



VISHAY INTERTECHNOLOGY, INC.

**COMPUTING, DIGITAL IMAGING, AND
OFFICE AUTOMATION**

Application Solutions

Datasheet Global



COMPUTERS AND PERIPHERALS

MARKET SOLUTIONS

SEMICONDUCTORS

RECTIFIERS

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

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)

MOSFETs

Power MOSFETs
 JFETs

RF TRANSISTORS

Bipolar Transistors (AF and RF)
 Dual Gate MOSFETs
 MOSMICs®

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
 DC/DC Converters
 RF Transceivers

PASSIVE COMPONENTS

RESISTIVE PRODUCTS

Foil Resistors
 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
 Silicon Capacitors

STRAIN GAGES AND STRAIN GAGE INSTRUMENTS

PHOTOSTRESS® INSTRUMENTS

TRANSDUCERS

Load Cells
 Force Transducers
 Instruments
 Weighing Systems

Computing, Digital Imaging, and Office Automation Application Solutions

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Contents

Computing, Digital Imaging, and Office Automation Application Solutions



Introduction	2-4
PCMCIA Cards	5
Keyboards	6
Motherboards	7
Bar Codes	8
Mouse / Joysticks	9
Monitors	10
LCD Monitors	11
Disc Drives	12
Printers	13
Communication Cards	14
Copy Machines	15
Facsimile	16
Photo Processors	17
Graphics Cards	18
Power Supply	19
Power Adapter	20
Li-Ion Battery Pack	21





Introduction

About Vishay Intertechnology



Vishay was founded in 1962 to manufacture and market foil resistors, an invention of physicist Dr. Felix Zandman, Chairman of the Board and founder. The Company began operations with foil resistors and strain gages as its initial product offerings. In 1985, having grown from a start-up into the world's leading manufacturer of these original products, Vishay began an ongoing series of strategic acquisitions to broaden its product portfolio.

Broad-Line Manufacturer, Global Presence

Today, Vishay is a broad-line manufacturer with a global presence. It is one of the world's largest manufacturers of discrete semiconductors and passive electronic components. Vishay's acquisitions include the infrared component business of Infineon and such top names as Siliconix, Dale, Draloric, Sprague, Vitramon, and BCcomponents (the former passive components business of Philips Electronics and Beyschlag).

Innovations in Technology

Over the years, Vishay's R&D efforts have led to a steady stream of technological breakthroughs and innovative products. These include packageless power MOSFETs, the industry's first silicon-based RF capacitors, dc-to-dc converter modules with all the active and passive components required for a complete power conversion solution, high-current IHLP inductors, Power Metal Strip[®] resistors, and many more.

Leading Industry Rankings

Vishay's global footprint includes manufacturing facilities in China and other Asian countries, Israel, Europe, and the Americas, as well as sales offices around the world. Vishay has market shares ranging from substantial to number-one for each of its products.

Discrete Semiconductors

- Number 1 worldwide in low-voltage power MOSFETs
- Number 1 worldwide in rectifiers
- Number 1 worldwide in glass diodes
- Number 1 worldwide in infrared components
- ...and others

Passive Components

- Number 1 worldwide in wirewound and other power resistors
- Number 1 worldwide in foil, MELF, thin film, and current sense resistors
- Number 1 worldwide in wet tantalum capacitors
- Number 1 worldwide in strain gage sensors and load cells
- ...and others

“One-Stop Shop” Service

With Vishay's “one-stop shop” service, customers can send their bills of materials (BOMs) to Vishay and ask the Company to cross-reference Vishay products in all categories. This enables customers to order multiple components from one source—Vishay. In addition, Vishay's product sample service for design engineers provides free product samples worldwide. Quick turnaround time and a complete range of Vishay samples enable customers to rely on Vishay for discrete electronic component solutions. For more information about Vishay samples, please visit us on the Web at www.vishay.com or contact a local Vishay sales representative or office.



Components for Computers and Peripherals

In recent years, personal computers have evolved into a basic household and business utility. In a growing number of markets it is not uncommon for each and every member of a household, and every professional employee of a company, to be armed with one or two personal computers. Connectivity with communications devices has made desktop and notebook PCs a baseline point of data storage for all aspects of life from personal finance to personal entertainment. Even for individuals who don't own a computer, access to a PC is now available through internet cafes in nearly every corner of the world.

As a supplier that has grown alongside the computing industry for more than 40 years, Vishay has an exceptional grasp of the demands of this business and a global orientation that reflects its multinational organization. Creativity in the computer industry and its implementation in new products takes place at multiple points and levels. Vishay is adept at working with all of these, including OEMs, ODMs, and suppliers of motherboards, graphics cards, hard disk drives, modems, PC cards, printers, and a host of other peripherals.

As the computer industry has evolved, so has the way in which servers, PCs, and notebook computers are used. On top of all their traditional functions, computers have become hubs of communication and digital entertainment. The ever-increasing need to quickly transmit, download, and process graphic, video, and audio files is constantly putting new demands on microprocessors and on all the components that support and power them, including the passive and semiconductor devices manufactured by Vishay.

The faster processor speeds necessitated by these applications result in higher current levels and more heat, both of which need to be managed in form factors where space is at a premium. With each new generation of microprocessors bringing new requirements for power management, Vishay has remained ahead of the curve with a range of products designed specifically for this application, including Power Metal Strip[®] resistors, TrenchFET[®] power MOSFETs and power ICs, Trench MOS Barrier Schottky (TMBS[™]) rectifiers, and low-profile inductors designed to handle higher currents more efficiently.

Advancements in both silicon and packaging technology keep Vishay power semiconductor products at the forefront of solutions designed to cope with higher levels of current and heat in smaller spaces. For example, with WFET[®] power MOSFETs, Vishay uses a thicker gate oxide at the bottom of the silicon trench to bring about a dramatic improvement in switching performance at high frequencies, enabling the design of more efficient power conversion circuits. Thermally enhanced packages such as PowerPAK[®] and PolarPAK[®] add to these silicon capabilities by dissipating heat more efficiently in a given footprint area.

For applications such as power adapters for desktop and notebook PCs, Vishay's Trench MOS Barrier Schottky rectifiers are a superior alternative to planar Schottky devices, matching the efficiency and thermal performance of synchronous rectification solutions and decreasing the number of parts required to accomplish the same functions. Advanced package options for Schottky, standard, and ultrafast rectifiers such as the SMP set a new standard for rectifier current density while delivering industry-record levels of thermal resistance.

Vishay components can be found in nearly every PC subsystem from the monitor to the mouse, including optocouplers that protect against electrical shock in power adapters and optical sensors that enable trackball controls. Many Vishay products have multiple applications in PCs and notebooks. For example, our current sense resistors are used in applications as diverse as disk drive motor control, graphics cards, and PCMCIA cards. Vishay's industry-leading LED products give designers a broad range of color and brightness options for indicators and include white LED devices for display backlighting.

Vishay provides a number of components optimized for mobile computing systems, the most dynamic and fastest growing segment of the computer market. Our IHLP line of inductors provides current ratings up to 60 A, footprint areas as small as 6.5 mm², and height profiles as low as 1.8 mm. The low on-resistance of Vishay's power MOSFET products promotes battery efficiency while reducing the need for heat sinks, while highly accurate Power Metal Strip current sensing resistors help monitor battery life and power usage.



Components for Computers and Peripherals

Vishay responds to the need to conserve space with products such as surface-mount, low-ESR tantalum and low-inductance multilayer ceramic capacitors, high-frequency monolithic inductors, and disk drive motor control ICs that handle both head positioning and voice coil motors with a single package. Vishay chip resistor arrays combine the functions of many individual resistor chips into a single network to simplify board layout and reduce placement costs in both computer and peripheral applications. Pull up/pull down logic circuits, memory modules, and bus line terminations are common applications for chip array components. High levels of integration are also delivered by Vishay power ICs that combine such functions as power conversion or disk drive motion control on a single chip. FunctionPAK[®] products take integration even further by delivering a complete dc-to-dc converter or current control module in a single BGA package.

As circuit boards become more tightly packed and shrinking form factors bring components closer to the outside world, controlling EMI and RFI becomes increasingly important. For RFI suppression in switching power supplies, Vishay offers X and Y capacitors built on film and ceramic technologies for both computers and peripherals. Our line of custom magnetic products includes both surface-mount and through-hole common mode chokes to meet filtering needs. A complete line of RFI and safety capacitors can be configured to meet the needs of any testing agency worldwide.

Advances in portability increases the need for interconnections, and this is where Vishay provides the latest infrared data technology to eliminate traditional cable connectors. Vishay's IrDA-compliant transceivers set the pace for IR connectivity applications with data transmission rates up to 4 megabits per second, operating voltages as low as 2.4 V, and height profiles as low as 1.6 mm above the printed circuit board, providing users with a fast, efficient, and reliable alternative to cables between portable computers and cell phones, digital cameras, and many other categories of IR-enabled systems.

In an industry driven by rapid change and extreme competitiveness, Vishay offers a unique blend of passive and discrete electronic component solutions designed and developed for the industry. This means that engineers and purchasing can go to one source for the design, procurement, and supply of the ideal components for their applications.

PCMCIA Cards



Application	Series/Part Number	
PCMCIA Cards	Diodes	
	Small Signal Switching and Schottky	BAV, BAW56, BAL99, BAS, MCL, BAT54, BAS40, BAS70
	Zener	BZX84, AZ23, DZ23, BZM55
	Rectifiers	
	Schottky	SS1P2L, SS1P3L, SS2P3L
	TVS	TPSMP
	Transistors	
	Power MOSFETs and Small-Signal MOSFETs	Si1xxx, Si2xxx, Si3xxx, Si4xxx, Si5xxx
	Optoelectronics	
	Photo Detectors and IR Emitters	BPV22NF, BPV23NF
	Optocouplers	IL388-DAA
	Analog Switches / Multiplexers	
		DG94xx, DG23xx, DG25xx, DG35xx
	Resistors	
	Thin Film	TNPW, MC, TNPW, V, Networks, VTSR
	Wirewound	WSL, WSE, WSLE
	Film	D/CRCW, CRA, LCA
	Capacitors	
	Film	MKT1817, MKT1824, MKT1826
	Tantalum	293D, 591D, 592D, 593D, 595D, 255D, 552D
	MLCC	VTOP, VJ06C4, VJ0201
	Polymer	255D, 552D
	Magnetics / Inductors	
	Wirewound	IMC, ICM
	Multilayer	ILB, ILBB, ILSB, ILC
	Transformers	LPE
	Film/Other	IMC-0402/0603, IFC, IFCB



Keyboards



Application	Series/Part Number	
Keyboards	Diodes	
	Small Signal Switching and Schottky	BAV, LL, LS, MCL
	Optoelectronics	
	LEDs / LED Displays	TLHG4900, TLMx3100
	Photo Detectors and IR Emitters	BPV22NF, BPV23NF, TEMD5100, TSHF5xxx, TSFF5xxx
	Photo Modules	TSOP11xx
	Analog Switches / Multiplexers	
		DG23xx
	Resistors	
	Thin Film	TNPW, MC, V, Networks
	Wirewound	WSL, WSE, WSLE
	Film	D/CRCW, CR, CRA, CMF
	Capacitors	
	Tantalum	173D, 199D, 293D, 592D
	Aluminium	518D
	Ceramic	VJ06C4
	MLCC	VJ9926, VJ0402
	Magnetics / Inductors	
	Wirewound	IHLP, IHSM, LPT, IDC, IDCS, IDCP, IMC
	Multilayer	ILB, ILBB, ILSB
	Transformers	LPE, LPT, Custom

Motherboards



Application	Series/Part Number	
Motherboards	Diodes	
	Small Signal Switching and Schottky	BAV, BAW56, BAL99, BAS, MCL, LL, LS, BAT54
	Zener	BZX84, AZ23, DZ23, BZM55
	Rectifiers	
	Schottky	SS14, SSA34, SS1P3L, SS1P4L, SS2P3, SS2P4
	Transistors	
	Power MOSFETs and Small-Signal MOSFETs	Si2xxx, Si3xxx, Si4xxx, Si5xxx, SUD50, Si7xxx
	Optoelectronics	
	Photo Detectors and IR Emitters	TEMT4700
	Optocouplers	TCET1100, 4N35
	IrDA Transceivers	TFDU6102E
	Analog Switches / Multiplexers	
		DG94xx, DG25xx, DG23xx
	Resistors	
	Thin Film	TNPW, MC, V, Networks, VTSR, VSSR, VSOR
	Wirewound	WSL, WSR, WSE, WSLE, WSH, WSC
	Film	D/CRCW, CRA, CMF, CRCA, SOMC, CR
	Thermistors	NTHS, 2381 615 Series
	Capacitors	
	Film	630P, 730P, 735P, MKP1830, MKP1840, MKT1817, MKT1826
	Tantalum	199D, 293D, 592D, 593D, 594D, 595D
	Aluminium	30D, 515D, 516D, 517D, 518D, TE, TSD
	Ceramic	NPO, X7R, Y5V, VJ06C4
	MLCC	VJ0603, VJ0805, VJ1206, VJ1210
	Polymer	255D, 552D
	Magnetics / Inductors	
	Wirewound	IHLP, IHSM, LPT, IDC, IDCS, IDCP, IMC
	Multilayer	ILB, ILBB, ILSB
	Transformers	LPE, LPT, Custom



Bar Codes



Application	Series/Part Number	
Bar Codes	Diodes	
	Small Signal Switching and Schottky	BAV, BAW56, BAL99, BAS, MCL, LL, LS, BAT54
	Zener	BZX84, AZ23, DZ23, BZM55
	Rectifiers	
	Schottky	SS1P2L, SS1P3L, SS2P3L
	TVS	TPSMP
	Optoelectronics	
	Photo Detectors and IR Emitters	TSHF5200, TSSF4500
	IrDA Transceivers	TFDU4100, TFDU6102E
	Resistors	
	Thin Film	TNPW, MC, V, Networks
	Wirewound	WSL, WSR, WSE, WSLE, WSH, WSC
	Film	D/CRCW, CR, CRA, CMF, SOMC
	Capacitors	
	Film	192P, 225P, 430P, 632P, MKP1841, 730P, MKT1817, MKT1824
	Tantalum	293D, 592D, 595D
	Ceramic	NPO, X7R
	MLCC	VJ0402, VJ0603
	Magnetics / Inductors	
	Wirewound	IHLP, IHSM, LPT, IDC, IDCS, IDCP, IMC
	Multilayer	ILB, ILBB, ILSB

Mouse / Joysticks



Application	Series/Part Number	
Mouse/ Joysticks	Diodes	
	Small Signal Switching and Schottky	BAV, BAW56, BAL99, BAS, MCL, LL, LS, BAT54
	Transistors	
	Power MOSFETs and Small-Signal MOSFETs	Si1xxx, Si2xxx, Si3xxx, Si4xxx
	Optoelectronics	
	Photo Detectors and IR Emitters	TCZT8012-PAER, TCUT1200, TSMF1000, TSMF2000, TSMF3700
	Photo Modules	TSOP11xx
	Resistors	
	Thin Film	TNPW, MC, V, Networks
	Wirewound	WSL, WSE, WSLE
	Film	D/CRCW, CR, CRA, CMF
	Capacitors	
	Tantalum	293D, 592D



Monitors



Application	Series/Part Number	
Monitors	Diodes	
	Small Signal Switching and Schottky	BAS, BAV, BAW, BAL99, BAY80, 1N41xx, LL, LS, MCL
	Zener	1N4678-4717, 1N5221-5267B, TZX, TZM, TZM5221-5267B, BZT55, TZQ52xx, BZM55
	Rectifiers	
	Standard	1N4007, 1N5399GP, 1N5626GP
	Fast and Ultrafast	UG06D, UG1D, UG2D, 31GF6, MUR460, UG8DT, RGP10, RGP02-16E, UF4004, UF4007
	Schottky	SB040, SB140, SB340
	Bridge	G2SBA60, G2SB60, GBL06, GBU4J, GBU6J
	TVS	P6KE200A
	Transistors	
	Power MOSFETs and Small-Signal MOSFETs	Si786, Si9135, Si9136, Si9130
	Optoelectronics	
	LEDs / LED Displays	TLMx3100, TLPx5600
	Photo Detectors and IR Emitters	BPW46L
	Optocouplers	TCET110x, 4N3x, TCMT110x, SFH615A/617A-x
	Analog Switches / Multiplexers	
		DG23xx, DG3516, DG3537, DG2515/16
	Resistors	
	Thin Film	TNPW, MC, V, Networks
	Wirewound	WSL, WSR, WSC, LVR, CPR, RS, Z302, KKA, ZDA, G200, CW, WSE, WSLE, WSH
	Film	D/CRCW, CR, CRA, CMF, CPF, CRCC, SXA, CSC, SOMC, SMA, LCA, WK, WR, VR, LSR, PR, SFR, MBB
	Thermistors	NTHS
	Capacitors	
	Film	131P, 192P, 430P, 730P, N3P, F1772, MKP1841, 46, MKT1822, MKT1820, KP1836, F1778, F1710, F1773
	Tantalum	199D, 293D, 592D, 593D, 595D
	Aluminium	500D, 510D, 515D, 518D, TE, TVA
	Ceramic	30GAD, 20GASD, H, WYO
	MLCC	VJ0603, VJ0805, VJ1206, VJ1210
	Magnetics / Inductors	
	Wirewound	IHLP, IDC, IDCS, IDCP, IMC, IM
	Multilayer	ILB, ILBB, ILSB
	Transformers	LPE, LPT, Custom

LCD Monitors



Application	Series/Part Number	
LCD Monitors	Rectifiers	
	Fast and Ultrafast	UF4007, UG4D
	Schottky	SB340, SB360, MBR745, MBR20100CT, MBR40100CT, SS14, SSA24, SS2P3L, SS2P4
	Bridge	G2SB60, GBL06, GBU4J, GBU6J
	TVS	P6KE200A, TPSMP
	Transistors	
	Power MOSFETs and Small-Signal MOSFETs	Si3xxx, Si4xxx, Si9xxx
	Analog Switches / Multiplexers	
		DG23xx, DG3526, DG3537, DG2515/16
	Resistors	
	Thin Film	TNPW, MC
	Wirewound	WSL, WSE, WSLE, WSH, WSR, WSC
	Film	D/CRCW, CRA
	Capacitors	
	Tantalum	572D, 592D, 591D
	MLCC	VJ0603, VJ0805, VJ1206, VJ1210



Disc Drives



Application	Series/Part Number	
Disc Drives	Diodes	
	Small Signal Switching and Schottky	BAS, BAV, BAW, BAL99, BAY80, 1N41xx, LL, LS, MCL
	Zener	1N4728A-4761A, BZT03, BZW03, AZ23, DZ23, BZX55, BZX84, BZX85
	Rectifiers	
	Schottky	SS1P2L, SS1P3L, SS2P3L, SS2P4, SSA23L, SSA24, SSA33L, SSA34
	TVS	TPSMP, TPSMB, TPSMA
	Transistors	
	Power MOSFETs and Small-Signal MOSFETs	Si2xxx, Si3xxx, Si4xxx
	Optoelectronics	
	LEDs / LED Displays	TLMx3100
	Photo Detectors and IR Emitters	TCUT1200
	Photo Modules	TSOP18xx
	Analog Switches / Multiplexers	
		DG23xx, DG3516, DG3537, DG2515/16
	Resistors	
	Thin Film	TNPW, V, Networks
	Wirewound	WSL, WSR, WSC, WSE, WSLE, WSH
	Film	D/CRCW, CSC, CR, CRA
	Thermistors	NTHS, 2381 615 Series
	Capacitors	
	Film	MKP1817, MKT1820, MKT1822, MKT1826, MKT1840
	Tantalum	293D, 592D, 593D, 595D, 572D
	Ceramic	NPO, X7R, Y5V
	MLCC	VJ0402, VJ0603, VJ06C4
	Magnetics / Inductors	
	Wirewound	IHLP, IHSM, LPT, IDC, IDCS, IDCP, IMC
	Multilayer	ILB, ILBB, ILSB
	Transformers	LPE, LPT, Custom

Printers



Application	Series/Part Number	
Printers	Diodes	
	Small Signal Switching and Schottky	BAS, BAV, BAT, BAW, BAL99, BAY80, 1N41xx, LL, LS, MCL
	Zener	1N4728A-4761A, BZT03, BZW03, AZ23, DZ23, BZX55, BZX84, BZX85
	Rectifiers	
	Standard	1N4007
	Fast and Ultrafast	UG2D, UG4D, 31GF6
	Schottky	SS14, SSA34, SS2P4
	Bridge	G2SBA60, GBL06, GBU4J, GBU6J
	TVS	TPSMP, P6KE200A
	Transistors	
	Power MOSFETs and Small-Signal MOSFETs	Si2xxx, Si3xxx, Si4xxx
	Optoelectronics	
	LEDs / LED Displays	TLMx3100
	Photo Detectors and IR Emitters	BPV22NF, BPV23NF
	Optocouplers	LH1546, LH1556, LH1510, TCET110x, 4N3x, TCMT110x, SFH615A/617A-x
	IrDA Transceivers	TFDU4100, TFDU6102
	Analog Switches / Multiplexers	
		DG23xx, DG3516, DG3537, DG2515/16
	Resistors	
	Thin Film	TNPW, MC, V, Networks
	Wirewound	WSL, WSR, WSC, RS, Z300, WSE, WSLE, WSH
	Film	D/CRCW, CSC, CR, CRA
	Thermistors	NTHS
	Capacitors	
	Film	225P, 735P, 715P, 716P, MKP1837, 730P, MKP1840, MKT1817, F1772, F1778, F1710, F1773
	Tantalum	293D, 592D
	Ceramic	30LUS, 440L
	MLCC	VJ0603, VJ0805, VJ1206, VJ1210
	Magnetics / Inductors	
	Wirewound	IMC, ICM
	Multilayer	ILB, ILBB, ILSB
	Transformers	LPE, LPT, Custom
	Transducers	
Conductive Plastic	Custom design for motion transducers and angle sensors	



Communication Cards



Application	Series/Part Number	
Communication Cards	Diodes	
	Small Signal Switching and Schottky	BAS, BAV, BAT, BAW, BAL99, BAY80, 1N41xx, LL, LS, MCL
	Zener	1N4728A-4761A, BZT03, BZW03, AZ23, DZ23, BZX55, BZX84, BZX85
	Rectifiers	
	Schottky	SS1P2L, S1P3L, SS2P3L
	TVS	TPSMP
	Transistors	
	Power MOSFETs and Small-Signal MOSFETs	Si3xxx, Si4xxx, Si7xxx
	Optoelectronics	
	LEDs / LED Displays	TLMx3100
	Optocouplers	IL300-x, IL388, K814Px, SFH62x, TCxT1600, IL256AT
	Analog Switches / Multiplexers	
		DG94xx, DG2xxx, DG409, -41x, -44x, DG538, DG9xxx
	Resistors	
	Thin Film	TNPW, MC, V, Networks
	Wirewound	WSL, WSR, WSC, WSE, WSLE, WSH
	Film	D/CRCW, CRA, LCA, CR
	Capacitors	
	Film	MKP1840, MKT1817, MKT1826, MKT1837, F1772, F1710, F1778, F1773
	Tantalum	293D, 592D, 595D, 572D
	Ceramic	30TSD, 1C, X7R
	MLCC	VJ0603, VJ0805, VJ1206, VJ1210
	Magnetics / Inductors	
	Wirewound	IHLP, IHSM, LPT, IDC, IDCS, IDCP, IMC, ICM
	Multilayer	ILB, ILBB, ILSB
	Transformers	LPE, LPT, Custom

COMMUNICATION CARDS

Copy Machines



Application	Series/Part Number	
Copy Machines	Diodes	
	Small Signal Switching and Schottky	BAS, BAV, BAW, BAL99, BAY80, 1N41xx, LL, LS, MCL
	Zener	1N4728A-4761A, BZT03, BZW03, AZ23, DZ23, BZX55, BZX84, BZX85
	Rectifiers	
	Standard	1N4007GP
	Fast and Ultrafast	UG2D, UG4D, 31GF6, UG8DT, FES8GT
	Schottky	SS14, SSA34, SS2P4, SB540, MBR20100CT
	Bridge	G2SBA60, GBL06, GBU4J, GBU6J, GSIB660, GBU8J
	TVS	TPSMP, P6KE200A
	Transistors	
	Power MOSFETs and Small-Signal MOSFETs	Si3xxx, Si4xxx
	Optoelectronics	
	LEDs / LED Displays	TLMx3100
	Photo Detectors and IR Emitters	TCYS5201, TCYS6201, Custom
	Optocouplers	LH1546, LH1556, LH1510, V041xx, V042xx, V0306x
	IrDA Transceivers	TFDU4100, TFDU6102
	Analog Switches / Multiplexers	
		DG23xx, DG3516, DG3537, DG2515/16
	Resistors	
	Thin Film	TNPW, V, Networks
	Wirewound	CP, RH, RS, Z302, ZDA, KKA, WSL, WSR, WSC, WSE, WSLE, WSH, WSZ
	Film	D/CRCW, CR, CMF, RNX, TD/TR, FHV, ROX, PR, VR, MB
	Thermistors	NTHS, A, 1C, 1M
	Capacitors	
	Film	192P, F1772, MKP1840, MKP1841, F1778, F1710, F1740, F1773
	Tantalum	173D, 199D, 293D, 595D
	Ceramic	30GAT, 440L, 30LVG, WYO, NPO, X7R
	MLCC	VJ0603, VJ0805, VJ1206, VJ1210
	Magnetics / Inductors	
	Wirewound	IHLP, IHSM, LPT, IDC, IDCS, IDCP, IMC, ICM
	Multilayer	ILB, ILBB, ILSB
	Transformers	LPE, LPT, Custom
Transducers		
Conductive Plastic	Custom design for motion transducers and angle sensors	



Facsimile



Application	Series/Part Number	
Facsimile	Diodes	
	Small Signal Switching and Schottky	BAS, BAV, BAT, BAW, BAL99, BAY80, 1N41xx, LL, LS, MCL
	Zener	1N4728A-4761A, BZT03, BZW03, AZ23, DZ23, BZX55, BZX84, BZX85
	Rectifiers	
	Standard	1N4007GP
	Fast and Ultrafast	UG2D, UG4D, UF4007
	Schottky	SB160, SB260, SB360, SB560, MBR1545CT, MBR2045CT
	Bridge	2W10G, G2SBA60, G2SB60, GBL06, GBU4J
	TVS	P6KE200A
	Optoelectronics	
	LEDs / LED Displays	TLMx3100
	Photo Detectors and IR Emitters	TCRT5000, TCST1230, BPV22NF, BPV23NF
	Optocouplers	LH1546, LH1556, LH1510, K814Px, SFH62x, TCxT1600, IL256AT
	IrDA Transceivers	TFDU6102, TFDU4100
	Resistors	
	Thin Film	TNPW, MC, V, Networks
	Wirewound	WSL, CP, CW, Z300, WSR, WSE, WSLE, WSC, WSH
	Film	D/CRCW, CMF, CR, RNX, ROX, PR, SFR
	Thermistors	NTHS, 1C
	Capacitors	
	Film	192P, MKP1841, MKT1817, MKT1822, MKT1826, F1772, F1740, F1778, F1710, F1773
	Tantalum	173D, 199D, 293D, 595D
	Ceramic	30LV, NPO, X7R
	MLCC	VJ0603, VJ0805, VJ1206, VJ1210
	Magnetics / Inductors	
	Wirewound	IHLP, IHSM, LPT, IDC, IDCS, IDCP, IMC, ICM
	Multilayer	ILB, ILBB, ILSB
	Transformers	LPE, LPT, Custom

Photo Processors



Application	Series/Part Number	
Photo Processors	Diodes	
	Small Signal Switching and Schottky	BAS, BAV, BAT, BAW, BAL99, BAY80, LL, LS, MCL
	Zener	1N4728A-4761A, BZT03, BZW03, AZ23, DZ23, BZX55, BZX84, BZX85
	Rectifiers	
	Schottky	SS1P3L, SS2P2L
	TVS	TPSMP
	Optoelectronics	
	LEDs / LED Displays	TLMx3100
	Resistors	
	Thin Film	TNPW, MC, V, Networks
	Wirewound	CP, CPR, CPCP, KKE, SKF, WSE, WSLE, WSL, WSR, WSC, WSH
	Film	CPF, CMF, RNX, ROX
	Capacitors	
	Film	225P, 705P, MKP1840, MKP1841, MKP1837
	Ceramic	30LV
	Magnetics / Inductors	
	Wirewound	IHLP, IHSM, LPT, IDC, IDCS, IDCP, IMC
	Multilayer	ILB, ILBB, ILSB
	Transformers	LPE, LPT, Custom



Graphics Cards



Application	Series/Part Number	
Graphics Cards	Diodes	
	Small Signal Switching and Schottky	BAS, BAV, BAW, BAL99, BAY80, 1N41xx, LL, LS, MCL
	Zener	1N4728A-4761A, BZT03, BZW03, AZ23, DZ23, BZX55, BZX84, BZX85
	Rectifiers	
	Schottky	SS1P2L, SS1P3L, SS2P3L, SS2P4, SSA24, SSA34
	TVS	TPSMP
	Transistors	
	Power MOSFETs and Small-Signal MOSFETs	Si2xxx, Si3xxx, Si4xxx, Si5xxx, SUD50, Si7xxx
	Analog Switches / Multiplexers	
		DG23xx, DG3516, DG3537, DG2515/16
	Resistors	
	Thin Film	TNPW, MC
	Wirewound	WSL, WSR, WSE, WSLE, WSH, WSC
	Film	CRA, D/CRCW
	Capacitors	
	Ceramic	X7R
	MLCC	VJ0603, VJ0805, VJ1206, VJ1210, VJ06C4, VJ0201
	Magnetics / Inductors	
	Wirewound	IHLP
	Transformers	LPE, LPT, Custom

Power Supply



Application	Series/Part Number	
Power Supply	Diodes	
	Small Signal Switching and Schottky	1N4148, LL4148, MCL4148, 1N4148W-V, 1N4148WS-V, BAV70-V, BAV99-V, BAW56-V, BAS16-V, BAS19-V to BAS21-V, BAV19-21, BAV16-V, BAV19W-V to BAV21W-V, BAV19WS-V to BAV221WS-V, BAV100-103, BAV200-203, BAV300-303, BAQ33-35, BAQ133-135, BAQ333-335
	Zener	Series: BZX55, TZX, 1N46xx, TZM, TLZ, TZM52 V, BZT55, BZM55, BZT52-V, MMSZ52xx-V, BZX84-V, MMBZ52xx-V, MMBZ46-V
	Rectifiers	
	Standard	1N5406, GP10M, GP15M, GP30M
	Fast and Ultrafast	UGF10DCT, UGF18DCT, UF4007, EGP10D, EGP20D, EGP30D
	Schottky	MBR3045CT, MBR3045PT, MBR4045CT, MBR4045PT, MBR20H100CT, MBR30H100CT, MBR40H100CT, MBR20H150CT, MBR60100CT, VTS40100CT*, V50100P*, V40100P*, V30100S*, SB540/SB560, SB340/SB360, M2045S, M3045S
	Bridge	GBU6J, GBU8J, GBL06, GBU4J, GBU6J, GBU8J, GSIB1080/10, GSIB1580/10, GSIB2580/10
	TVS	P6KE200, P6KE150A, P6KE180A
	Optoelectronics	
	LEDs / LED Displays	TLMx3100, TLMx2300
	Optocouplers	SFH617, SFH615, TCET1100, SFH690, TCLT1000, TCMT
	Transistors	
	Power MOSFETs and Small-Signal MOSFETs	Si3xxx, Si4xxx, Si7xxx, SiC7xx, SiExxx, SUD, SUM, SUP, SUR
	Resistors	
	Wirewound	WSL, WSR, WSH, WSE, WSLE, WSC, WSZ, LVR, CW
	Film	CPF, PTF, CMF Fusible
	Thermistors	2381 671, 2381 675 Series, 2381 615 Series

* The VTS40100CT, V50100P, V40100P, and V30100S are the industry's first Trench MOS Barrier Schottky (TMBS™) rectifiers (common cathode type)



Power Adapter



Application	Series/Part Number	
Power Adapter	Diodes	
	Small Signal Switching and Schottky	1N4148, LL4148, MCL4148, 1N4148W-V, 1N4148WS-V, BAV70-V, BAV99-V, BAW56-V, BAS16-V, BAS19-V to BAS21-V, BAV19-21, BAV16-V, BAV19W-V to BAV21W-V, BAV19WS-V to BAV221WS-V, BAV100-103, BAV200-203, BAV300-303, BAQ33-35, BAQ133-135, BAQ333-335, SL04
	Zener	Series: BZX55, TZX, 1N46xx, TZM, TLZ, TZM52 V, BZT55, BZM55, BZT52-V, MMSZ52xx-V, BZX84-V, MMBZ52xx-V, MMBZ46-V, BZD27CxxP
	Suppressor	SMFxxA
	Rectifiers	
	Standard	1N5406
	Fast and Ultrafast	UF4007, FEP16JT, UG10DCT, UG18DCT, UG8JT, UGF8JT, UG12JT, UGF12JT
	Schottky	MBR20H100CT, MBR20H150CT, MBR30H100CT, MBR40H100CT, MBR3045CT, VTS40100CT*, V50100P*, V40100P*, V30100S*, VF30100S, VF40100C, VI40100C, MBR20H200CT
	Bridge	GBL06, GBU4J, GBU6J, GBU8J, 2KBP06M, 3KBP06M, G2SB60, G2SBA60
	TVS	P6KE200, P6KE150A, P6KE180A, TPSMP
	Optoelectronics	
	LEDs / LED Displays	TLMx1100, TLMx2100
	Optocouplers	SFH617, SFH615, TCET1100, SFH690, TCLT1000, TCMT
	Transistors	
	Power MOSFETs and Small-Signal MOSFETs	SUM, SUP, SUU
	Resistors	
	Wirewound	WSL, WSR, WSH, WSE, WSLE, WSC, WSZ, LVR, CW
	Film	CPF, PTF, CMF Fusible

* The VTS40100CT, V50100P, V40100P, and V30100S are the industry's first Trench MOS Barrier Schottky (TMBS™) rectifiers (common cathode type)

Li-Ion Battery Pack



Application	Series/Part Number	
Li-Ion Battery Pack	Resistors	
	Wirewound	WSL, WSR, WSH, WSE, WSLE



Notes

NOTES



SEMICONDUCTORS:

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