stockholders as an independent, publicly-traded company. VPG is a leading designer, manufacturer, and marketer of resistive foil technology products such as



**Dr. Felix Zandman** Executive Chairman  
of the Board

**Dr. Gerald Paul** Chief Executive Officer

## TECHNOLOGY INNOVATION

R&D programs throughout all of our divisions generate a steady stream of new components to help designers create innovative end products — from tablet PCs and e-book devices to hybrid and fully electric vehicles to wind and solar power systems. Some of the many new components launched by Vishay during 2010 include the following:

- Diodes in ultra-compact packages that minimize the space needed to protect against electrostatic discharge in devices such as portable gaming systems, digital cameras, and mobile phones.
- Additions to Vishay’s series of TMBS<sup>®</sup> rectifiers, which reduce power losses and improve efficiency in computing, consumer, and other applications, with a focus on the renewable energy market and hybrid vehicles.

<sup>\*</sup> “Free cash” refers to the amount of cash generated from operations in excess of our capital expenditures and net of proceeds from the sale of assets, a measure which we use to evaluate our operations and our ability to fund acquisitions and repay debt. “Free cash” does not have a uniform definition, is not recognized in accordance with generally accepted accounting principles (“GAAP”), and should not be viewed as an alternative to GAAP measures of performance or liquidity. This measure, as calculated by Vishay, may not be comparable to similarly titled measures used by other companies.

<sup>\*\*</sup> See the information and table on page 35 of Vishay’s Annual Report on Form 10-K for the calculation of adjusted net earnings and adjusted net earnings per share.

- A range of power MOSFETs, including industry-first devices that maximize battery life in drug delivery systems, pacemakers, defibrillators, and other implantable medical devices.
- Infrared receivers for active 3D glasses that ensure the glasses' LCD shutters open and close in proper synchronization to create the 3D effect.
- Devices in Vishay's patented family of Power Metal Strip® resistors with high power and low resistance values. Uses include automotive systems such as engine controls, climate controls, and anti-lock brakes.
- Thin film chip resistors and resistor networks with industry-first maximum storage temperature capability for applications such as down-hole drilling and aviation.
- New IHLP® power inductors that serve as high-performing, space- and power-saving solutions in next-generation mobile devices, PCs, servers, automotive systems, and other end products.
- Tantalum chip capacitors that have industry-high capacitance and feature a robust design specific for pulsed operation in wireless modems.
- Power film capacitors for systems and products including rail traction for trains and subways, medical and industrial equipment, and inverters for solar fuel cells.

#### FINANCIAL CONDITION AND LIQUIDITY

As of December 31, 2010, Vishay had cash and cash equivalents of \$897 million, and debt with a total carrying value of \$432 million. The debt consists of the following: \$95 million of long-term exchangeable notes with a 91-year maturity due on December 12, 2102, with an interest rate of 90-day LIBOR plus 0%; \$275 million of convertible senior debentures due on 2040, issued during the fourth quarter with a fixed-interest rate of 2.25%. These debentures have a carrying amount of \$97 million, which includes approximately \$178 million of unamortized discount on the debentures. This discount will be amortized as non-cash interest over the term of the debentures. In addition, we have a new \$450 million revolving credit facility entered into during the fourth quarter and maturing on December 1, 2015, with an interest rate of 30-day LIBOR plus 1.65% and facility fee of 0.35%, approximately \$210 million of which was unused on December 31, 2010. There are no principal payments due on our debt until the new revolver expires in December 2015.

#### LOOKING AHEAD

Our excellent performance during 2010 set the stage for 2011 and years to come. For 2011, we expect to see the continuation of a friendly business climate, but we will remain prepared to react quickly to any slowdown. During 2011, we will continue to invest in new products, new technologies, and manufacturing capacities, particularly for our specialty products. We expect that strong market demand will continue, and that promising growth opportunities will continue in areas such as tablet computers, smartphones, and alternative energy. In addition, we will continue to pursue acquisitions as part of our growth strategy.

Our R&D programs are on target. With our strong balance sheet and good liquidity, we are able to pursue acquisitions in passive components and discrete semiconductors. There was no material restructuring in 2010, and we do not expect any in 2011. We anticipate that in 2011 Vishay will continue to be an excellent generator of "free cash."

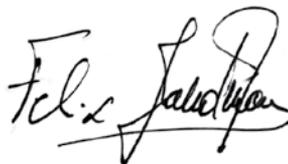
During 2010, Vishay emerged from the crisis stronger, more streamlined, more effective, motivated, and even more focused on the essentials of the business. The Company's strength is based on having a broad product portfolio with strong market positions in a number of product lines, a balanced geographic position, the right mix of sales channels, a contribution margin of 45%, a break-even point lowered to approximately \$1,850 million, and reliable generation of "free cash."

Vishay is committed to creating shareholder value by improving earnings per share through organic growth, acquisitions, and stock buy-backs, while maintaining a prudent capital structure.

Vishay's performance during the last two years has shown that the Company knows how to manage both strong downturns and strong upturns. Vishay is well positioned for the future.

Vishay is committed to creating shareholder value by improving earnings per share (EPS). We aim to do this through organic growth, acquisitions, and stock buy-backs, while maintaining a prudent capital structure.

Vishay sincerely thanks its many employees, customers, vendors, strategic business partners, and shareholders for their support during our very successful year 2010. We look forward to ongoing success and continued support in 2011 and future years.



Dr. Felix Zandman  
Executive Chairman of the Board



Dr. Gerald Paul  
Chief Executive Officer

# SEMICONDUCTORS

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 clock radio to change the AC voltage from a wall outlet to a specific DC voltage. Vishay Intertechnology rectifiers, including patented TMBS® devices, reduce power losses and improve efficiency in computing, 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. Both types of devices are used in a wide range of electronic systems to route, switch, and block radio frequency (RF), analog, and power signals. The Vishay Intertechnology diodes portfolio includes Schottky, switching, PIN, sinterglass, and rectifier devices, as well as products for transient voltage suppression, 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 high-voltage Vishay Siliconix TrenchFET®, planar, and Super Junction FET 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 new Emipak2 for solar inverters. These new 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 (as used in television sets, for example), 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 netbook, 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.

# PASSIVE COMPONENTS



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, measurement, timing, 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, 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 disk), 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 Asia, Europe, and the Americas, 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.

# THE VISHAY STORY

Dr. Felix Zandman, with the financial support of the late Alfred P. Slaner, founded Vishay in 1962 to develop and manufacture Bulk Metal® foil resistors. The Company was named after the village in Lithuania where relatives of Dr. Zandman and Mr. Slaner had perished during 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, from KEMET, a specialty tantalum capacitor product line with applications in the oil exploration, military, and aerospace industries.

Italy, China, and India and provided products that were new to Vishay: high-voltage planar MOSFETs and high-power diodes and thyristors. It further enhanced Vishay's market position in discrete semiconductors.

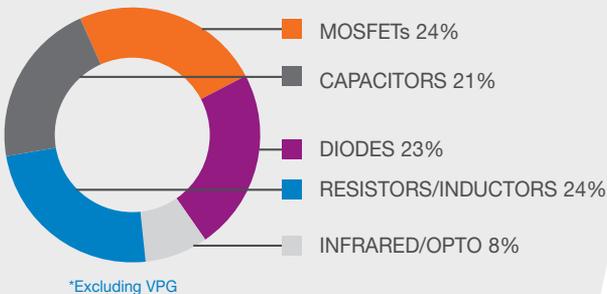
## SPIN-OFF OF VISHAY PRECISION GROUP

In July 2010, Vishay Intertechnology completed the spin-off of Vishay Precision Group (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 designer, manufacturer and marketer of resistive foil technology products such as resistive sensors, weighing modules, and control systems for a wide variety of applications. It is an independent, publicly-traded company.

## SUCCESSFUL BUSINESS STRATEGY

Vishay's growth through innovations and acquisitions and its focus on cost reductions have enabled it to remain financially strong during both downturns and upturns in the highly cyclical electronics industry. During the unprecedented economic slowdown that began in 2008 and continued into 2009, Vishay concentrated on conserving and generating cash, aggressively reducing costs, and rolling out new products.

REVENUE BY SEGMENT, 2010\*

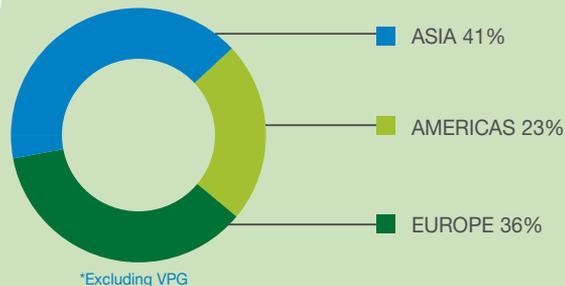


## GROWTH IN SEMICONDUCTORS

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 components 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 acquired the remaining 19.6% interest in Siliconix. In 2007, Vishay acquired selected discrete semiconductor and module product lines from International Rectifier. This acquisition added manufacturing plants in

REVENUE BY REGION, 2010\*



These efforts continued as an economic recovery began taking shape in the third quarter of 2009. During 2010, the Company maintained the fixed costs reductions from 2009. By maintaining these reductions during 2010 as the demand for electronic components grew to pre-crisis levels, the Company was able to reach new performance levels. In fact, during 2010 Vishay Intertechnology achieved its best performance in 10 years. Vishay also generated \$401 million in "free cash" during 2010, an all-time record for the Company. ("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's historically strong cash generation has provided money to acquire other companies and businesses. In the process, Vishay has become a truly global company —

a leader in the electronics industry that sells into all major geographic markets and all relevant market segments. Vishay is committed to remaining cash positive regardless of the level of sales.

### “ONE-STOP SHOP” SERVICE TO CUSTOMERS

Vishay’s customer mix includes original equipment manufacturers (OEMs) of end products, electronic manufacturing services (EMS) companies that design and/or manufacture end products on an outsourcing basis, and distributors that, depending on their size, sell to end customers at an international, regional, or local level. 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.

Vishay supports customers in the development and production of environmentally friendly end products. It manufactures components in lead (Pb)-free, RoHS-compliant, and halogen-free categories, as well as components that meet its own definition of “green.” Vishay maintains qualifications to a wide range of specifications vital to customers, including those in the industrial, automotive, consumer, defense, and aerospace markets.

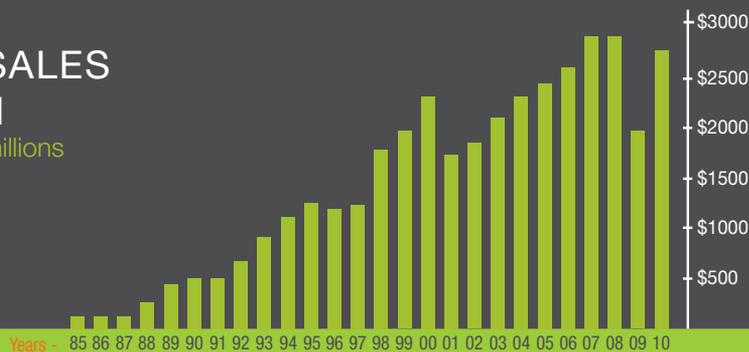
### ONGOING COMMITMENT TO INNOVATION

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 implantable medical devices to wind and solar power systems. Vishay is well positioned for growth in the alternative energy and hybrid vehicle sectors, where its product advantages include long life, high reliability, industry safety approvals, and custom capabilities.

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 principally for our semiconductor products.

## VISHAY SALES GROWTH

Dollars in the millions



### RECENT VISHAY AWARDS

- *En-Genius Network* Product of the Year Award, Best Development in Light Sensing: VCNL4000 optical sensor
- *En-Genius Network* Product of the Year Award, Best High-Voltage Power MOSFET: SiR880DP ThunderFET® power MOSFET
- *Electronic Products China* Product of the Year Award: VLHW4100 LED
- *EDN China* Innovation Award, Passive Components and Sensors category: 597D and T97 tantalum capacitors
- China Market Electronic Component Manufacturers Award (CMECMA), Discrete Semiconductors category
- *Electronic Products China* Top-10 DC/DC Power Product: SiR880DP ThunderFET® power MOSFET
- *Electronic Design* Top 101 Components Awards: LEE-128G032B and LEE-128G032-1 LED displays; IHLP-2020CZ-01 inductor
- Digi-Key Corporation Superior Sales Performance Award
- TTI Supplier Excellence Award

# SERVING DIVERSE MARKET SECTORS

Vishay Intertechnology components are integral parts of the electronic devices and systems used every day for energy generation, manufacturing, communication, 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 manage and convert power, control motors, process data, sense temperature, 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, and inverter modules are found in solar panels, inverters, and controls.

## COMPUTING

Computers, from network servers to tablet PCs, need to handle current levels and heat associated with rapid microprocessing speeds, manage power, filter out unwanted electrical signals, and perform other functions. Vishay IHLP® inductors, TMBS® diodes, PowerPAK® MOSFETs, DrMOS solutions, 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.

## 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.

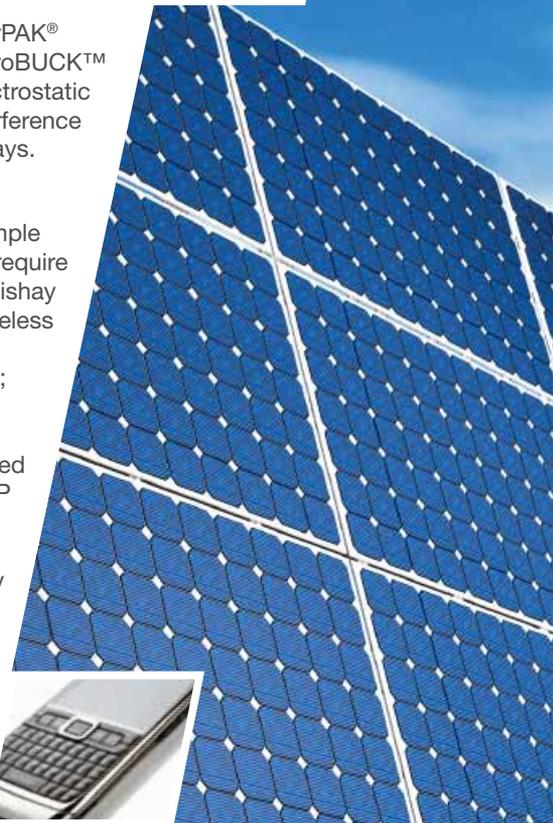
## CONSUMER

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.

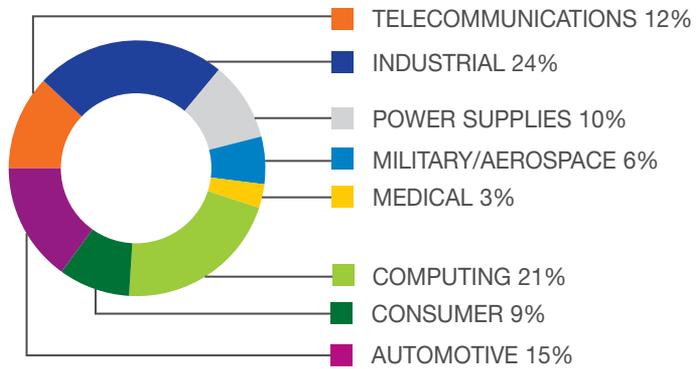
## TELECOMMUNICATIONS

Telecommunications can be simple point-to-point interface or can require complex exchange networks. Vishay components for mobile and wireless access devices include solid tantalum capacitors; chip fuses; current sense resistors; analog switches; MICRO FOOT® 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, dc-to-dc conversion, EMI filtering, and line card protection for transmission systems, base stations, access infrastructure, and customer premises equipment.





## REVENUE BY END MARKET, 2010\*



\*Excluding VPG

## Vishay's Blue-Chip Customers and Distributors

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

## MEDICAL

Medical implantable devices include glucose monitors, nerve stimulators, pacemakers, defibrillators, and stents. Medical instrumentation ranges from small blood pressure cuffs to large 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 MLCCs and tantalum capacitors for implantable devices and hearing aids. Vishay components for pacemakers include MICROTAN<sup>®</sup> tantalum chip capacitors, multilayer ceramic chip capacitors, MOSFETs, thin film top-contact resistors, telemetry coils, and thick film resistors. Vishay provides close engineering support to medical customers.

## 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 cockpit equipment, GPS navigation, radar and sonar units, radio and satellite communications, weapons such as missiles and torpedoes, and a variety of other military, space, airborne, and aerospace systems.

## POWER SUPPLIES

Adapters, converters, and uninterruptible power supplies (UPS) handle electric current from main power grids and batteries and adjust it for use by all types of devices — from small, portable products to large industrial equipment. Power supplies must meet various power quality, efficiency, energy saving, and safety regulations. Their capabilities range from very low (milliwatts) to very high (kilowatts). Vishay components for power supplies include TMBS<sup>®</sup> diodes; Super Junction FET MOSFETs, Hyperfast rectifiers, and tandem diodes for power factor correction; film and electrolytic capacitors for EMI suppression; transient voltage suppressors for inrush protection; TrenchFET<sup>®</sup> MOSFETs; power rectifiers; high-power inductors; current sense resistors; and couplers.

# 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

#### Power Metal Strip® Resistors

#### 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

### Capacitors Segment

#### Tantalum Capacitors

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

#### Wet Tantalum Capacitors

#### Ceramic Capacitors

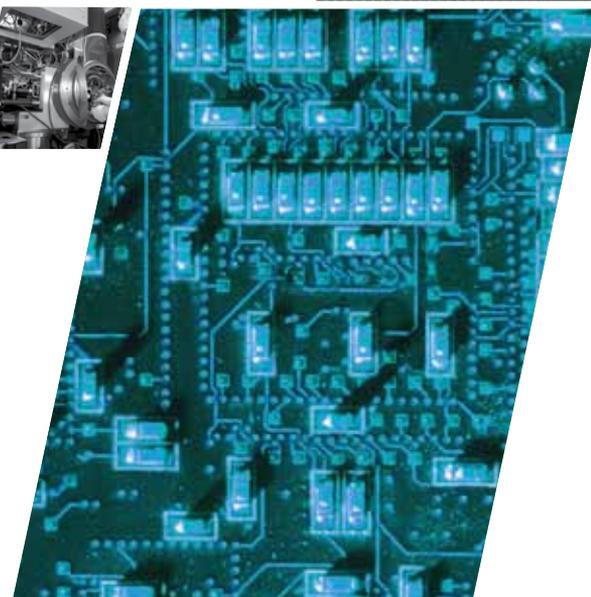
- Multilayer Chip Capacitors
- Disc Capacitors

#### Film Capacitors

#### Power Capacitors

#### Heavy-Current Capacitors

#### Aluminum Capacitors



# CORPORATE INFORMATION

## BOARD OF DIRECTORS

### Dr. Felix Zandman

Founder and Executive Chairman of the Board  
Chief Technical Officer  
Chief Business Development Officer  
Vishay Intertechnology, Inc.

### Marc Zandman

Vice Chairman of the Board  
Chief Administration Officer  
President, Vishay Israel Ltd.  
Vishay Intertechnology, Inc.

### Eliyahu Hurvitz

Former CEO and Chairman of the Board  
Teva Pharmaceutical Industries Ltd.

### 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-sized  
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

Public Relations Associate  
Vishay Intertechnology, Inc.

## HONORARY CHAIRMAN OF THE BOARD

### Alfred P. Slaner

(Deceased March 14, 1996)

## CORPORATE OFFICERS

### Dr. Felix Zandman

Founder and Executive Chairman of the Board  
Chief Technical Officer  
Chief Business Development Officer

### Dr. Gerald Paul

President  
Chief Executive Officer

### Marc Zandman

Vice Chairman of the Board  
Chief Administration Officer  
President, Vishay Israel Ltd.

### Dr. Lior E. Yahalomi

Executive Vice President  
Chief Financial Officer

### Lori Lipcaman

Executive Vice President of Finance  
Chief Accounting Officer

### Peter Henrici

Senior Vice President  
Treasurer  
Investor Relations

### David L. Tomlinson

Senior Vice President  
Corporate Controller

### Marc L. Frohman

Senior Vice President  
Corporate General Counsel  
Corporate Secretary

## CORPORATE OFFICE

Vishay Intertechnology, Inc.  
63 Lancaster Ave.  
Malvern, PA 19355-2143 USA  
Phone: 610-644-1300  
Fax: 610-296-0657  
www.vishay.com

## ANNUAL MEETING

June 1, 2011 at 10:30 a.m.  
The Rittenhouse Hotel  
Ballroom, 2nd Floor  
210 West Rittenhouse Square  
Philadelphia, PA 19103

## SHAREHOLDER ASSISTANCE

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.

## Common Stock

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.icسدelivery.com/vsh](http://www.icسدelivery.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.

Vishay Intertechnology, Inc.



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