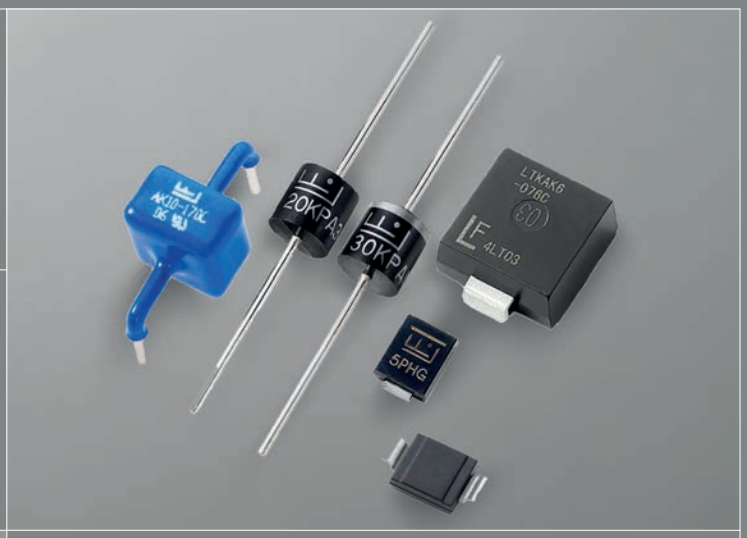
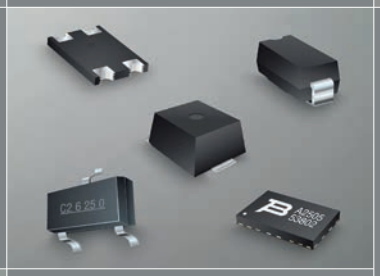
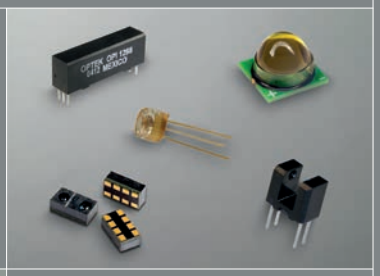
ttieurope.com

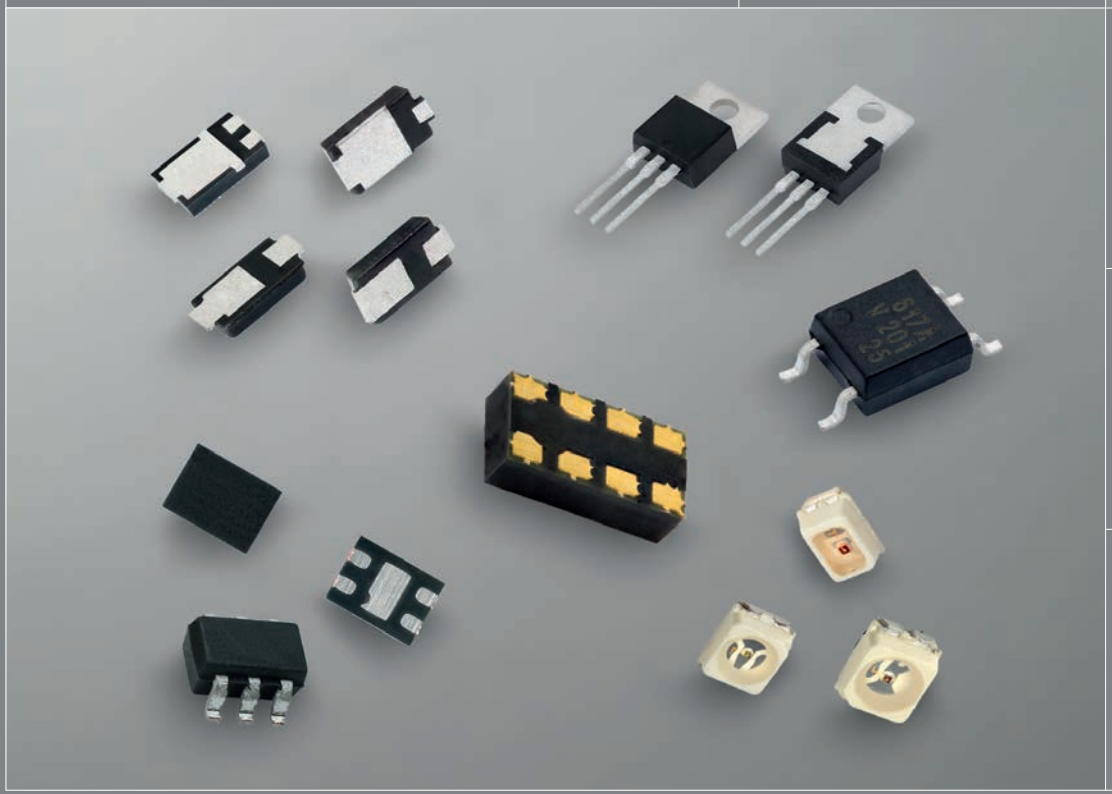






Discrete Semiconductor Product Guide





TTI, Inc., - A Berkshire Hathaway Company

ttieurope.com

The Specialist in Electronic Component Distribution

Why Choose TTI?

Why Buy from TTI?
Founded in 1971, TTI has steadily grown to become a world leading specialist distributor of electronic components. The company was founded on the premise that passive component purchasing could be made more efficient by offering product specialisation, customer-driven service and proprietary supply chain solutions.

Product Knowledgeable Experts
Our unique specialisation enables us to provide significantly better product knowledge to support manufacturing from design chain to supply chain. TTI's commitment to this specialty and our customers is as dedicated today as always.

Broader and Deeper Inventories
TTI maintains extensive inventories, stocking more than 2M part numbers globally – that's more connector, passive, electromechanical, discrete, sensor and power supply inventory available than from any other source.

Leading Edge Technology Products
TTI partners with manufacturers that lead the industry in new component technologies and can help solve any design challenge. We ensure the very latest and most technologically-advanced products are readily available from stock.

Supply Chain Excellence
From technical application advice to customised logistical solutions; TTI can add value throughout the supply chain by reducing acquisition costs, improving material flow through forecast analysis, provide safety stock and reduce receipt handling through consolidated shipments. We provide the BOM coverage necessary to deploy comprehensive supply chain solutions that reduce total cost of ownership and mitigate line down risk.

Global Distribution Centres
Our European headquarters is located just outside of Munich, Germany in Maisach-Gernlinden. In total, we have more than 35,000m² of dedicated warehouse space and local sales and technical support in over 40 locations across Europe.

TTI has more than 120,000m² of automated warehousing in North America, Europe and Asia. All are linked into a global warehouse management system that provides superior customer service and overall business efficiencies. Wherever you are in the world, TTI can support you.

Quality and Reliability
TTI is the first distributor to have all global warehouse locations ISO registered and certified to ISO 9001 and ISO 14001 Standards. TTI Europe is also certified to EN9120/EN9100, IECQ-CECC and ISO/IEC 27001 Standards. Additionally, all of our European sales branches are ISO 9001 certified. TTI has one global documentation system that ensures that every TTI branch and warehouse in the world follows the same processes.

Year after year, customers rate our inventory availability, on-time delivery and accuracy among the very best in the industry – contact us today to find out what a true specialist has to offer.





Global Distribution Centres with more than **120,000m²** of automated warehousing in North America, Europe and Asia.

ttieurope.com

Contents

Line Card 05

Bourns 07

Kingbright 08

Littelfuse 09

TT Electronics 11

Vishay 12

Discrete Semiconductor Product Guide

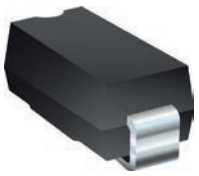
Diodes	AVX	Bourns	Littelfuse	Panasonic	Toshiba	TT Electronics	Vishay
Protection							
Arrays		■	■		■	■	■
ESD Protection		■	■		■		■
TVS	■	■	■			■	■
TVS Diodes Arrays		■	■				■
Zener				■	■	■	■
Standard							
Arrays		■	■		■	■	■
PIN Diodes							■
Schottky	■		■	■	■	■	■
Small Signal		■		■	■	■	■
Switching		■			■		■
Rectifiers							
Bridge		■					■
Standard		■		■	■	■	■
Fast						■	■
Ultrafast						■	■
Schottky	■	■	■	■	■		■
Silicon Carbide			■				
Modules							
Bridge							■
Diode							■
IGBT			■				■
Thyristor			■				■
MOSFET							■
Dice Solutions							
Rectifiers							■
High Voltage Diodes							■
Schottky Diodes			■				■
TVS Diodes			■				■
Thyristors							■

Transistors and Thyristors	Bourns	Littelfuse	Panasonic	Toshiba	TT Electronics	Vishay
Standard Transistors						
Bipolar			■	■	■	
Small Signal			■	■	■	
MOSFETs						
Low Voltage			■	■	■	■
Medium Voltage			■	■	■	■
High Voltage				■	■	■
Automotive Qualified			■	■	■	■
Mil Qualified					■	
FETs						
JFETs				■	■	
Power Transistors						
Silicon Carbide		■		■		
Thyristors						
Protection	■	■				■
Switching	■	■				■
Sidac	■	■				
SCR	■	■				
Triac		■				■
Modules						
IGBT		■				■
MOSFET		■				■
Thyristors		■				■

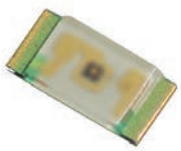
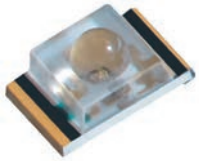
Discrete Semiconductor Product Guide

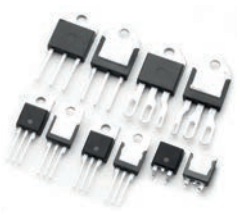
IC's	Bourns	Kingbright	Littelfuse	Toshiba	TT Electronics	Vishay
IC's						
LED Driver				■		■
Logic IC's				■		
Analog Switch						■
DC/DC Converter						■
Non-Isolated DC-DC Switching Regulators						■
Voltage Regulator						■
Power Stage Integrated Driver plus MOSFETs						■
Smart Load Switches						■
Slew Rate Control						■
Current Limit						■
True Bi-Directional						■
Evaluation and Demo Tools						
Buck Converter						■
Simulation Software						■
BOM Crossing						■
Samples ex stock TTI NPIs	■	■	■		■	■

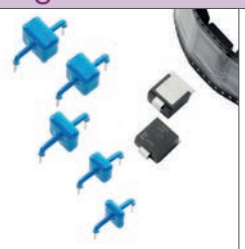
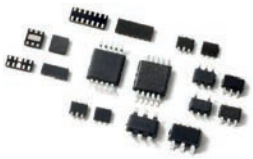
Opto Electronics	Kingbright	Panasonic	TT-Electronics	Toshiba	Vishay
Visible LEDs					
High Power LEDs	■				■
Standard LEDs – SMD	■	■			■
Standard LEDs – SideView SMD	■				■
Standard LEDs – Through Hole 1.8/3/5mm	■				■
LEDs – Bicolour	■				■
LEDs – RGB	■				■
LEDs – Ultra Violet	■				■
Infrared Emitter					
Infrared Emitters	■		■		■
Infrared Emitters – High Power			■		■
Optical Detectors and Sensors					
Ambient Light Sensors					■
Proximity Sensors					■
Ambient Light and Proximity Sensors			■		■
Photo IC					■
Photo Diodes	■		■		■
Photo Transistors	■		■		■
RGBW Sensors					■
UV-A+B Sensor					■
UV-C Sensor					■
Transmissive Sensor			■		■
Biometrical Sensor					■
Reflective Sensor					■
Fibre Optic			■		
Infrared/Human Presence Detection			■		■
Infrared Communication					
Infrared Receiver Modules					■
IRDC Components					■
Evaluation and Demo Tools					
LED Demo Boards	■				
Ambient Light Sensor Evaluation Board					■
Mid Range Ambient Light and Proximity Sensor Board			■		■
Short Range Ambient Light and Proximity Sensor Board					■
UV-A+B Sensor Evaluation Board					■
RGBW Sensor Evaluation Board					■
Dice Solutions					
IR Emitters					■
Photo Detectors					■
Optocoupler Solutions					
Opto Couplers/Isolators	■			■	■
Phototransistor Output				■	■
Photodarlington Output				■	■
Optocoupler with AC Input				■	■
Linear				■	■
Phototriac Output				■	■
High Speed				■	■
IGBT Driver				■	■
MOSFET Driver					
Isolated IPM Driver				■	■
Solid State Relays				■	■
Analog Switches					■
IC's					
LED Driver				■	■
Modules and Displays					
Display Modules					■
LCD Displays					■
LED Displays					■
OLED Displays					■
Plasma Displays					■
7-Segment Displays	■				■
LED Dot Matrix Displays	■				
LED Modules					■

Description & Product		Features & Benefits	Applications
Diodes for Protecting Automotive High-Speed CAN Transceivers			
	**Series** CDSOT23-T24CAN-Q	• Single device for two I/O lines • Low capacitance for high-speed CANbus • IEC 61000-4-2 30kV ESD • IEC 61000-4-5 (Level 1, CWG 1.2/50) 500V Surge	• High-speed CANbus • Automotive entertainment and comfort applications • Industrial control networks • Smart Distribution Systems (SDS) • DeviceNet™ • Factory and process automation systems
Bridge Rectifier			
	**Series** CD-MBL, CD-DF4 and CD-HD Power and Switch-Mode Power Supply Applications	• Low power loss, high current capability and high efficiency • 175°C high operating temperature • Wide VRRM range from 40V to 1000V • Low profile SMT package • RoHS compliant	• AC operated products • Computer monitors • Set-top boxes • Cable modems
Power TVS Products			
	**Series** PTVS-M High Current TVS Diode	• Low clamping voltage under surge • Bidirectional TVS • Surface mount package • Excellent overtemperature performance • RoHS compliant	• High power DC bus protection • Wireless base-stations protection • Battery switch protection • Protection of power supplies
TVS Diodes Commercial			
	**Series** SMAJ, SMBJ, SMCJ, SMLJ and 5.0SMDJ High Voltage TVS Diode	• Wide Working Voltage range from 5V to 495V • Wide Peak Pulse Power Dissipation range from 400W to 5000W • Ultra-fast response time (typically < 1.0ps) • Surface mount SMA, SMB and SMC package	• I/O interfaces protection • Telecom/computer protection • Industrial electronic • Consumer electronic and portable devices • LED overvoltage protection
TVS Diodes AEC-Q101 Compliant			
	**Series** SMAJ-Q, SMBJ-Q, SMCJ-Q, SMLJ-Q and 5.0SMDJ-Q TVS Diode	• Surface mount package • Standoff Voltage: 12V to 58V • AEC-Q101 compliant • Industry standard DO-214AC (SMA), DO-214AA (SMB) and DO-214AB (SMC) packages	• Automotive entertainment and comfort • Telecom, computer, industrial and consumer electronics • DC power bus protection • I/O interfaces protection • LED overvoltage protection
TBU® High-Speed Protectors			
	**Series** TBU-DF055-xxxWH, TBU-DF085-xxx-WH	• Superior circuit protection by blocking current and holding off high voltage • Precise operation with trigger current of 50/100/200/300/500mA • Extremely high-speed operation (usec) and wide bandwidth (GHz) • Compact SMT package	• BMS sense lines protection • RS-485 protection • CANbus protection • Protection against DC and AC miswiring

Kingbright Electronic Europe GmbH

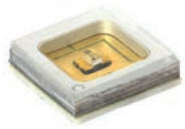
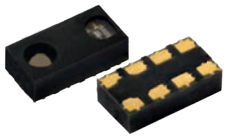
Description & Product		Features & Benefits	Applications
New Right Angle SMD-LED			
	**Series** KPDA-1806	• SMD 1.8 x 1.5 x 0.6mm, thickness 0.6mm • Ultra Flat Package • Narrow viewing angle -25° • Colours: red, orange, green, yellow, blue	• Backlighting • Status indicators • Home and smart appliances • Earable and portable devices • Healthcare applications
New Right Angle Dome Lens SMD-LED			
	**Series** KPPA-3010	• SMD 3.0 x 2.5 x 1.0mm thickness 1.0mm • DC Forward Current: 50mA • Low power consumption • Ideal for back light and indicator • Tinned pads for improved solderability	• Backlighting • Status indicators • Home and smart appliances • Wearable and portable devices • Healthcare applications
New Right Angle Dome Lens SMD-LED			
	**Series** KPDA-3020	• SMD 3.0 x 2.8 x 2.0mm, thickness 2.0mm • Low power consumption • Narrow viewing angle • Ideal for backlight and indicator • Moisture sensitivity level: 3	• Backlighting • Status indicators • Home and smart appliances • Wearable and portable devices
New SMD-LED in 0201 package			
	**Series** KPG-0603	• SMD 0.65 x 0.35 x 0.2mm, thickness 0.2mm • Wide viewing angle • Low power consumption • Footprint reduced by 50% • Smallest LED package	• Hearing aids • Medical devices • Mobile phones • Digital cameras and camcorders • Headphones and speakers
New super-flat SMD-LED in 0603 package			
	**Series** KPG1-1608	• SMD 1.6 x 0.8 x 0.2mm, thickness 0.2mm • Colours: red, orange, green, yellow and blue • Low power consumption • Viewing angle: 120°	• Membrane keyboards • Flat backlights for LCD's • Indication • Backlighting
New Dome Lens SMD-LED in 0805 package			
	**Series** KPTD-2012	• SMD 2.0 x 1.25 x 1.05mm, thickness 1.05mm • Low power consumption • Wide viewing angle • Colours red, orange, green, yellow, blue • Ideal for backlight and indicator	• Backlighting • Status indicators • Home and smart appliances • Wearable and portable devices • Healthcare applications

Description & Product		Features & Benefits	Applications
High Temperature Sensitive & Standard SCR			
	SJ high temperature SCR 600V, 4A~40A, 150°C	• High junction temperature (TJ) of 150°C • Wide package selection, offered in TO-252, TO-251, TO-263, TO-220AB and internally isolated TO-220 ISO packages • High surge capability of clip-attach package design	• Motorcycles • ATVs • Small gasoline engines • Gasoline/gas-electric generators • Furnaces • LED lighting
Thyristor Standard, Sensitive and Alternistor TRIACs			
	Useful in full-wave AC applications to control AC power	• Two inverse parallel SCRs • Two way AC switch • Phase control switching	• Variable level lighting control • On/Off solid state switch/relay • Speed control • Instant (tankless) water heater • Food mixer control • Traffic light control
SIDAC for Power Control			
	Ideal for dumping charged capacitors through an inductor in order to generate high-voltage pulse	• A bidirectional voltage triggered switch • Negative resistance range • Latching characteristics at turn-on • A low on-state voltage drop	• Light controls • High-pressure sodium lamp starters • Power oscillators • High-voltage power supplies.
Thyristor Quadrac			
	A bidirectional AC switch and gate controlled for either polarity of main terminal voltage	• Saves the user the expense and assembly time of buying a discrete DIAC and assembling in conjunction with a gated Triac.	• For AC switching and phase control applications such as speed controls, temperature modulation controls, and lighting controls where noise immunity is required.
DUR Group Ultrafast Rectifier			
	Minimise power loss and increase efficiency during converter operation	• Popular with designers because of their ultrafast switching speed with very low reverse recovery time (TRR), high blocking voltage (up to 1200V) and low leakage, and low forward voltage drop	• Applications requiring very-high-frequency switching and low reverse recovery time (TRR), such as DC-DC converters or switch-mode power supplies, IGBTs, UPSs, ultrasonic cleaners or welders.
DST Group Schottky Barrier Rectifier			
	Ultra-Low VF Schottky offers the robust performance in a small TO-277	• Ultra-low forward voltage drop • High-speed switching • High junction temperature capability	• Automotive • Infotainment • High-frequency switch-mode power supplies • DC-DC converters • LCD displays

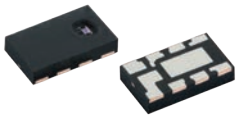
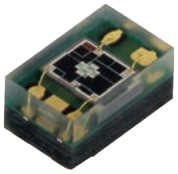
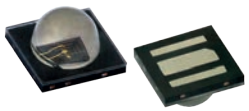
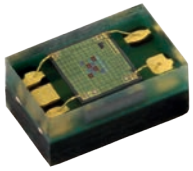
Description & Product		Features & Benefits	Applications
Commercial Grade TVS Diodes			
	Industry's Broadest TVS Diode Product Portfolio	• Offers discrete commercial TVS Diode devices ranging from 200W to 30kW • Unidirectional and Bidirectional polarities available in SMT and Axial lead packages • Fast response time (low clamping voltage), lower capacitance and low leakage current.	• TVS Diodes suppress overvoltage transients such as EFT, inductive load switching and lightning in a wide variety of applications • Designed to protect sensitive electronics from high-voltage transients
High Power TVS Diodes			
	Improve System Reliability and Lower Maintenance Costs	• Offers devices ranging from 5kW to to 30kW • Unidirectional and Bidirectional polarities available in SMT and Axial lead packages • Total power consumption saving and easy design by using AK/LTKAK series that eliminate inductor design • Truly surface mountable package option for LTKAK series	• Base stations • Avionics • Power grid and distribution systems • AC/ DC power line circuit protection • Industrial applications
HI-REL TVS Diodes			
	High Reliability TVS Diodes Upscreening and Sorting Solutions	• Customised to your unique performance needs • Military screening processes flow • Flexible selection on high reliability sortings flow and it can be customised by requests • Standard voltage range and power rating is offered energy absorption capability	• Ensures high-reliability performance to meet the requirements of aerospace, military, industrial and medical applications
Automotive grade TVS and Diode Arrays			
	AEC-Q101qualified components TVS and Diode Arrays components helps to protect the growing number of electronic applications in modern vehicles.	• AEC-Q101 qualified components TVS Diodes meets ISO7637-2 and ISO 16750-2 • Wide standoff voltage range fulfils all design requirements for automotive applications • Ensures maximum reliability in the harshest environments • Peak pulse power rating for AEC-Q101 qualified TVS Diodes is from 200W to 7000W and 2200W load dump	• Advanced driver assistance systems • Network systems and body • Communication and infotainment systems • Powertrain systems • Chassis and safety systems • New energy car
TVS Diodes Arrays (SPA® Diodes)			
	Offers an ideal protection solution in computer and consumer portable electronics	• Multiple configurations in single channel and multichannel arrays, spanning 01005 through MSOP-10 package • Signal Integrity-friendly solutions from 0.1pF -40pF • Offers at least +/-8kV ESD protection, and in some instances +/-30kV • Operating voltages through 36V, unidirectional and bidirectional	• An ideal protection solution for I/O interfaces and digital and analog signal lines • Offers high level protection against ESDs, EFT and lightning, mainly for sensitive digital and analog input circuits, on data, signal or control lines operating on power supplies
SIDACtor® Protection Thyristor for Crowbar Protection			
	A broad range of semiconductor protection thyristor provides crowbar protection	• Provides a crowbar protection to electronic equipment from transient threats. • Lower overshooting protection than clamping • Low insertion loss • Robust surge rating • Starts to switch in nanoseconds	• Specifically designed to serve stringent telecom/networking standards • Designed to serve requirements of datacom, networking equipment and even industrial applications

Description & Product		Features & Benefits	Applications
SMD Reflective Optical Sensor			
	**Series** OPB9000	• Market leading 25K+ lux ambient light immunity • Programmable output configuration and sensitivity level • Single-command calibration with on-chip EEPROM • Temperature-compensated LED drive • Dimensions: 4.0 x 2.2 x 1.46mm • Surface mount package	• All non-contact position sensing and presence detecting applications • Industrial printing and high-speed paper detection • Manufacturing and automation • Hospital and lab equipment • Portable medical equipment • Automatic dispensing
High Voltage Isolator			
	**Series** OPI1268	• TTL Compatible output • 16kV DC isolation • 2Mbit/s • Creepage path: 0.970" (24.64mm) • Air path: 0.970" (24.64mm) • UL recognised file No. E58730	• Data transmission for high voltage isolation • PCBoard power system isolation • Industrial equipment power isolation • Medical equipment power isolation • Office equipment
Six-Element SMD Photodiode Array			
	**Series** OPR2100T	• Six-PIN photodiode array • High-temperature chip carrier • Closely matched responsivity between elements • Choice of low or high speed • Easily mountable in any configuration • Suitable for harsh industrial operating conditions	• Motor encoder applications • Industrial encoder applications
Full-Colour RGB LED in 1204 SMD Package			
	**Series** OVSRRGBCC3	• Full-colour RGB • Top-view or side-view mounting options • Compatible with automatic placement equipment • Compatible with infrared and vapor phase reflow solder process	• Automotive backlighting for dashboard and switches • Telecommunications (backlighting for telephones and faxes) • Industrial
Slotted Optical Switch			
	**Series** OPB620	• Non-contact switching • Printed circuit board mounting • Enhanced signal to noise ratio • PIN photodiode sensor for high speed (OPB611, OPB621) • Lead centers: 0.275: (OPB61_)/ 0.320" (OPB62_)	• Non-contact reflective object sensor • Assembly line automation • Machine automation • Machine safety • Door sensors
7mm Spot Diameter IR LED			
	**Series** OP207CL	• SMD Configuration • Emission spot size is 7mm diameter • High power output with parallel rays • Uniform distribution • Emitter source for encoder applications	• Linear and rotary encoders • Optical sensors switches • Long range light barriers • Optical scanning and edge sensing • Automatic control systems

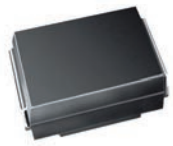
Vishay – Opto

Description & Product	Features & Benefits	Applications
UVC Emitting Diode in SMD Package with Quartz Lens		
 **Series** VLMU60CL00 -280-125	• Ceramic SMT package with quartz lens • Forward current: up to 40mA • Radiant power (typ.): 2.4mW at 20mA • Leads/terminations finish: gold plated (Au) • Dimension: 6.0 x 6.0 x 1.6mm	• Sterilisation • Medical applications • Sensing of gases, germs, DNA
Phototransistor in SMD Dome Lens Package		
 **Series** VEMT2xx In Gullwing, Reverse Gullwing, Side-View SMD Packages	• Package type: surface mount • AEC-Q101 qualified • High reliability • High radiant power • High radiant intensity • Package matches with IR Emitters series VSMB2000X01	• Light barrier • Photo interrupters • Detector in automotive applications • Miniature switches • Control and drive circuits • Position sensors
New High Power, High Speed 850nm – 940 IR Emitters		
 **Series** VSMx2x In Gullwing, Reverse Gullwing, Side-View SMD Packages	• Package type: surface mount • AEC-Q101 qualified • High reliability • High radiant power • High radiant intensity • Package matches with detector VEMD2xx3X01 and VEMT2xx3X01 series	• Miniature light barrier • IR touch panels • Photointerrupters • Optical switches • Control and drive circuits • Shaft encoders
Fully Integrated Proximity and Ambient Light Sensor		
 **Series** VCNL4040M3OE	• Dimensions 4.0 x 2.0 x 1.1mm in SMD • Includes integrated IR Emitter, ambient light sensor and signal conditioning IC • Operates proximity and ambient light sensor in parallel • Filtron Technology • Low power consumption I2C interface • Output type: I2C bus (ALS/PS)	• Industrial applications • Home automation • Handheld devices • Consumer devices • Notebook • Tablet PC
Widebody High-Isolation and High-Creepage 2.5 A IGBT Driver		
 **Series** VOW3120	• VIOTM 8000V, VIORM 1414V • Creepage and clearance distance > 10mm • Very low supply current < 2.5mA • High Performance isolation in small SMD package • Saves system cost against discrete solutions • Isolates industrial power circuits from sensitive controls	• Industrial variable speed motor drives • Solar inverters • Wind inverters • Industrial welding
New Automotive Grade Power LEDs in PLCC-2 and MiniLED packages		
 **Series** VLMx335xx VLMx235xx	• AEC-Q101 qualified • Maximum drive current up to 50mA • High luminous intensity to 1400mcd • Offered in super red, red, amber, soft orange and yellow • ± 60° angle of half-intensity	• AEC-Q101 qualified • Maximum drive current up to 50mA • High luminous intensity to 1400mcd • Offered in super red, red, amber, soft orange and yellow • ± 60° angle of half-intensity

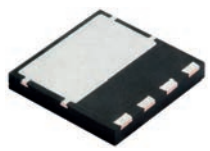
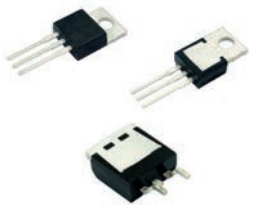
Vishay – Opto

Description & Product	Features & Benefits	Applications
Automotive Grade Proximity and Ambient Light Sensor for Gesture Applications		
 **Series** VCNL4035X01 In compact QFN SMD Package	• High object detection distances up to 500mm • Enables ambient light spectral sensitivity close to the human eye • Combines photo detectors for proximity and ambient light and a driver for up to three external IREDs • AEC-Q101 qualified	• Presence detection for display activation • Lighting control in offices, corridors and public buildings • Collision avoidance in toys and robots • Gesture recognition
Transmissive Sensors 3 and 4 channel with phototransistor outputs		
 **Series** TCUT1630X01 TCUT1800X01	• Surface-mount package type • AEC-Q101 qualified • 3mm gap width • 0.3mm aperture width • Phototransistor detector type • 1.3mA output current	• Automotive: turn interior knobs, ignition locks and Electric Power Steering (EPS) systems • Monitoring gas or water meters • Detecting the status of doors and panels • Vending machines and credit card readers
RGB Colour sensor with I2C Interface		
 **Series** VEML6075	• 16-bit resolution per channel • UVA and UVB individual channel solution • Integrates UV sensor and signal conditioning IC • Converts solar UV light intensity to digital data • Excellent UVA and UVB sensitivity • Operation voltage: 1.7V to 3.6V	• Handheld devices • Notebooks • Consumer devices • Industrial applications • Medical application
High Power IR Emitter		
 **Series** VSMY98545	• Peak wavelenght: 850nm • High power SMD with lens • High radiant power • High radiant intensity • Designed for high drive currents up to 1.5A (DC)	• Infrared illumination for CMOS cameras • Machine vision • Illumination for cameras (3D gaming) • Bio identification
RGB Colour Sensor with i2C Interface IC		
 **Series** VEML6040	• Integrated modules: colour sensor and signal conditioning IC • Supports low transmittance (dark) lens design • Fluorescent light flicker immunity • Provides 16-bit resolution for each channel (RGBW) • OPLGA SMD package 0.2 x 1.25 x 1.0mm • Filtron Technology, spectrum matching to human eye	• Handheld devices • Industrial applications • Cameras • Mechanical applications • Notebooks • Consumer devices
Automotive Opto Coupler		
 **Series** VOMA617A With Phototransistor Output in SOP-4, Mini-Flat Package	• AEC-Q101 qualified • High CTR with low input current • SOP-4 low profile package • High collector emitter voltage, VCEO = 80V • Isolation test voltage = 3750 VRMS • Low coupling capacitance	• Galvanic and noise isolation • Signal transmission • Hybrid/electric vehicle applications • Battery management • 48V board net • System controls

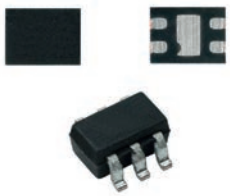
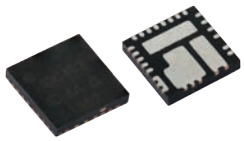
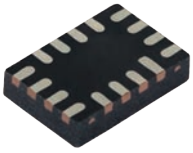
Vishay – Diodes

Description & Product		Features & Benefits	Applications
Low Profile Diode Packages			
	**Series** eSMP, Low-Profile package solutions for selected diodes and rectifiers	• Asymmetrical and symmetrical flat type packages • Enables higher current • High power efficiency • Promotes better performance • High reliability • Better temperature performance	• Lighting • DC/DC converters for freewheeling • Industrial • Telecommunications • Automotive
Fast Platinum Rectifier			
	**Series** Rectifier in Low-Profile SMD package	• Current Range from 1A to 30A • Reverse voltage 100V, 200V, 600V • Fast and soft recovery characteristics • Low leakage currents • Low forward voltage drop • Space reduction using eSMP Packages	• Automotive • DC/DC converters • Telecommunications • Power factor correction
500mW Zener Diodes			
	**Series** PLZxx Low-Profile MicroSMF (DO-219AC)	• Flat lead • Package with low profile of < 0.6mm • 500 mW power dissipation • Extremely tight tolerances of ± 2.5% • Low leakage current • Excellent stability • Low forward voltage	• General voltage stabilisation • Reference voltage stabilisation • Lighting • Power supplies • Automotive • General industrial applications
New TVS-Family offers ± 3.5% Breakdown Voltage Tolerance			
	**Series** SMBJxxD In Planar Technology	• Breakdown voltage tolerance of ± 3.5 % • Low-profile DO-214AA package • Available with uni directional polarity • Temperature range from -55 °C to +150 ° • Standoff Voltage Range from 5V to 188V	• DC adapter power line protection • Power supply snubber circuits • General voltage surge protection • Telecommunications
400W TVS Diode in SMF Package			
	**Series** VTVSxxASMF With Industry first 2% VBR Tolerance	• Breakdown voltage tolerance down to 2% • SMF package (DO219AB) with low profile of 1mm • High surge capability of 400W at 10/1000µs • Peak pulse current from 2.9A to 20.3A • AEC-Q101-qualified • Line transient voltage protection • Operating temperatures from -55°C to +175°C	• Industrial • Automotive • Telecommunications • Consumer devices
New TMBS Rectifier in SMF package, current range from 1A to 3A			
	**Series** V1Fxx, V2Fxx, V3Fxx	• Trench MOS Schottky technology • Low profile SMF (DO219AB) package • Ideal for automated placement • AEC-Q101 qualified available • Low forward voltage drop, low power losses	• High frequency inverters • Freewheeling • DC/DC converters • Polarity protection in industrial applications • Polarity protection in automotive applications

Vishay – MOSFETs and IC's

Description & Product		Features & Benefits	Applications
650V Power MOSFET with Fast Body Diode			
	**Series** SIHH27N60EF	• Low figure-of-merit (FOM) Ron x Qg • Low input capacitance (Ciss) • Reduced switching and conduction losses • Ultra low gate charge (Qg) • Avalanche energy rated (UIS) • Kelvin connection for reduced gate noise	• Switch mode power supplies (SMPS) • Power factor correction power supplies (PFC) • Lighting • Industrial, welding, induction heating • Motor drives, battery chargers • Renewable energy, solar (PV) Inverters
600V Power MOSFET			
	**Series** SIHP065N60E	• 4th generation E series technology • Low figure-of-merit (FOM) Ron x Qg • Low effective capacitance (Co(er)) • Reduced switching and conduction losses • Avalanche energy rated (UIS)	• Server and telecom power supplies • Switch mode power supplies (SMPS) • Power factor correction power supplies (PFC) • Lighting • Industrial, welding, motor drives • Battery chargers, solar (PV) Inverters
N-Channel 100 V (D-S) MOSFET			
	**Series** SUM70040E (TO263) SUP70040E (TO-220)	• 100V rated VDS for input voltages ≤ 72V • Reduce power loss and improve efficiency 60% lower RDS(ON) • Higher efficiency enables increased power density • 7.5V and standard 10V gate drive capabilities • Industrial grade and rugged devices • Maximum junction temperature rated up to 175°C	• Power supply • DC/DCConverter • Power tools • Motor drive switches • DC/AC inverters • Battery management
850V High Voltage MOSFET			
	**Series** SIHP11N80E	• Low figure-of-merit (FOM) Ron x Qg • Low input capacitance (Ciss) • Reduced switching and conduction losses • Ultra low gate charge (Qg) • Avalanche energy rated (UIS)	• Server and telecom power supplies • Switch mode power supplies (SMPS) • Power factor correction power supplies (PFC) • Lighting • Industrial, welding, induction heating • Motor drives, battery chargers and solar inverters
Automotive TrenchFETs			
	**Series** SQ Power MOSFETs, AECQ101 Qual to +175°C	• Wide Range of N- and p-Channel MOSFETs • N-ch VDS = 12V to 300V • P-ch VDS = -12V to -200V • Single, dual, asymetric configurations • High efficient packages • RDSon down to 1mOhm	• Automotive • Car battteries • Infotainment • Lighting • Electric vehicles • Power train
Automotive N-Channel 80 V (D-S) 175°C MOSFET			
	**Series** SQJQ480E Trench Halogen-free MOSFET	• TrenchFET® power MOSFET • AEC-Q101 qualified • 100% Rg and UIS tested • Fully lead (Pb)-free device • Thin 1.9mm height	• Automotive • Electric vehicles

Vishay – MOSFETs and IC's

Description & Product		Features & Benefits	Applications
Automotive Dual N-Channel 12V (D-S) 175°C MOSFET			
	**Series** SQJ202EP	• TrenchFET® power MOSFET • AEC-Q101 qualified • 100% Rg and UIS tested	• Car batteries • Infotainment • Lighting • Braking • Electric vehicles • Power train
P-Channel 150V (D-S) MOSFET in PowerPAK SO-8			
	**Series** SIR873DP	• TrenchFET® power MOSFET • Very low RDS(ON) minimises power loss from conduction • 100% Rg and UIS tested	• Active clamp in DC/DC power supplies • Battery protection • Load switch • Motor drive control
Automotive N-Channel 60V (D-S) 175°C MOSFET			
	**Series** SQJQ466	• TrenchFET® power MOSFET • AEC-Q101 qualified • 100% Rg and UIS tested • Power Pak Package: Thin 1.9mm height	• Car batteries • Lighting • Power train • Electric vehicles • Infotainment • Braking
1A Load Switch with Reverse Blocking			
	**Series** SIP3243 Available in space saving SC70-6 package	• 1.5V to 5.5V input voltage range • No bias power rail required • Low on-resistance RDS(on) • Slew rate controlled turn-on time: 100µs • Ultra low leakage and quiescent current • Reverse blocking capability • SC70-6 and TDFN4 1.2mm x 1.6mm packages	• Wireless sensor network • Smart meters • Wearables • Internet of things • Portable medical devices • Security systems • Battery powered devices • Portable instruments
4.5V to 60V Buck Regulators			
	**Series** SIC46x Delivering up to 75W output Power	• 4.5V to 60V input voltage • 98% peak efficiency • Scalable solution 2A, 3A, 6A, 10A • Compact MLP 5 x 5 package • Excellent thermal performance and long term reliability • Highly integrated compact solution	• Battery chargers • Industrial computing • Base station power supplies • Battery operated vehicle/equipment • ATM/vending machines • Household robotics
AEC-Q100 Qualified Analog Switch			
	**Series** DGQ2788ADN Improves signal integrity and bandwith for automotive applications	• Over voltage tolerant switch • Wide supply voltage range • Suitable for audio, video, and bus switching • Compact package mQFN16: 1.8 x 2.6 x 0.55mm • Power down and signal over rail • Latch up current: 300mA (JESD78)	• Audio, video and bus switching • Infotainment • Power windows, power locks and power mirror control • Advanced diagnostics and engine control modules • Traction and stability control modules

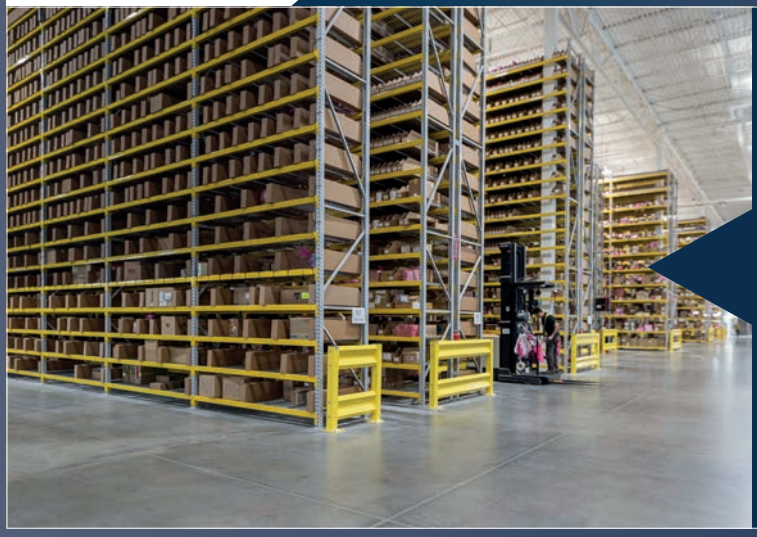
Notes

Notes

ttieurope.com

Local Sales and Technical Support in over 40 Locations Across EMEA





European HQ, Munich

35,000m² of dedicated warehouse space

ttieurope.com

Contact TTI today to see what a true specialist can offer.

Corporate Headquarters

TTI, Inc.
2441 Northeast Parkway
Fort Worth, Texas 76106
U.S.A.

T: +1 817 740 9000
F: +1 817 740 9898
E: information@ttiinc.com

European Headquarters

TTI, Inc.
Ganghoferstr. 34
82216 Maisach-Gernlinden
Germany

T: +49 (0) 81 42 66 80 0
F: +49 (0) 81 42 66 80 490
E: sales@de.ttiinc.com

TTI, Inc. Sales

Austria
Vienna
T: +43 (0) 18 79 85 90
E: sales.vienna@at.ttiinc.com

Benelux
Eindhoven
T: +31 (0) 40 290 1616
E: sales.benelux@nl.ttiinc.com

Bulgaria
T: +359 52 51 10 59
E: sales.varna@bg.ttiinc.com

Czech/Slovak Republic
Brno
T: +420 541 126 714
E: sales.brno@cz.ttiinc.com

Denmark
Copenhagen
T: +45 (0) 43 29 35 35
E: sales.copenhagen@dk.ttiinc.com
Hammel
T: + 45 (0) 38 41 31 00
E: sales.copenhagen@dk.ttiinc.com

Estonia
Tallinn
T: +372 664 81 00
E: sales.finland@fi.ttiinc.com

Finland & Baltic Region
Espoo
T: +358 98 94 65 200
E: sales.finland@fi.ttiinc.com

France
Brive
T: +33 (0) 5 55 92 92 93
E: sales.france@fr.ttiinc.com
Bron
T: +33 (0) 472 81 2030
E: sales.lyon@fr.ttiinc.com
Bruz
T: +33 (0) 2 99 77 60 84
E: sales.rennes@fr.ttiinc.com
La Ciotat
T: +33 (0) 442 84 4142
E: sales.marseille@fr.ttiinc.com
Montigny Le Bretonneux
T: +33 (0) 130 13 7380
E: sales.paris@fr.ttiinc.com

Germany
Berlin
T: +49 (0) 30 8877 40 200
E: sales.berlin@de.ttiinc.com
Dortmund
T: +49 (0) 2301 91 304 0
E: sales.dortmund@de.ttiinc.com
Frankfurt
T: +49 (0) 6102 5999 100
E: sales.frankfurt@de.ttiinc.com
Hanover
T: +49 (0) 5 11 7 80 59 0
E: sales.hannover@de.ttiinc.com
Munich
T: +49 (0) 81 42 66 80 110
E: sales.munich@de.ttiinc.com
Pforzheim
T: +49 (0) 7231 14788 0
E: sales.stuttgart@de.ttiinc.com

Hungary
Budapest
T: +36 1 40 22 111
E: sales.budapest@hu.ttiinc.com

Ireland
T: +353 (0) 21 480 8070
E: sales.ireland@ie.ttiinc.com

Israel/Ray-Q Ltd.
Airport City
T: +972 3 975 3333
T: +972 54 2151402
E: sales@ray-q.com

Italy
Bologna
T: +39 051 632 1863
E: sales.milan@it.ttiinc.com
Civitanova Marche
T: +39 0733 81 8655
E: sales.milan@it.ttiinc.com
Florence
T: +39 (0) 55 094 63 76
E: sales.milan@it.ttiinc.com
Milan
T: +39 02 822 521
E: sales.milan@it.ttiinc.com
Naples
T: +39 (0) 81 7148661
E: sales.milan@it.ttiinc.com
Padova
T: +39 049 774 683
E: sales.milan@it.ttiinc.com
Rome
T: +39 0774 57 1302
E: sales.milan@it.ttiinc.com

Norway
Drammen
T: +47 (0) 92 66 87 66
E: sales.norway@no.ttiinc.com

Poland
Kwidzyn
T: +48 (0) 55 279 67 57
E: sales.poland@pl.ttiinc.com

Portugal
T: +351 252 493084
E: sales.barcelona@es.ttiinc.com

Romania
Cluj Napoca
T: +40 (0) 264 439 103
E: sales.romania@ro.ttiinc.com

Russia
Saint Petersburg
T: +7 (0) 812 4962053
E: sales.russia@ru.ttiinc.com

South Africa
Johannesburg
T: +27 (0) 11 795 2691
E: sales.southafrica@za.ttiinc.com

Spain
Barcelona
T: +34 (0) 93 645 25 75
E: sales.barcelona@es.ttiinc.com
Madrid
T: +34 (0) 91 416 11 90
E: sales.madrid@es.ttiinc.com
Vizcaya
T: +34 (0) 94 623 25 80
E: sales.bilbao@es.ttiinc.com

Sweden
Gothenburg
T: +46 (0) 31 741 12 90
E: sales.gothenburg@se.ttiinc.com
Stockholm
T: +46 (0) 8 594 11 800
E: sales.stockholm@se.ttiinc.com

Switzerland
Baar
T: +41 (0) 41 76741 90
E: sales.swiss@ch.ttiinc.com

Egypt, Morocco & Tunisia
T: +216 (0) 71 862 693
E: sales.tunis@fr.ttiinc.com

Turkey
Istanbul
T: +90 (0) 216 688 91 75 76
E: sales.turkey@tr.ttiinc.com

United Kingdom
Basildon
T: +44 (0)1268 498460
E: sales.essex@uk.ttiinc.com
High Wycombe
T: +44 (0)1494 460000
E: sales.london@uk.ttiinc.com
Stevenage
T: +44 (0)1438 794170
E: power@uk.ttiinc.com

Resellers or Distributors
TTI Connect - Europe
T: +49 8142 6680 168
E: service@tticonnect.com

EN 9100:2009
EN 9120:2009
Registered

D/0142/CECC/UK

Published October 2018