

Vishay Intertechnology, Inc.



# 2009

## ANNUAL REPORT



# Letter from the Executive Chairman and the CEO

In year 2009, despite the unprecedented global recession, Vishay generated “free cash”<sup>\*\*</sup> of \$246 million, which is one of the best results in the Company’s history. Thanks to a very significant reduction in fixed costs, Vishay permanently reduced its break-even point by \$400 to \$500 million. By the end of 2009, with improving end market demand, Vishay approached pre-recession profit margins at considerably lower sales levels. As the Company is committed to keeping its fixed costs stable, with future sales growth it is very well positioned for further profit margin increases.

## YEAR 2009

Vishay’s revenues for 2009 were \$2.042 billion, a decrease of approximately 27.6% compared to 2008. Vishay reported a loss from continuing operations for the year ended December 31, 2009 of \$56.5 million, or \$0.31 per share.

Adjusted net earnings<sup>\*\*</sup> for 2009 were \$3.3 million, or \$0.02 per diluted share, excluding various items affecting comparability such as restructuring and severance costs and asset write-downs. During 2009, cash generated from continuing operations was \$290.4 million, compared to \$268.5 million during 2008. Our capital expenditures were limited to \$50.3 million during 2009 compared to \$152.0 million during 2008.

The global economy’s deep recession that began in September 2008 continued in 2009. However, in the fourth quarter of 2009, buoyed by a dramatic increase in end demand for electronic components, Vishay’s business grew from very low levels at a robust pace. The very significant reduction in fixed costs that Vishay started in the fourth quarter of 2008 and completed in 2009 helped the Company to increase profit margins approaching pre-recession levels by the end of 2009.

Vishay’s semiconductor business, which was hit the hardest by the recession, recovered strongly by the end of 2009. The recovery for Vishay diodes and optoelectronic products started in July 2009, driven by increased demand in the consumer market in Asia. Increased demand for diodes and optoelectronic products in the European automotive market also started in the third quarter of 2009. By the fourth quarter of 2009, this recovery had spread to virtually all market sectors, sales channels, and regions.

Vishay’s passive components business also recovered strongly by the end of 2009. Increased demand for Vishay resistors and inductors was driven by an accelerated rebound in the industrial market, as well as an upturn in most other

markets. Increased demand for Vishay capacitors was driven by an upturn in some key markets, particularly automotive and consumer.

Our focus in 2009 was to generate “free cash.” We generated \$246 million in “free cash,” making year 2009 one of Vishay’s best in terms of cash. Only years 2002 and 2000 were better for Vishay in this regard.

Vishay, during 2009, continued the major restructuring and right-sizing efforts that we defined and began implementing in the fourth quarter of 2008. During 2009 we reduced inventories by \$103 million and limited our capital spending to \$50 million, compared to \$152 million in 2008. Our cash costs for restructuring were \$48 million in 2009. We reduced all fixed costs by \$176 million in 2009, with \$80 million coming from manufacturing and \$96 million coming from SG&A. Since the downturn began in September 2008, we have reduced the total number of employees by 19% and reduced total fixed headcount by 16%.

The restructuring of our operations continued successfully in 2009. We completed the consolidation of optoelectronics packaging in Asia. We closed our film capacitor plant in Shanghai, China, moving the volume to Loni, India. We closed our multilayer ceramic chip (MLCC) capacitor plant in Monroe, Connecticut, moving the volume to Migdal Ha’Emek, Israel. In addition, we completed the move of non-linear resistor manufacturing from Belgium to China, Israel, and Germany. These actions permanently reduced our fixed costs.

## VISHAY PRECISION GROUP SPIN-OFF

In October 2009, Vishay announced its intention to spin off its Foil Technology Products (strain gages, ultra-precision foil resistors, and current sensors) and Weighing Modules and Control Systems (transducers/load cells, instruments, weigh modules, and control systems) businesses into an independent, publicly traded

company to be named Vishay Precision Group, Inc. (VPG). Because these two businesses are not core components of Vishay Intertechnology’s overall operations, in terms of products, technologies, manufacturing processes, markets, and customers, we expect that the spin-off will enable the management teams of both Vishay Intertechnology and VPG to better focus on the unique issues facing their respective businesses and will permit each company to pursue its own business plan, resource allocation program, and growth strategy. Sales of VPG in the last few years were approximately 9% of Vishay Intertechnology’s total sales.

The spin-off is expected to take the form of a tax-free stock dividend to Vishay’s stockholders and it is anticipated that holders of Vishay common stock will receive common stock of VPG and holders of Vishay Class B common stock will receive Class B common stock of VPG. Following the spin-off, VPG will be an independent, publicly traded company, and Vishay Intertechnology will not retain any ownership interest in it.

## INNOVATIONS IN TECHNOLOGY

In 2009, Vishay continued to develop, manufacture, and market new components based on innovative and proprietary technologies. These technologies make possible new generations of end products that are smaller and richer in features and functions. Examples of new Vishay components released during 2009 include the following:

- MOSFETs built on industry-leading TrenchFET<sup>®</sup> p-channel technology that packs one billion transistor cells into each square inch of silicon. These MOSFETs save power and extend battery life in handheld devices.
- Trench diodes built on Vishay’s successful family of Trench-technology-based TMBS<sup>®</sup> diodes. Vishay is the sole source for these diodes, which reduce power losses and improve efficiency in computing, consumer, and other applications.

<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.

<sup>\*\*</sup>See table on page 34 of Vishay’s Annual Report on Form 10-K for the calculation of adjusted net earnings and adjusted net earnings per share.

- Industry-first ultra-miniature infrared receivers for remote control and data transmission in notebooks and other computing, communications, and entertainment devices. They reduce or eliminate causes of interference, including optical noise from fluorescent lamps and emissions from plasma displays.
- A resistor with Power Metal Strip® technology that is the first of its kind to operate over a temperature range of -65°C to +275°C. Its high-temperature capability and high power ratings (double the standard rating for this product type) allow it to be used in harsh environments such as automotive sub-systems and industrial oil and gas well drilling equipment without sacrificing electrical performance. Vishay is collecting royalties via Power Metal Strip technology licensing agreements.
- Additions to Vishay's growing series of IHLP® power inductors (one of Vishay's highly successful new product platforms) for end products including mobile devices, servers, and automotive controls. Vishay is collecting royalties via IHLP technology licensing agreements.
- TANTAMOUNT® tantalum chip capacitors that feature the highest voltage rating available for this device type. They are optimized for use in airborne, sensor, and industrial control applications and in telecommunications base stations.

Vishay products received a number of awards in 2009 from leading industry media outlets, including *Electronic Products*, *EDN China*, *Electronic Product China*, and *EN-Genius Network*.

## FINANCIAL CONDITION AND LIQUIDITY

As noted above, Vishay generated \$246 million of "free cash" during 2009, \$92 million of which was generated in the fourth quarter. Vishay has generated "free cash" in each of the past 13 years, and "free cash" in excess of \$80 million in each of the past 8 years.

Vishay had total debt of \$336 million and cash and cash equivalents of \$579 million as of December 31, 2009. The debt consists predominantly of the following: \$105 million of long-term notes due in 2102 or in 92 years, with an interest rate of LIBOR plus 0%, and an \$87.5 million term loan maturing in July 2011 with payments spread over the next one and a half years, with an interest rate of LIBOR plus 2.5%. We also have a \$250 million revolving credit facility maturing in April 2012 with an interest rate of LIBOR plus 1.52%, \$125 million of which was unused as of December 31, 2009.



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



**Dr. Gerald Paul**  
Chief Executive Officer

In summary, our liquidity was \$759 million (cash and cash equivalents of \$579 million and credit lines of \$178 million) and total debt was \$336 million, of which \$105 million are long-term notes due in 92 years.

## LOOKING AHEAD

Vishay permanently reduced its break-even point by drastically reducing fixed costs in 2009. Thus, even at sales levels that are lower than those we achieved prior to the 2008-2009 recession, we expect that our profit levels will be higher. As we don't intend to undo our fixed cost reductions despite expected sales growth, Vishay is in a favorable position to reach new performance levels going forward.

Preparations for the spin-off of VPG are proceeding smoothly. Vishay Intertechnology has a broad line of discrete electronic components, while VPG is vertically integrated from sensors to weighing modules to instruments to control systems. The spin-off will make Vishay a pure play discrete electronic components company. It will show VPG's performance on a stand-alone basis, rather than being diluted into Vishay. Also, it will sharpen management focus for both companies. Furthermore, it will enable each company to more effectively execute strategies and allocate resources.

Our R&D activities are progressing as planned and will accelerate as the economy improves. With our strong balance sheet, good liquidity, and the improved economic environment, we are again actively pursuing acquisitions. We are targeting small to mid-sized companies. For our passive components business, we aim to strengthen and broaden our position as a specialty products supplier. For our discrete semiconductors business, the intent is to increase market share and exploit synergies.

In 2010, as in the past, we expect that Vishay will continue to be an excellent generator of "free cash," based on improved profitability in combination with only slightly higher working capital

requirements despite the anticipated sales growth. Inventories are expected to stay approximately flat. Our controlled capital expenditures for expansion are targeted mostly at new products for which demand is rapidly growing. We do not yet expect a need to expand capacity for commodity product lines. Our defined restructuring programs have been implemented. Therefore, restructuring costs going forward are projected to be low.

We are very confident that 2010 will be a good year for us. Vishay is structured for flexibility; in the case of a new economic slowdown we are fully prepared to reestablish all measures needed to adjust Vishay to new realities. Whether the economic upturn continues during 2010 or is followed by a new downturn, Vishay will continue to roll out a steady stream of new and improved products, generate a significant amount of free cash, and maintain its strong position in the global electronics industry.

Vishay thanks its employees, customers, vendors, strategic business partners, and stockholders for their support during 2009, and looks forward to continued support during 2010 and beyond.

Dr. Felix Zandman  
Executive Chairman of the Board

Dr. Gerald Paul  
Chief Executive Officer

# Semiconductors

Discrete semiconductors (including rectifiers, diodes, 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.

## 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 offers low- and high-voltage Siliconix TrenchFET® and planar MOSFETs in innovative package formats to switch and manage power very efficiently. Vishay is the number one manufacturer worldwide of low-voltage power MOSFETs.

## INTEGRATED CIRCUITS (ICs)

Integrated circuits combine the functions of multiple semiconductors and passive components on a single chip. IC products from Vishay 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.

## 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 rectifiers, including patented TMBS® devices, reduce power losses and improve efficiency in computing, telecommunications, and other applications. Vishay is the number one manufacturer worldwide of power rectifiers.

## MODULES

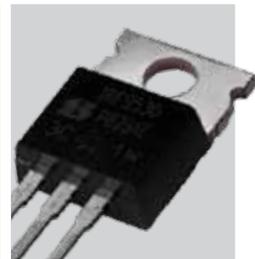
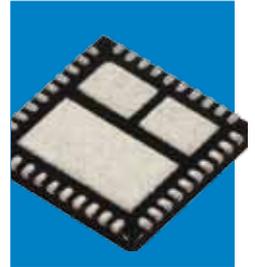
Modules combine several components into a single package. Examples include Vishay’s extensive family of Gen VII power modules, each of which integrates two semiconductors in a diode, thyristor/diode, thyristor/thyristor, or Schottky rectifier combination. They are used in power supplies, temperature and motor control circuits, battery chargers, and other high-voltage industrial applications.

## 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 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. Vishay is the number one manufacturer worldwide of diodes.

## INFRARED / OPTOELECTRONICS

Optoelectronic components emit light, detect light, or do both. Vishay’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 the number one manufacturer worldwide of infrared components.



# 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 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 the number one manufacturer worldwide of 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 innovations include IHLP<sup>®</sup> 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 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 the number one manufacturer

worldwide of 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 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 has market shares ranging from substantial to number one for many of its products. Vishay's technology innovations, acquisition strategy, focus on cost reductions, and ability to provide "one-stop shop" service to customers have made it a global industry leader.

# The Vishay Story

Dr. Zandman, with the financial support of 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.

## PASSIVE COMPONENT ACQUISITIONS

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.

## GROWTH IN SEMICONDUCTORS

In 1998, Vishay acquired the Semiconductor Business Group of TEMIC, which included Telefunken (Germany), producer of RF transistors, diodes, and optoelectronics, and 80.4% of Siliconix (U.S.), producer of MOSFETs 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's product lines enhanced Vishay's existing Telefunken business 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. It further enhanced Vishay's market position in discrete semiconductors.

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## SUCCESSFUL STRATEGY, FINANCIAL STRENGTH

Vishay's growth through innovations and acquisitions and its focus on cost reductions have enabled it to remain financially strong during periodic downturns in the highly cyclical electronics industry. Even in year 2009, most of which was impacted by a severe global economic recession, Vishay was able to generate a significant amount

## RECENT VISHAY AWARDS

- Preferred Supplier Award, Lutron Electronics
- Best Supplier of Passive Components Award, le Syndicat professionnel de la Distribution en Électronique Industrielle (SPDEI)
- *Electronic Products* magazine Product of the Year Award: VHP100 Bulk Metal® Foil resistor
- *EDN China* magazine Innovation Award, Power Device and Module category: TrenchFET® Gen III power MOSFETs
- *EDN China* magazine Innovation Award, Passive Component, Connector, and Sensor category: WSLT2010...18 Power Metal Strip® resistor
- *Electronic Products China* magazine Product of the Year Award: SiR440DP n-channel TrenchFET® power MOSFET
- *EN-Genius* Award for Best Improvement in Power Devices: TrenchFET® Gen III power MOSFETs with TurboFET™ technology

## INDUSTRY RANKINGS

### Semiconductors

- Number 1 worldwide in discrete power semiconductors
- Number 1 worldwide in diodes
- Number 1 worldwide in power rectifiers
- Number 1 worldwide in low-voltage power MOSFETs
- Number 1 worldwide in infrared components

### Passive Components

- Number 1 worldwide in wirewound and other power resistors
- Number 1 worldwide in leaded film resistors
- Number 1 worldwide in thin film SMD resistors
- Number 1 worldwide in wet and conformal-coated tantalum capacitors
- Number 1 worldwide in capacitors for power electronics

of “free cash” (the amount of cash generated from operations in excess of capital expenditures and net of proceeds from the sale of assets). In fact, its generation of \$246 million in “free cash” was one of the best results in the Company’s history.

Vishay’s historically strong cash generation has provided money to acquire other companies and businesses. In the process, Vishay has become a truly international Company — a leader in the global electronics industry that sells into all geographic markets and all relevant market segments. Vishay is committed to remaining cash positive regardless of the level of sales.

### MEETING CUSTOMER NEEDS

Vishay’s customer mix includes original equipment manufacturers (OEMs) of end products, original design manufacturers (ODMs) and 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. Customers can send their bills of materials to Vishay and ask that

Vishay cross-reference Vishay products in all categories.

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.”

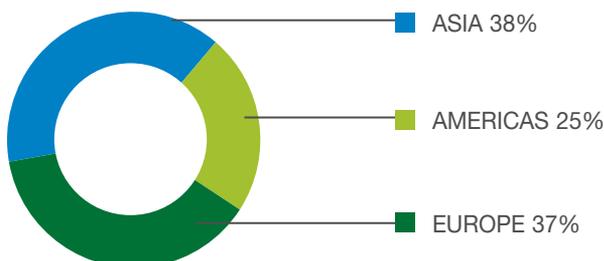
### COMMITMENT TO INNOVATION

Vishay, a leader in technology for almost 50 years, is 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 advanced engine controls. Vishay is well positioned for growth in emerging markets such as hybrid vehicles and solar and wind energy. It offers a broad array of components, both custom and off-the-shelf, for key hybrid applications such as advanced motor control and battery management and for solar and wind energy applications.

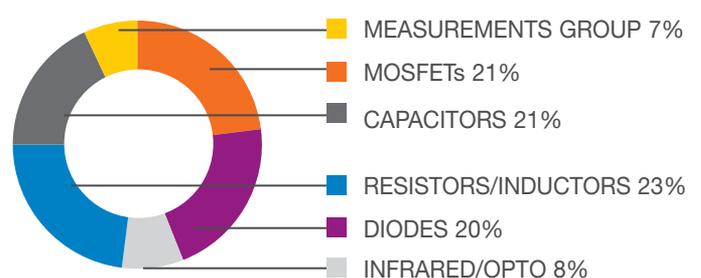
While many Vishay products are commodity products, others are high-margin specialty products based on proprietary technology. Vishay’s mix of commodity and specialty products moderates the price erosion that is a fact of life in the electronics industry.



Revenue by Region, 2009



Revenue by Product Group, 2009



# Diverse Components for Diverse Markets

Vishay components are used by virtually all major American, Asian and European manufacturers of electronic products.

## INDUSTRIAL

From oil and gas exploration equipment to wind power turbines and solar power systems. From electric power generation plants and high-voltage transmission lines to LED lighting and lighting ballasts for compact fluorescent lamps. From heavy-duty factory equipment to portable power tools. From household appliances such as refrigerators, microwaves, washers, and dryers to commercial heating and air conditioning systems. These and other industrial products and systems depend on types of electronic components manufactured by Vishay to help manage and convert power, control motors, process data, sense temperature, and perform other vital functions. Vishay is a leading producer of components for myriad industrial applications, including those that involve wide voltage and current ranges, extreme temperatures, and other environmental stresses.



## COMPUTING

Computers contain microprocessors — the complex integrated circuits that perform calculations and coordinate activities. Supporting the work of microprocessors are discrete semiconductors and passive components. Computers, from network servers to tablet PCs and notebooks, need to have systems in place to handle the current levels and heat associated with rapid microprocessing speeds, manage power, filter out unwanted electrical signals, and perform other vital functions. Vishay components dissipate heat, suppress radio frequency interference (RFI), protect against

electrical shock, support disk drive motor controls and graphics cards, 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 printers, scanners, photocopiers, and other computing and digital imaging hardware.

## AUTOMOTIVE

Automobiles employ electronic control units (ECUs) for a growing array of functions including engine control, steering, braking, traction control, emission control, airbag deployment, security, climate control, lighting, and onboard information and entertainment. Vishay components are essential parts of ECUs. Very hot under-the-hood temperatures, cold weather, and vibration are just some of the stresses placed upon automotive components. Reliability is critical. Vishay manufactures a variety of components that meet the high quality and reliability standards set by the automotive industry. For hybrid vehicles, Vishay offers a number of key components — both custom and off-the-shelf — for applications such as advanced motor control and battery management.



## CONSUMER

The consumer market includes handheld audio and video players, digital cameras, e-book readers, electronic toys, video game consoles, televisions, high-end home entertainment centers, and more. Each new generation of these devices and systems requires more and more sophisticated electronic circuitry. And this circuitry requires types of components manufactured by Vishay. Discrete electronic components are used to extend battery life and perform other functions in portable and battery-powered consumer products. They support key functions in high-definition (HD) televisions, flat-panel video displays, wireless remote control technologies, and cable, fiber optic, and satellite communications.

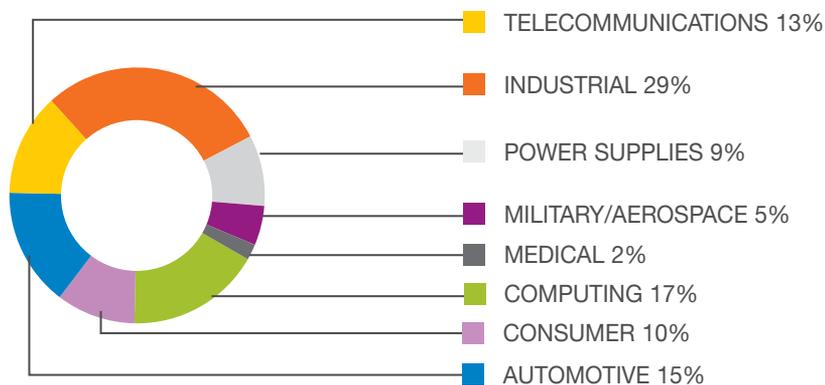
## TELECOMMUNICATIONS

Telecommunications, which includes transmission of data, voice, and visual information via wire, cable, optical fiber, electromagnetic fields, and radio frequencies, can be simple point-to-point communication or can require complex exchange networks. It involves myriad electronic devices and systems including transmitters, receivers, access infrastructure, routers, switches, fixed line phones, set-top boxes, and mobile devices. Vishay manufactures a very broad range of components for mobile and wireless access devices including solid tantalum capacitors; chip fuses; current sense resistors; analog switches; MicroFOOT<sup>®</sup> and PowerPAIR<sup>®</sup> MOSFETs; protected load switches; LDOs; MicroSMP<sup>™</sup> rectifiers; ESD protection products; optical products for ambient light sensing, proximity detection, and IrDA<sup>®</sup> 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.

## MILITARY AND AEROSPACE

Vishay manufactures one of the industry's broadest lines of military-qualified resistors and capacitors, and offers components — including some semiconductors — with lead content as required by military and aerospace customers. The Company also produces customized components for military and aerospace customers. Vishay components are used in cockpit

## Revenue By End Market, 2009



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. They are designed to withstand extreme temperatures, intense vibration, high humidity, and other environmental stresses. Vishay's focus on innovation and commitment to product quality have enabled it to build strong relationships with leading military and aerospace customers.

### POWER SUPPLIES

Power supplies, which include adapters, converters, and uninterruptible power supplies (UPS), handle the 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, energy-saving, and safety regulations. Their capabilities range from very low (milliwatts) to very high (kilowatts), depending on the devices and functions for which they are used. Vishay manufactures most of the electronic components needed to design just about any type of power supply. These include TMBS<sup>®</sup> diodes (market-leading devices in terms of design flexibility, efficiency, and cost), along with Super Junction FET<sup>™</sup> MOSFETs, Hyperfast rectifiers, and tandem diodes for power factor correction (PFC); film capacitors for electromagnetic interference (EMI) suppression; transient voltage suppressors (TVS) for inrush protection; TrenchFET<sup>®</sup> MOSFETs; power rectifiers; high-power inductors; current sense resistors; and couplers.

### MEDICAL

Implantable devices, instrumentation, and communications systems are part of the growing medical electronics market. Medical implantable devices include glucose monitors for diabetics, nerve stimulators to control symptoms of Parkinson's disease, and pacemakers, defibrillators, and stents to prevent and treat heart problems. Medical instrumentation ranges from small blood pressure cuffs to large imaging, radiation, and ventilator equipment. Medical communications systems store and retrieve data and link medical staff 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. It provides close engineering support to medical customers. Each advance in medical technology provides new market opportunities for Vishay.

### Vishay's Blue-Chip Customers and Distributors

Apple	Huawei
Acer	Jabil
Arrow	LG Electronics
Asus	Motorola
Avnet	Nokia
Bosch	Nintendo
Celestica	Philips
Cisco	Quanta
Compal	Rutronik
Continental	Samsung
Dell	Sanmina-SCI
Delphi	Siemens
Delta	Sony
Emerson	TTI
Ericsson	Tomen
Flextronics	Weikeng
Foxconn	Wistron
Future	WPI
Hewlett-Packard	...and others



# Product List

## SEMICONDUCTORS

### Rectifiers

Schottky (single, dual)  
Standard, Fast, and Ultra-Fast Recovery  
(single, dual)  
Bridge  
Superectifier®  
Sinterglass Avalanche Diodes

### High-Power Diodes and Thyristors

High-Power Fast-Recovery Diodes  
Phase-Control Thyristors  
Fast Thyristors

### Small-Signal Diodes

Schottky and Switching (single, dual)  
Tuner/Capacitance (single, dual)  
Bandswitching  
PIN

### Zener and Suppressor Diodes

Zener (single, dual)  
TVS (TRANSZORB®, Automotive, ESD,  
Arrays)

### FETs

Low-Voltage TrenchFET® Power MOSFETs  
High-Voltage TrenchFET® Power MOSFETs  
High-Voltage Planar MOSFETs  
JFETs

### Optoelectronics

IR Emitters and Detectors, and IR Receiver  
Modules  
Optocouplers and Solid-State Relays  
Optical Sensors  
LEDs and 7-Segment Displays  
Infrared Data Transceiver Modules  
Custom Products

### ICs

Power ICs  
Analog Switches

### Modules

Power Modules (contain power diodes,  
thyristors, MOSFETs, IGBTs)

## PASSIVE COMPONENTS

### Resistive Products

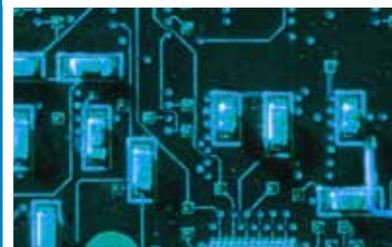
Film Resistors  
Metal Film Resistors  
Thin Film Resistors  
Thick Film Resistors  
Metal Oxide Film Resistors  
Carbon Film Resistors  
Wirewound Resistors  
Power Metal Strip® Resistors  
Chip Fuses  
Variable Resistors  
Cermet Variable Resistors  
Wirewound Variable Resistors  
Conductive Plastic Variable Resistors  
Networks/Arrays  
Non-Linear Resistors  
NTC Thermistors  
PTC Thermistors  
Varistors

### Magnetics

Inductors  
Transformers

### Capacitors

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.

### Zvi Grinfas

Investor, previously 24 years in various executive positions from Vice President of Engineering to CEO and Chairman of the board of IMP, Inc., a semiconductor company

### 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

### 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

Executive Vice President  
Vishay Intertechnology, Inc.  
President  
Chief Executive Officer designee  
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 Yahalomi

Executive Vice President  
Chief Financial Officer

### Ziv Shoshani

Executive Vice President  
Vishay Intertechnology, Inc.  
President  
Chief Executive Officer designee  
Vishay Precision Group, Inc.

### Lori Lipcman

Executive Vice President Finance  
Chief Accounting Officer

### Peter Henrici

Senior Vice President  
Treasurer  
Corporate Secretary  
Investor Relations

### David L. Tomlinson

Senior Vice President  
Corporate Controller

## 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 16, 2010 at 10:30 a.m.  
The Rittenhouse Hotel  
Grand Salon, 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.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.



Vishay Intertechnology, Inc.



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