



**GIRIKUNJA**  
S O L U T I O N S

# **SUPPLIERS LIST**

**April 2022**



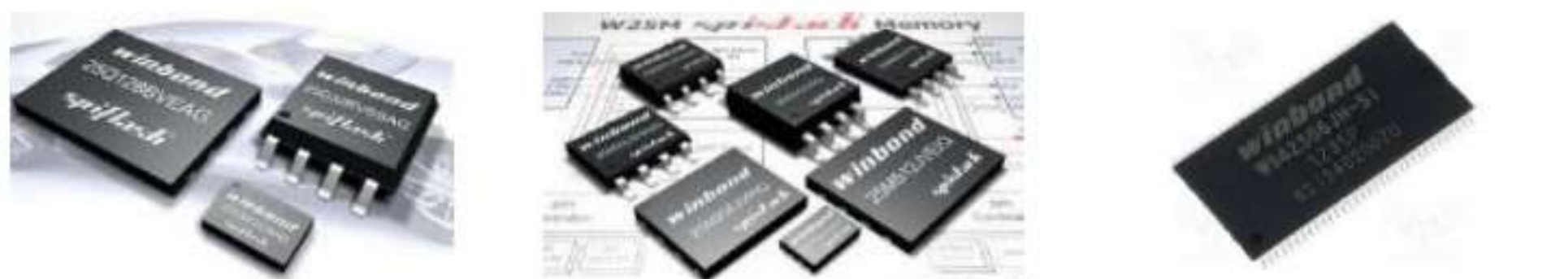
# Main Suppliers: Semiconductor

## Suppliers

## Products



MCU/ASIC Discrete IC(Transistor/Diode/Logic) AC/DC



NOR Flash Memory

NAND Flash Memory

SDRAM/DDR2/DDR



SD Card

DDR

SSD

DRAM Module

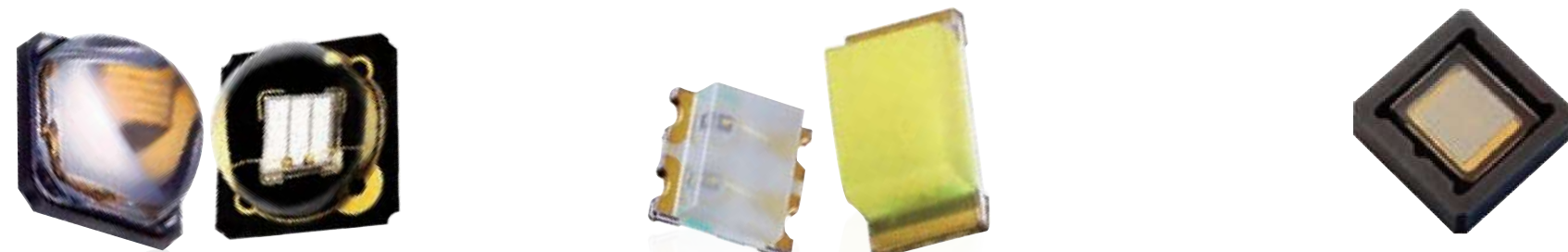


PORON®(Special Surface)

PORON®(Foot Pad)

PORON®(Standard)

PORON®(PET Support)



ULTRA Violet

VISIBLE Light

INFRARED & Sensors

# Main Suppliers: Electrical Component



## Suppliers

## Products

**ALPS**



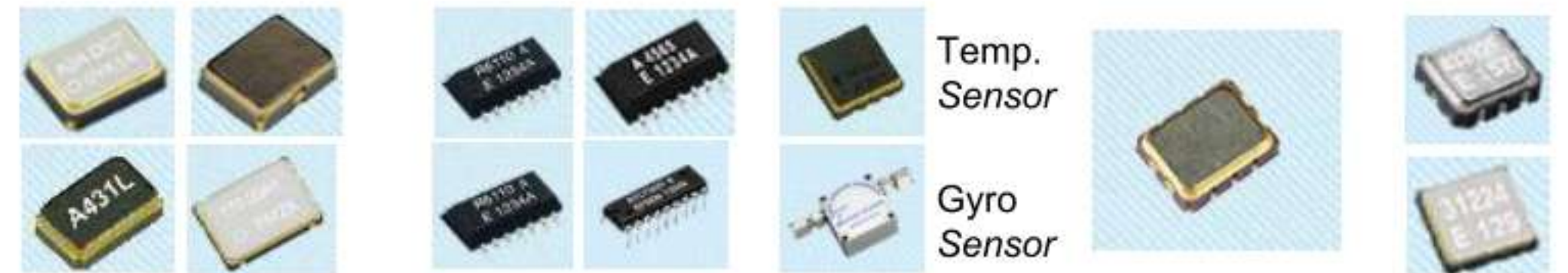
Switch/Encoder/Volume/Connector Touch Device Sensor Magnetic Temp. Press. WLAN BLE Wireless Modules Keyless

**JAE**



Connectors (Auto/Board/Coral/USB/etc) Touch Panel Gyro Sensor Acceleration Sensor Motion Sensor

**EPSON**  
EXCEED YOUR VISION



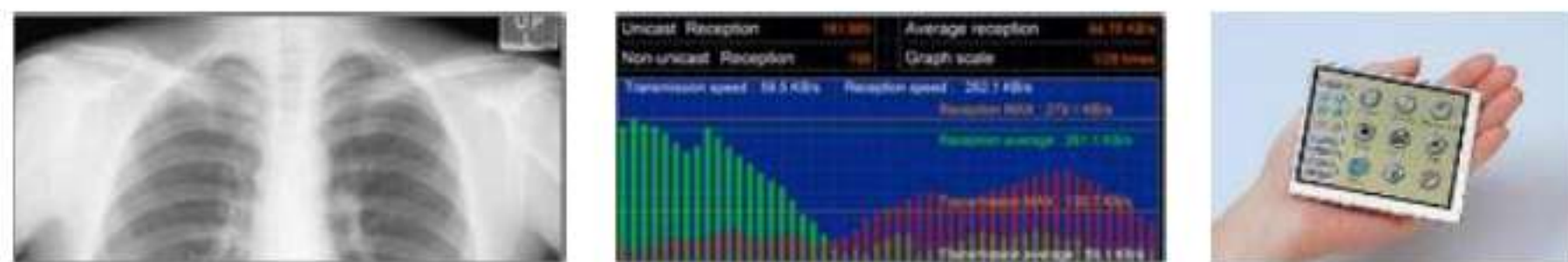
Crystal/Oscillator Real time Clock Sensor Temp. Sensor Gyro Sensor RF Module Filter

**SMIK**



Connector (Board/Jack/LED/etc) Switch Touch Panel Remote Controller Bluetooth Module

**TIANMA**



LCD (Medical/Industrial/Etc)

**STANLEY**



Charactor Type LCDs

Custom Design LCDs

Mirror LCDs

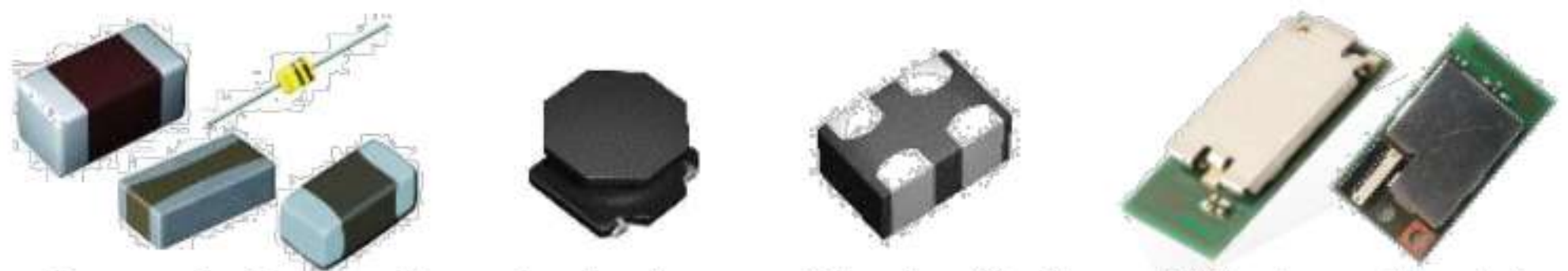


**Suppliers**

**Products**



Cable      FPC      Heat Shrink Tube      FCC      Automotive Wire



Ceramic Capacitor      Inductor      Choke Coil      Wireless Module



Capacitor      Ferrite Core      Noise Suppressor      Sensor



Electro Mechanical Devices for Next >>>



Miniature Signal Relay      Miniature Power Relay



Residual Current Monitor      Magnetic Latching Relay      Overvoltage Protection Relay



Thermal Cutoffs      Battery Protector      Compressor Seal

# Various Manufacturers & their Brands



# When it comes to IP&E and discrete components



## 3M

**AirBorn** (Asean region only)

## AMPHENOL

- Advanced Sensors
- Aerospace
- AirLB
- AITC
- ANYTEK
- Canada
- Commercial
- Connex
- FCI Electronics
- Fiber Optics
- High Speed Products
- Industrial
- LTW
- Matrix
- PCD
- RF
- Sine
- Socapex
- Spectra Strip
- SV Microwave
- Teradyne Connection (TCS)
- Tuchel

## API DELEVAN

## AVX

- Elco

## BOURNS

- J.W. Miller
- Komatsulite
- Murata Trimming  
Potentiometer Business

## C&K COMPONENTS

## CDE (CORNELL DUBILIER)

- Illinois Capacitor

## DELPHI CONNECTION SYSTEMS

- FCI Automotive

## EATON

- Bussmann
- Coiltronics
- PowerStor

## EPCOS

## HONEYWELL

## ITT CANNON

## KEMET

- Arcotronics
- Evox Rifa
- NEC TOKIN

## KNOWLES CAPACITOR

- Syfer
- DLI
- Novacap
- Voltronics

## KOA

## KYOCERA

## LELON

## LITTELFUSE

- Hamlin
- Littelfuse Automotive
- Teccor

## MOLEX

- Affinity Medical
- Brad®
- FCT
- Flamar
- GWconnect®
- NuCurrent
- Oplink
- Phillips-Medisize
- Polymicro TechnologiesTM
- ProTek Medical
- Sensorcon
- SDP Telecom
- Soligie
- Temp-Flex
- Woodhead
- Vasa Applied Technologies

## MURATA

- Murata Power Solutions

## NICHICON

## OHMITE

## OMRON

## PANASONIC

- Electric Works
- Industrial Devices

## PHOENIX CONTACT

## PKC GROUP

## PULSE

## ROHM

## SOURIAU

## SPECTRUM CONTROL

## TDK

- EPCOS

## TE CONNECTIVITY

- AGASTAT
- ALCOSWITCH
- AMP
- AMP NETCONNECT
- AUGAT
- AXICOM
- CII Technologies
- Corcom
- Deutsch
- ELCON
- HARTMAN
- HTS
- KILOVAC
- MADISON CABLE
- Measurement Specialties
- MICRODOT
- NANONICS
- OEG
- Potter & Brumfield
- Raychem
- SCHRACK

## TT ELECTRONICS

- BI Technologies
- IRC
- Optek
- Semelab
- Welwyn

## UNITED CHEMI-CON

## VISHAY

- Angstrohm
- BCcomponents
- Beyschlag
- Cera-Mite
- Dale
- Draloric
- Electro-Films
- Huntington / Milwaukee
- MCB
- Roederstein
- Semiconductors
- Sfernice
- Siliconix
- Spectrol
- Sprague
- Techno
- Thin Film
- Vitramon

## VISHAY PRECISION GROUP

## WIMA

## YAGEO

- Phycomp



# Resistors

FILM	Bourns	KOA	OHMITE	Panasonic	TE Connectivity	TT Electronics	IRC	Welwyn	Vishay	Angstrom	BCcomponents	Dale	Electro-Films	Sfernice	Techno	Thin Film	Vishay Precision Group	Yageo	
	<b>METAL FILM</b>																		
Discrete Chip		●	◆	●	◆	●	◆	●	◆		●	◆	●	◆		●	◆	●	◆
Flame Proof		●	◆	●	◆	●	◆	●	◆		●	◆	●	◆	●	◆	●	◆	●
Fusible	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
High Temp	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
High Voltage		●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Matched Sets			●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●
Melf /Cylindrical		◆		◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●
Metal Film	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Metal Glaze		●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Metal Oxide		●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Precision	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Thick Film Chip	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Thin Film Chip	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Trimable			◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Voltage Divider			◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆



NETWORK	Bourns	KOA	Panasonic	TE Connectivity	TT Electronics	IRC	Welwyn	Vishay	Electro-Films	Techno	Thin Film	Vishay Precision Group	Yageo
	<b>NETWORK</b>												
Array	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Conformal Coated	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Custom	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Integrated Passive	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Ladder	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Line Protection	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Molded	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Resistor / Capacitor	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
SMT	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Surge	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Thick Film DIP	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Thick Film SIP	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Thin Film DIP	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆
Thin Film SIP	◆	●	◆	●	◆	●	◆	●	◆	●	◆	●	◆

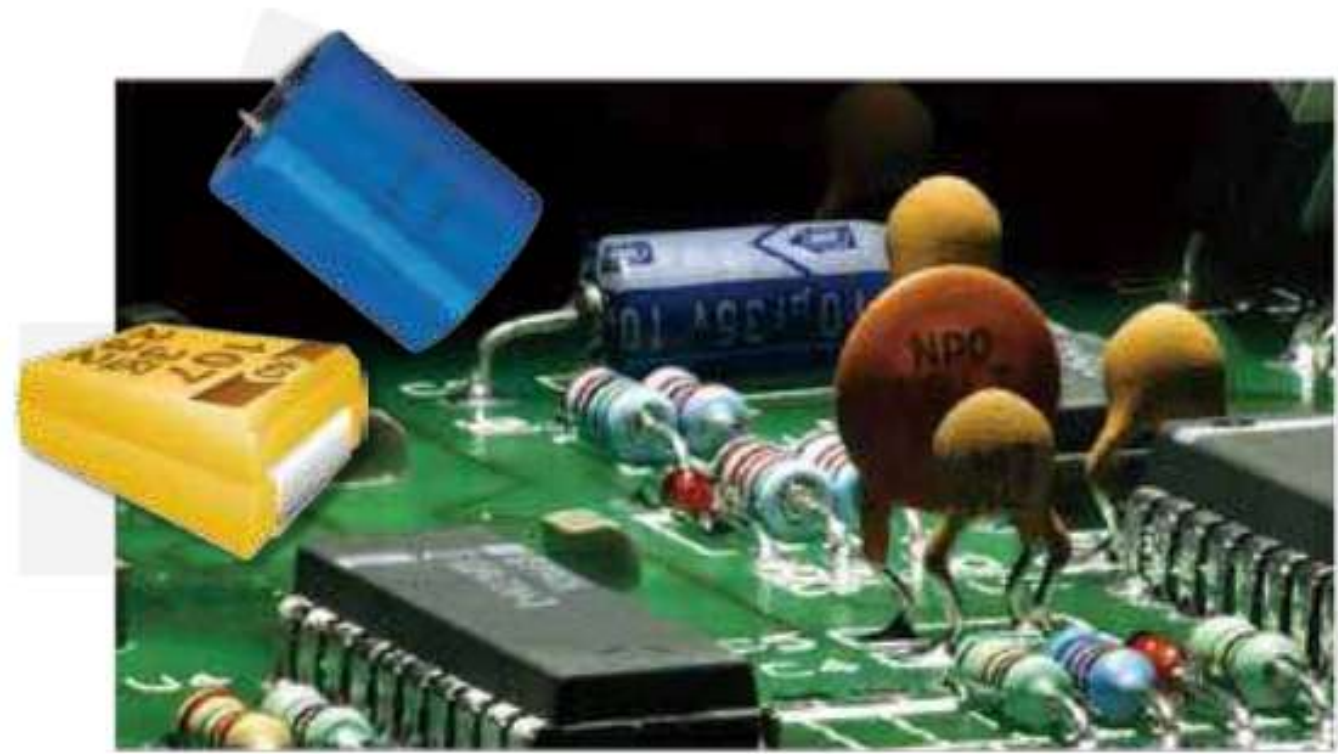
POTENTIOMETERS TRIMMERS	BI Technologies (TT Electronics)	Bourns	Honeywell	Murata	OHMITE	Panasonic	TE Connectivity	Vishay	BCcomponents	Dale	Sfernice	Spectrol	Vishay Precision Group
	<b>POTENTIOMETERS TRIMMERS</b>												
<b>TRIMMING POTENTIOMETERS</b>													
Adjustment Tools		◆					◆						◆
Carbon	●	●	◆		◆	◆							◆
Cermet	●	●	◆		◆	◆	●	●					◆
Counters	●	◆				◆	◆	●					◆
Multi-Turn	●	●	◆			◆	◆	●	●				◆
Open Frame	●	●	◆			◆	◆	●					◆
Sealed Frame	●	●	◆			◆	◆	●	●				◆
Single-Turn	●	●	◆			◆	◆	●	●				◆
Wirewound		▲			●	◆	◆	●					◆
<b>PRECISION PANEL CONTROL</b>													
Carbon		◆						◆					◆
Cermet	◆	◆	◆					◆					◆
Conductive Plastic	◆	◆	◆					◆					◆
Dials / Knobs	●	◆						◆					◆
Knobs	◆	◆			◆			◆					◆
Hybrid	◆	◆						◆					◆
Linear		◆			●			◆					◆
Metal Foil								◆					◆
Modular	◆				◆			◆					◆
Motor Pot	◆							◆					◆
Multi-Turn	◆	◆			◆			◆					◆
Non-Linear	◆							◆					◆
Open Frame Slide		◆						◆					◆
Rheostat					◆			◆					◆
Rotary	◆	◆	◆			◆		◆					◆
Sealed Frame	◆	◆			◆			◆					◆
Single-Turn	◆	◆			◆			◆					◆
Wirewound	◆	◆	◆		◆			◆					◆
<b>SENSOR/ENCODER</b>													
Attenuator								◆	◆		●		
Encoders	◆	◆	●					◆	◆	◆			
Linear Motion		◆						◆	◆				◆
Rotary	◆	●	◆					◆	◆	◆			◆

POWER WIREWOUND CARBON & FOIL	Bourns	KOA	OHMITE	Panasonic	TE Connectivity	TT Electronics	IRC	Welwyn	Vishay	Dale	Huntington / Milwaukee	Sfernice	Thin Film	Vishay Precision Group	Yageo
	<b>POWER WIREWOUND CARBON &amp; FOIL</b>														
<b>POWER/WIREWOUND</b>															
Brackets / Hardware			●	◆				●	◆	◆	◆				◆
Ceramic Composition		●	●	◆	●	●	◆	●	◆	◆	◆				◆
Commercial		●	●	◆	●	●	◆	●	◆	◆	◆				◆
Current Sense / Low Resistance	◆	●	●	◆	●	●	◆	●	◆	◆	◆				◆
Grid			◆												◆
Industrial		◆	●	◆	●	●	◆	●	◆	◆	◆				◆
Precision		●	●	◆	●	●	◆	●	◆	◆	◆				◆
Rheostat		●	●	◆	●	●	◆	●	◆	◆	◆				◆
Special Purpose		◆	●		●	●	◆	●	◆	◆	◆				◆
Tubular		◆	●	◆	●	●	◆	●	◆	◆	◆				◆
Vitreous Enamel			●		◆	◆	◆	●	◆	◆	◆				◆
<b>CARBON</b>															
Carbon Composition		●	●	◆	◆	◆									◆
Carbon Film		●	●	◆	◆	◆			◆	◆					◆
<b>FOIL</b>															
Bulk Metal Foil															●

● Lead & Lead-free compliant parts available ◆ Lead-free only parts available ▲ Lead-only compliant parts available

# Capacitors

ALUMINUM	AVX	Cornell Dubilier/ Illinois Capacitor	EPCOS (TDK)	KEMET	Murata	Nichicon	Panasonic	PowerStor (Eaton)	Surge / Lelon	UCC	Vishay - BC Components
AC Motor Start	◆	◆	◆	◆							◆
Axial Electrolytic		●	●	◆		◆			◆		●
EDLC / Supercapacitor	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
FlatPack Electrolytic		▲									
Polymer		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Radial Miniature		●	●	◆		◆	◆		◆	◆	●
Screw Terminal		◆	◆	◆		◆			◆	◆	◆
Snap-In		◆	◆	◆		◆			◆	◆	◆
Surface Mount		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆



FILM & MICA	AVX	Cornell Dubilier	KEMET	Nichicon	Panasonic	Spectrum Control (API Technologies)	Surge / Lelon	TDK - EPCOS	United Chemi-Con	Vishay	BCcomponents	Draloric	Roederstein	WIMA
<b>FILM</b>														
Motor Run		◆	◆					◆						
Polyester	◆	●	◆	◆	◆	◆	◆	◆	◆	●	●		●	◆
Polypropylene	◆	●	◆	◆	◆	◆	◆	◆	◆	●	●		●	◆
Power Film	◆	●	◆	◆	◆	◆	◆	◆	◆	●			◆	◆
Snubber	◆	●	◆	◆	◆	◆	◆	◆	◆					◆
Suppression X-Y (Safety Cap)		●	◆	◆	◆	◆	◆	◆	◆	●	●	◆	●	◆
Surface Mount	◆	●	◆	◆	◆	◆	◆	◆	◆					◆
<b>MICA</b>														
Metal Clad		●												
Mica		●												
Surface Mount		●												



TANTALUM	AVX	KEMET	Panasonic	Vishay
Conformal Coated Chip	◆			●
Dipped Radial	●	●		●
Fall Safe / Fused Chip	●	●		●
Hermetic Through Hole		●		●
High Temperature Chip	●	●		●
Low ESR Chip	●	●		●
Low Profile Chip	●	●		●
Micro-Chip	◆	◆		◆
Molded Chip	●	●		●
Molded Through Hole		●		●
Niobium Chip	◆			
Polymer Chip	●	●	◆	●
Solid Metal Case Through Hole		●		●
Supertan				●
Wet Through Hole				●

CERAMIC	AVX	Cornell Dubilier	KEMET	Murata	Spectrum Control (API Technologies)	Syfer	TDK - EPCOS	Vishay	BCcomponents	Ceramate	Vitramon	United Chemi-Con	Yageo
Arrays	●	◆	◆	◆	◆	◆	◆						◆
Dip 2-Pin	◆					●							
Disc		◆	◆	◆			◆	◆	◆	◆			
High Cap	●	●	◆	◆	◆	◆	◆	◆				◆	◆
High Q	◆	◆	◆	◆	◆	◆	◆	◆				◆	
High Temperature	●	●	◆	◆	◆	◆	◆	◆				◆	
High Voltage	●	◆	●	◆	◆	◆	◆	◆			◆	◆	◆
Low Inductance	◆				●	◆	◆						
Multi-Layer	●	●	◆	◆	◆	◆	◆	◆			●	◆	◆
RF / Microwave	◆	◆	◆	◆	◆	◆							◆
Safety					●			◆		◆	◆		
Single Layer	●		◆	◆	◆	◆	◆	◆			◆		
Switch Mode	◆	◆	◆	◆	◆	◆	◆						
Tip and Ring	◆	◆	◆	◆	◆	◆	◆	◆			◆		
Trimmer			◆										

● Lead & Lead-free compliant parts available ◆ Lead-free only parts available ▲ Lead-only compliant parts available



# Circuit Protection & Electromagnetic Components

PROTECTION DEVICES	AVX	Bourns	Bussmann (Eaton)	EPCOS (TDK)	KOA	Littelfuse - Teccor	Murata	Panasonic	TE Connectivity's Raychem	ROHM Semiconductors	TDK	United Chemi-Con	Vishay	BC Components	Dale	Semiconductors
	<b>OVER CURRENT</b>															
Automotive (Blade) Fuses			◆			◆										
Axial Fuses			◆			◆										
Cartridge Fuses			◆			◆										
NTC Thermistors	●		◆	◆		◆	◆				◆		◆	◆	◆	
Power (Electrical) Fuses			◆			◆										
PTC Thermistors		◆	◆	◆		◆					◆		◆	◆	◆	
Radial Leaded Resettable Fuses (PTC)		◆	◆			◆		◆								
Radial Subminiature Fuses			◆			◆										
Surface Mount Resettable Fuses (PTC)		◆	◆			◆		◆								
Surface Mount (125V+) Fuses		◆	◆			◆		◆								
Thermal Cutoffs (TCO)						◆		◆								
Thin Film (Chip) Fuses	●	◆	◆			◆		◆					◆	◆		
<b>OVER VOLTAGE</b>																
Gas Discharge Tube (GDT)	●		◆			◆		◆		◆						
Line Protection Networks		◆														
Polymer ESD Suppression			◆			◆		◆								
Protection Thyristors		◆				◆										
Surface Mount Varistors (MLV)	◆	◆	◆	◆	◆	◆		◆			◆	◆	◆	◆	◆	
Thermal MOV				◆		◆					◆	◆	◆	◆	◆	
Through-Hole Varistors (MOV)		◆	◆	◆	◆	◆		◆			◆	◆	◆	◆	◆	
TVS Diodes	◆	◆	◆			◆		◆		◆		◆	◆	◆	◆	
TVS Diodes Arrays	◆					◆		◆		◆		◆	◆	◆	◆	

## Filters

EMI/RFI & RF	AVX	KEMET / NEC TOKIN	Murata	Panasonic	Pulse	Spectrum Control (API Technologies)	Syfer	TDK - EPCOS	TE Connectivity's Corcom	Yageo
	EMI / RFI Filters	●	◆	◆	◆	◆	◆	◆	◆	◆
Feed-Thru Filters		◆								
Noise Suppression Sheets		◆								
RF / Microwave Filters	●		◆	◆	◆	◆	◆	◆	◆	◆
RF Module			◆	◆	◆	◆	◆	◆	◆	◆
SAW Filters	◆		◆	◆	◆	◆	◆	◆	◆	◆
Surface Mount Filters	●		◆	◆	◆	◆	◆	◆	◆	◆



● Lead & Lead-free compliant parts available ◆ Lead-free only parts available

## Magnetics

FERRITES INDUCTORS TRANSFORMERS	API Delevan	AVX	BI Technologies (TT Electronics)	Bourns - JW Miller	Coltronic (Eaton)	KEMET / NEC TOKIN	KOA	Murata	Panasonic	Pulse	Spectrum Control (API Technologies)	TDK - EPCOS	Vishay - Dale	Yageo
	Air Coil Inductors	●	◆									◆		
Common Mode Chokes	●	◆	◆	◆	◆		◆	◆	◆	◆	◆	◆	◆	◆
Custom Inductors	●			◆				◆		◆	◆	◆	◆	◆
Ferrite Beads	◆	◆	◆				◆	◆	◆		◆	◆	◆	◆
Ferrite Cores/Clamp Filters	◆		◆					◆			◆	◆	◆	◆
High Current Inductors	●	◆	◆	◆	◆			◆	◆	◆	◆	◆	◆	◆
Leaded Inductors	●		◆	◆	◆			◆		◆	◆	◆	◆	◆
Military Inductors	●										◆	◆	◆	◆
Multilayer Inductors		◆	◆	◆	◆		◆	◆	◆		◆	◆	◆	◆
Power Inductors	●	◆	◆	◆	◆			◆	◆	◆	◆	◆	◆	◆
RF Inductors	●	◆	◆	◆	◆			◆	◆	◆	◆	◆	◆	◆
Thin Film Inductors		◆						◆			◆	◆	◆	◆
Toroid Inductors	◆		◆	◆	◆			◆			◆	◆	◆	◆
Transformers	●		◆	◆	◆			◆	◆	◆	◆	◆	◆	◆
Wirewound/Coil Inductors	●	◆	◆	◆	◆			◆		◆	◆	◆	◆	◆

## Piezo

SOUND DEVICES	AVX	Murata	Panasonic	TDK
	Buzzer	●	◆	◆
Microphone			◆	◆
Receiver			◆	◆
Ringer		◆	◆	◆
Sensor		◆	◆	◆
Sounder		◆	◆	◆
Speaker		◆	◆	◆

## Thermal Management

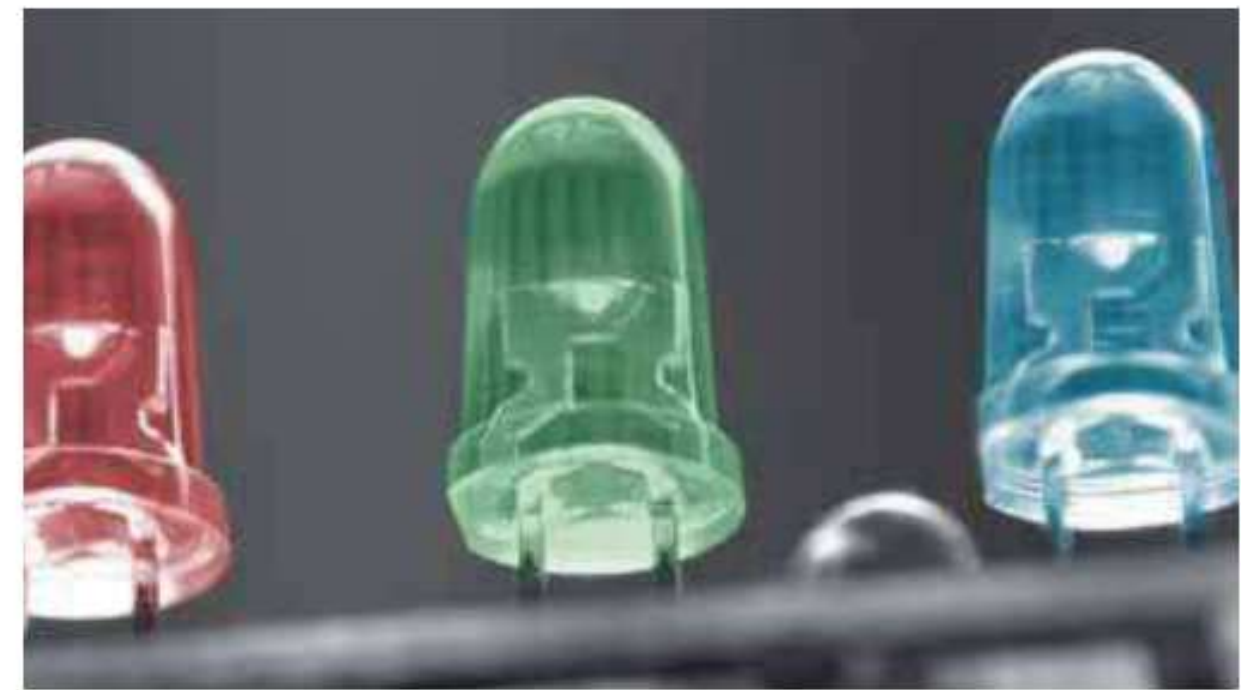
	Ohmite
	Extruded Heatsinks
Liquid Coldplates	●

## Timing Devices

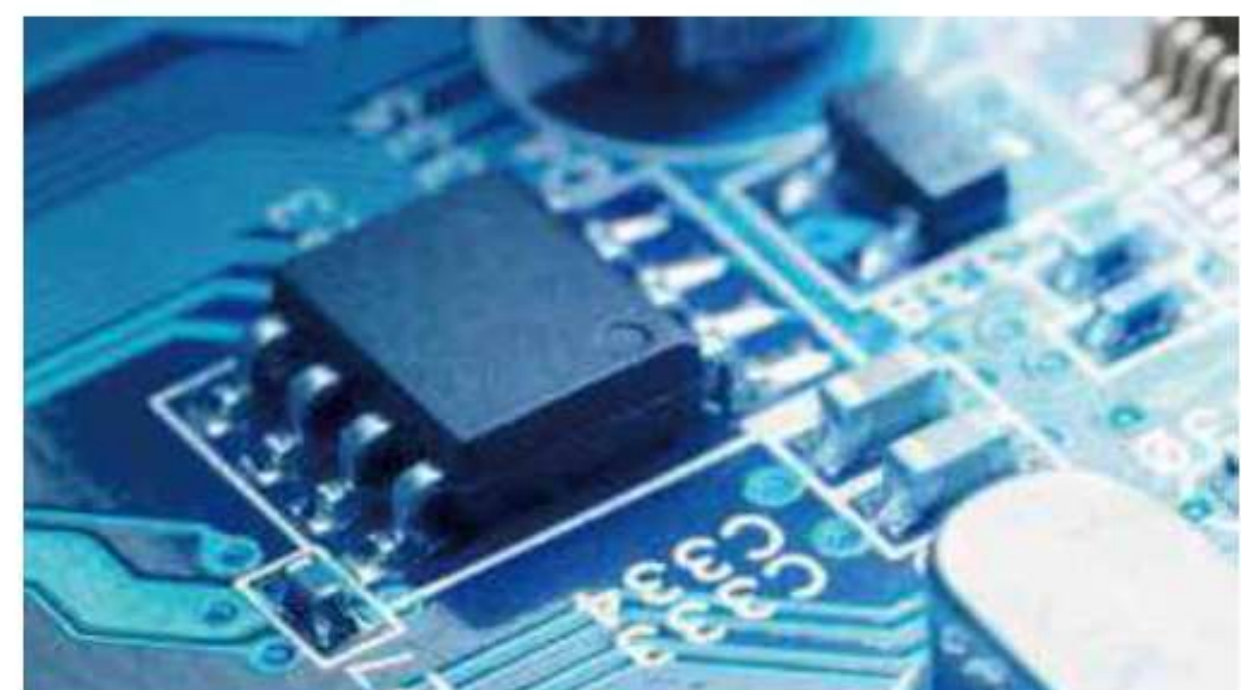
FREQUENCY CONTROL	API Technologies	Kyocera	Murata	Panasonic	TDK	Vishay - Dale
	Crystals	●	◆	◆	◆	◆
Oscillators	●	◆	◆	◆	◆	◆
Piezo Sound Devices		◆	◆	◆	◆	◆
Resonators		◆	◆	◆	◆	◆
Tuning Forks		◆	◆	◆	◆	◆

# Discretes

POWER SEMICONDUCTORS	AVX	Bourns	Littelfuse - Teccor	Panasonic	ROHM Semiconductor	Semelab (TT Electronics)	Vishay
<b>DIODES</b>							
Arrays		◆	◆		◆	◆	◆
Schottky	◆			◆	◆	◆	◆
Small Signal		◆			◆	◆	◆
TVS	◆	◆	◆		◆	◆	◆
Zener		◆		◆	◆	◆	◆
<b>RECTIFIERS</b>							
Bridge					◆		◆
Rectifiers		◆	◆		◆	◆	◆
Schottky					◆	◆	◆
SCRs		◆	◆				◆
<b>THYRISTORS</b>							
Protection			◆				
Switching (SCRs, Triacs)			◆				◆
<b>TRANSISTORS</b>							
Bipolar		◆			◆	◆	
Small Signal		◆		◆	◆	◆	
<b>IGBTS</b>							
Discrete					◆		◆
Modules			◆		◆	◆	◆
<b>MOSFETS</b>							
High-voltage					◆	◆	◆
Low-voltage				◆	◆	◆	◆
Modules					◆	◆	◆



OPTOELECTRONICS	Littelfuse	Murata (MPS)	OPTEK (TT Electronics)	Panasonic	ROHM Semiconductor	Vishay
Digital Panel Meters		◆				
High Voltage Isolators			◆		◆	
Infrared Components			◆		◆	◆
LEDs - Indication				◆	◆	◆
LEDs Illumination <1W			◆	◆	◆	◆
LEDs - Illumination >1W			◆	◆	◆	◆
LED Displays					◆	◆
LED Drivers				◆	◆	◆
LED Modules			◆		◆	
Optical Sensing	◆		◆		◆	◆
Opto Solutions			◆			
Optocouplers					◆	◆
Solid State Relays					◆	◆



ADDITIONAL DISCRETE COMPONENTS	ROHM Semiconductor	Semelab (TT Electronics)	Vishay
Analog	◆	◆	◆
LED Drivers	◆		◆
Motor Control Drivers	◆		◆
RF Diodes	◆	◆	◆
RF Transistors	◆	◆	◆
Voltage Regulators	◆	■	◆

■ MIL Spec Discretes (DSCC)

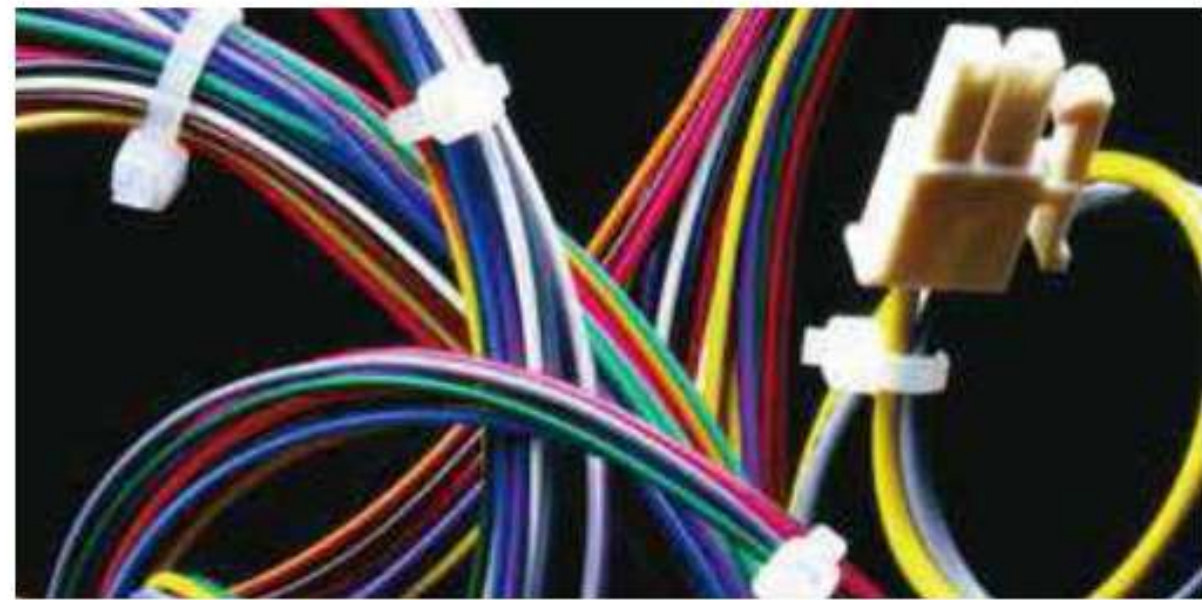
◆ Lead-free only parts available ▲ Lead-only compliant parts available

# Interconnect

BACKPLANE, BOARD-TO-BOARD & DEVICE-TO-BOARD	3M	AirBorn	Amphenol	Amphenol Commercial	Amphenol PCD	Amphenol TCS	AVX - Elco	Bourns	FCI	Harwin	Molex	Omron	Panasonic	TE Connectivity
	<b>BACKPLANE</b>													
10 Gb/s+ Solutions	◆	◆	◆						◆		◆			◆
2.00 mm (.079 inch)	◆						◆		◆		◆			◆
AOC Assemblies	◆			◆					◆		◆			◆
Assemblies (Backplane)	◆										◆			◆
ATCA/MicroTCA	◆						◆		◆		◆			◆
Cable Assemblies	◆	◆					◆		◆		◆			◆
Card Edge	◆	◆	◆				◆		◆		◆			◆
Compact PCI	◆		◆				◆		◆		◆			◆
DIN 41612 (Eurocard)	◆						◆		◆		◆			◆
Fiber Optic	◆				◆				◆		◆			◆
Future Bus	◆								◆		◆			◆
Hard Metric	◆						◆		◆		◆			◆
High Speed Cable Assemblies	◆	◆		◆					◆		◆			◆
PCI Express	◆		◆						◆		◆			◆
Power	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
RF / Ganged RF			◆						◆		◆			◆
SCA-2				◆					◆		◆			◆
<b>BOARD TO BOARD</b>														
Ball Grid Array (BGA)	◆					◆			◆		◆			◆
Battery Connectors							◆	◆	◆	◆	◆			◆
Board Stacking	◆	◆				◆	◆	◆	◆	◆	◆			◆
Breakaway Headers	◆		◆						◆		◆			◆
Compression	◆	◆					◆	◆	◆	◆	◆			◆
Headers & Receptacles	◆		◆		◆		◆	◆	◆	◆	◆			◆
Mezzanine/FPC	◆				◆		◆	◆	◆	◆	◆	◆	◆	◆
Power	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Rotary Backlock												◆		
SCSI	◆		◆						◆		◆			◆
Shunts	◆		◆						◆		◆			◆
Stacking	◆	◆	◆				◆	◆	◆	◆	◆			◆
<b>DEVICE TO BOARD</b>														
AOC Assemblies	◆			◆					◆		◆			◆
DIMM							◆		◆		◆			◆
DIP	◆								◆		◆			◆
High Speed Cable Assemblies	◆	◆		◆					◆		◆			◆
PCMCIA	◆								◆		◆			◆
PGA	◆								◆		◆			◆
PLCC	◆								◆		◆			◆
Rambus									◆		◆			◆
RIMM / DIMM / SIMM									◆		◆			◆
Rotary Backlock												◆		
SIP	◆								◆		◆			◆
Slot 1 & 2									◆		◆			◆
SO DIMM & RIMM							◆		◆		◆			◆
Test / Bum-In Sockets	◆								◆		◆			◆
Transistor									◆		◆			◆



WIRE-TO-BOARD WIRE-TO-WIRE	3M	AirBorn	Amphenol	AVX - Elco	FCI	Harwin	Molex	Phoenix Contact	Smiths Connectors	Souriau (Esterline Connection Tech)	TE Connectivity
	1.00 mm (.039 inch)	◆			◆	◆	◆	◆			
1.25 mm (.049 inch)					◆	◆	◆				◆
1.27 mm (.050 inch)	◆				◆	◆	◆				◆
2.00 mm (.079 inch)	◆				◆	◆	◆	◆	◆		◆
2.50 mm (.098 inch)					◆	◆	◆	◆	◆		◆
2.54 mm (.100 inch)	◆	◆			◆	◆	◆	◆	◆		◆
3.00 mm (.118 inch)	◆				◆	◆	◆				◆
3.68 mm (.145 inch)								◆			◆
3.96 mm (.156 inch)								◆			◆
4.00 mm (.157 inch)				◆							◆
4.20 mm (.165 inch)								◆			◆
5.00 mm (.197 inch)								◆	◆		◆
5.03 mm (.198 inch)								◆			◆
5.08 mm (.200 inch)								◆	◆		◆
6.35 mm (.250 inch)								◆	◆		◆
7.50 mm (.295 inch)								◆	◆		◆
9.00 mm (.354 inch)				◆							◆
10.00 mm (.393 inch)									◆		◆
Bus Bar						◆		◆	◆		◆
Cable Assemblies	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Discrete Wire	◆			◆	◆	◆	◆	◆	◆	◆	◆
FFC / FPC				◆	◆	◆	◆				◆
IDC Discrete Wire	◆			◆	◆	◆	◆	◆	◆	◆	◆
IDC / Mass Termination	◆		◆	◆	◆	◆	◆	◆	◆	◆	◆
Mini D Ribbon / Champ			◆								◆
Power	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
SATA / SAS / Mini SATA	◆		◆	◆	◆	◆	◆	◆	◆	◆	◆
SCSI I, II, III	◆		◆					◆			◆



MEMORY CARD CONNECTORS	3M	Amphenol	AVX - Elco	C&K	FCI	Molex	TE Connectivity
	CompactFlash™	◆	◆	◆		◆	◆
DDR/DDR2/Mini DDR2			◆		◆	◆	◆
Express Card					◆	◆	◆
Full Size Card				◆			
Memory Stick / Duo					◆	◆	◆
Micro SD			◆		◆	◆	◆
Mini SD			◆		◆	◆	◆
MMC		◆	◆		◆	◆	◆
PC Card / CardBus		◆	◆		◆	◆	◆
PCMCIA	◆				◆	◆	◆
SD (Secure Digital)	◆		◆		◆	◆	◆
Smart Card (SAM)				◆			
Smart Card (SIM)		◆	◆		◆	◆	◆
TransF		◆					◆
xD		◆					◆

CompactFlash™ is a trademark of the Compact Flash Association

◆ Lead & Lead-free compliant parts available ◆ Lead-free only parts available

# Interconnect

AUDIO	Amphenol Audio	Amphenol Nexus	Amphenol Tuchel	Spectrum Control (API Technologies)	TE Connectivity
1/4" Phone (T Series, M Series and Jacks)	◆				
1/4" Phone SwitchPlug	◆				
3.5mm PCB	◆				
AC PDN	◆				
AC Series XLR Cable	◆				
AC Series XLR Metal "Z" Chassis Mount	◆				
AC Series XLR PCB Chassis Mount	◆				
AC Series Dual 1/4" XLR	◆				
AC Series XLR Thermoplastic Chassis Mount	◆				
Accessories	◆	◆			
AX Series XLR Cable	◆				
BNC 75ohm Connectors	◆				◆
C Type Combo 1/4" - XLR PCB	◆				
EP/AP Series High Power	◆				
Multipin Series	◆	◆	◆	◆	
RCA Series	◆	◆			
SP High Current Loudspeaker	◆				
XLRnet Series Cable	◆				
XLRnet Series PCB / Chassis Mount	◆				

TERMINAL BLOCKS	Amphenol PCD	FCI	Molex - Beau	Phoenix Contact	Souriau	Spectrum Control (API Technologies)	TE Connectivity
Barrier Strips			◆			◆	◆
Europa							◆
Eurostyle - Fixed / Pluggable	◆	◆	◆	◆		◆	◆
2.54/3.50/3.81/5.0/5.08 mm	◆	◆	◆	◆			◆
Filtered						◆	
Interface Modules	◆			◆			
NEMA							◆
Phenolic			◆				◆
Push Button			◆				
Rail Mounted	◆			◆	◆	◆	◆
Screw Terminal	◆	◆	◆	◆	◆	◆	◆
Spring Clamp	◆	◆	◆	◆			◆



TRANSPORTATION	3M	Amphenol	AVX - Elco	Delphi	Fargo	FCI	Harwin	KOSTAL	Molex	PKC Group	Phoenix Contact	Souriau	Spectrum Control (API Technologies)	TE Connectivity
<b>APPLICATIONS</b>														
Agricultural		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Automotive		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Commercial Vehicles		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Construction		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Marine		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Mass Transit		◆	◆			◆	◆		◆			◆	◆	◆
Recreational Vehicles		◆	◆	◆	◆	◆		◆	◆	◆	◆	◆	◆	◆
<b>INTERCONNECTS</b>														
Backplane	◆	◆	◆			◆			◆					◆
Backshells	◆	◆	◆	◆		◆			◆			◆		◆
Board-to-Board	◆	◆	◆	◆		◆	◆		◆		◆			◆
Circular		◆		◆		◆	◆		◆		◆	◆		◆
Contacts		◆		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Device-to-Board	◆	◆	◆	◆		◆	◆		◆					◆
Input / Output	◆	◆	◆	◆		◆	◆	◆	◆		◆	◆	◆	◆
Memory Card	◆	◆	◆			◆			◆					◆
RF / Coax / Microwave		◆							◆					◆
Solderless Terminals	◆			◆		◆		◆	◆	◆				◆
Speciality	◆	◆	◆	◆	◆	◆		◆	◆	◆	◆	◆	◆	◆
Terminal Blocks		◆				◆			◆	◆	◆	◆	◆	◆
Tooling	◆	◆	◆	◆		◆		◆	◆	◆	◆	◆	◆	◆
USB	◆	◆	◆								◆			◆
Wire & Cable	◆	◆							◆					◆
Wire Management	◆			◆		◆			◆	◆				◆
Wire-to-Board	◆	◆	◆	◆		◆	◆	◆	◆	◆	◆	◆	◆	◆
Wire-to-Wire	◆	◆	◆	◆		◆	◆	◆	◆	◆	◆	◆	◆	◆

◆ Lead-free only parts available



# Interconnect

WIRE & BOARD MANAGEMENT/ ACCESSORIES	3M	AirBorn	Amphenol	Amphenol PCD	AVX - Elco	FCI	Harwin	Molex	Phoenix Contact	Souriau	TE Connectivity
Backshells	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Cable Clips	◆						◆				◆
Cable Management	◆			◆					◆		◆
Cable Marker Ties	◆								◆		◆
Cable Mounts	◆						◆				
Cable Spacers	◆						◆				
Cable Terminals	◆						◆	◆			◆
Cable Ties	◆							◆	◆		
Heat Shrink Products	◆						◆	◆	◆		◆
Jumper Links						◆	◆	◆			
Labeling Systems	◆								◆		◆
Labels	◆								◆		◆
PCB Spacers	◆		◆				◆				
PCB Terminals			◆				◆	◆	◆	◆	◆
Printers/Software and Ribbons	◆								◆		◆
RFI Clips & Fingers							◆				◆
Shorting Links							◆	◆			
Solderless Terminals	◆					◆		◆	◆		◆
Splices	◆		◆	◆				◆	◆		◆
Stainless Steel Accessories	◆										◆
Test Points							◆				◆
Tooling	◆	◆	◆			◆	◆	◆	◆		◆
Wire & Cable	◆			◆			◆	◆	◆		◆
Wire Ducting	◆								◆		

RF/COAXIAL/MICROWAVE	3M	AirBorn	Amphenol Aero	Amphenol Connex	Amphenol RF	Amphenol SV Microwave	Molex	TE Connectivity
1.0 / 2.3						◆		◆
1.6 / 5.6						◆		◆
7 / 16				◆		◆		◆
BMA						◆		◆
BNC (50/75Ω)				◆	◆	◆		◆
BNC (Miniature)					◆	◆		◆
B to B Blindmate/Compression						◆		◆
BSA				◆	◆	◆		◆
FAKRA					◆	◆		◆
MCX / MMCX				◆	◆	◆		◆
MHV / SHV					◆	◆		◆
Microwave Cable Assemblies								◆
Precision <sup>1</sup>					◆	◆		◆
QMA						◆		◆
Reverse Polarity <sup>2</sup>				◆	◆	◆		◆
RF Cable Assemblies								◆
Shielded Terminators				◆				◆
SMA				◆	◆	◆		◆
SMB (50/75Ω)				◆	◆	◆		◆
SMB (Miniature)				◆	◆	◆		◆
SMC				◆	◆	◆		◆
SMP					◆	◆		◆
SMT					◆	◆		◆
SSMA						◆		◆
TNC					◆	◆		◆
Triax				◆	◆	◆		◆
Twinax		◆	◆	◆	◆	◆		◆
Type F/G				◆	◆	◆		◆
Type N				◆	◆	◆		◆
UHF / MiniUHF				◆	◆	◆		◆

<sup>1</sup> 2.4 / 2.9 / 3.5 / 7mm

<sup>2</sup> BNC, MMCX, N, SMA, TNC

◆ Lead-free only parts available

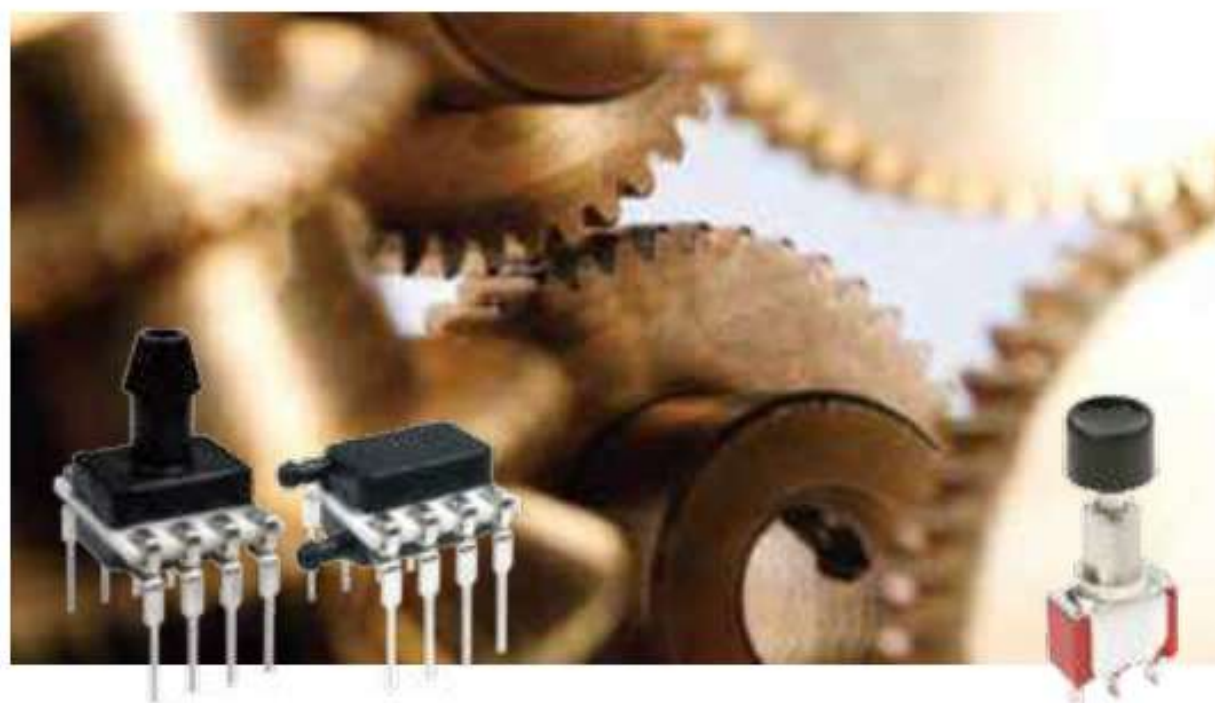
SPECIALTY	3M	AirBorn	Amphenol	Amphenol Commercial	Amphenol PCD	AVX - Elco	Bourns	Delphi	FCI	Harwin	Molex	Omron	Panasonic	Phoenix Contact	Souriau	Spectrum Control (API Technologies)	TE Connectivity
Automotive						◆		◆			◆						◆
Battery			◆				◆			◆	◆					◆	◆
COTS		◆	◆			◆			◆	◆	◆					◆	◆
EMI Shielded	◆	◆	◆		◆				◆	◆	◆					◆	◆
Filtered			◆	◆							◆					◆	◆
Harsh Environment	◆	◆	◆		◆					◆	◆					◆	◆
Hermetic		◆	◆													◆	◆
High Voltage		◆	◆	◆							◆				◆	◆	◆
Industrial	◆		◆		◆	◆					◆				◆	◆	◆
LED Connector				◆									◆				
M8/M12												◆					◆
Micro Miniature / Nano	◆	◆	◆	◆		◆			◆		◆			◆	◆		◆

INPUT/OUTPUT	3M	AirBorn	Amphenol	Amphenol Commercial	Amphenol PCD	AVX - Elco	FCI	Harwin	Molex	Omron	Panasonic	Phoenix Contact	Souriau	Spectrum Control (API Technologies)	TE Connectivity	
1394 & 1394b		◆	◆	◆					◆					◆	◆	
Audio			◆		◆										◆	◆
Camera Link / Mini Camera Link	◆															
Circular	◆		◆		◆			◆	◆				◆	◆	◆	◆
Combo I/O	◆			◆				◆	◆						◆	◆
Display Port				◆				◆	◆						◆	◆
D-Subminiature	◆		◆		◆								◆	◆	◆	◆
DVI			◆					◆	◆	◆					◆	◆
Fiber Channel				◆				◆	◆						◆	◆
Fiber Optic	◆		◆					◆	◆					◆	◆	◆
Filtered I/O	◆			◆					◆						◆	◆
HDMI / Micro HDMI				◆	◆			◆	◆						◆	◆
IPass				◆				◆	◆						◆	◆
InfiniBand <sup>®</sup>				◆	◆			◆	◆						◆	◆
M12 / M12D / M8											◆				◆	◆
Micro D		◆	◆						◆						◆	◆
Mini DIN / Circular DIN			◆												◆	◆
Mini D-Subminiature															◆	◆
Mobile Systems									◆						◆	◆
Modular Plugs & Jacks	◆		◆	◆				◆	◆						◆	◆
PCI Express				◆				◆	◆						◆	◆
Power	◆		◆	◆				◆	◆						◆	◆
Push / Pull									◆						◆	◆
Rectangular	◆	◆	◆		◆	◆		◆	◆						◆	◆
RF / Coax / Microwave	◆		◆						◆		◆	◆	◆	◆	◆	◆
RJ / Industrial Ethernet				◆	◆	◆		◆	◆	◆			◆	◆	◆	◆
SATA / SAS / Mini SATA	◆		◆	◆		◆		◆	◆						◆	◆
SCSI	◆		◆	◆				◆	◆						◆	◆
SFP / XFP				◆				◆	◆						◆	◆
TDP									◆						◆	◆
USB / Mini USB / USB OTG			◆	◆	◆	◆	◆	◆	◆				◆	◆	◆	◆

InfiniBand<sup>®</sup> is a trademark of the InfiniBand Trade Association

# Electromechanical

	AVX	Bourns	Honeywell	KOA	Littelfuse, Hamlin	Murata	Omron Automation & Safety	Omron Components	Panasonic	ROHM Semiconductor	TDK / EPCOS	TT Electronics	Vishay
<b>SENSORS</b>													
●	On-board												
○	Off-board												
◆	Both On and Off-board												
<b>MOTION/POSITION/SPEED</b>													
Accelerometer			○		●	●	●	●	●	●			
Encoder/Rotary		○	◆		○	●	◆	●	●			●	
Inclinometer/Tilt						◆		●					●
Inertial Measurement Unit			○		●								
Liquid Level			○		○			○			●		
Motion (Human Presense)					●	●		◆	◆				
Position, Displacement		○	○					●	●				○
Proximity			○		○	●	○	○		◆		○	○
Shock & Vibration			○		●	●		◆	◆				
Speed (Hall-Effect)		◆	◆		○	●		◆	◆		○	◆	
Ultrasonic			○		◆	○							
<b>OPTICAL</b>													
Ambient Light					●	●		●	●				●
Fiber Optic			○			○							
Infrared			◆		●			●				●	
Photodiodes			●									●	●
Photoelectric			◆									◆	◆
<b>PRESSURE/FORCE/FLOW</b>													
Barometer					●								
Flow			◆			◆	◆					○	
Force			●										
Load Cell/Load Pin			○										
Pressure			◆		●			◆		●		◆	
<b>THERMAL/HUMIDITY</b>													
Air/Gas/Fluid Property			◆									●	
Combination MEMS/SMD			●				●						
Heaters			◆										
Humidity			●									●	
NTC Thermistor	●		◆	●	●	●		●	●		◆	◆	◆
Probes & Assemblies			○								○	○	○
PTC Thermistor				●	●			◆		●	◆	◆	
RTD			◆			◆							●
Thermocouples						○						○	
Thermophile							●						
<b>OTHER</b>													
Auto/Vehicle		●	◆		●						●	●	
Capacitive Touch						●							
Current			◆			●					○		



	Murata Power Solutions	Omron Industrial	Panasonic	Phoenix Contact	TDK
<b>POWER SUPPLIES</b>					
AC/DC Power Supplies	◆	◆		◆	
DC/DC Power Converters	◆	◆	◆		
DC/AC Power Inverters		◆			◆

◆ Lead-free only parts available

	Bourns	C&K Components	Hamlin (Littelfuse)	Honeywell	KEMET / NEC TOKIN	Omron	Panasonic	Phoenix Contact	TE Connectivity
<b>RELAYS, CIRCUIT BREAKERS &amp; SWITCHES</b>									
<b>RELAYS</b>									
Automotive						◆	◆		◆
Communication							◆	◆	◆
Compressor									◆
Contactors									◆
Crystal Can									◆
Definite Purpose Contactors									◆
DIN Rail Mounted							◆	◆	◆
Dry Reed				◆					◆
Forcibly-Guided Contact							◆		◆
General Purpose							◆	◆	◆
High Voltage Switching							◆	◆	◆
Industrial DC & AC							◆	◆	◆
Input/Output Modules							◆		◆
Low Signal PCB							◆		◆
Magnetic Latching							◆		◆
Military									◆
Miniature PCB							◆	◆	◆
MOSFET							◆		◆
Panel/Plug-In							◆	◆	◆
Phase Sequencing									◆
Power							◆	◆	◆
Power Controllers									◆
Power Distribution Panels									◆
Power PCB							◆	◆	◆
Programmable Time Delay							◆		◆
Protective							◆	◆	◆
Reed				◆					◆
Reverse Power									◆
RF									◆
Rotary									◆
Safety							◆	◆	◆
Signal							◆	◆	◆
Sockets							◆	◆	◆
Solid State							◆	◆	◆
Time Delay							◆		◆
Timers							◆		◆
TO-5									◆
Traffic Control									◆
<b>CIRCUIT BREAKERS</b>									
Electronic Circuit Breaker									◆
Hydraulic / Magnetic Circuit Breakers									◆
Thermal Circuit Breakers									◆
<b>SWITCHES</b>									
Contact Block							◆		◆
Detector				◆			◆	◆	◆
DIP				◆			◆		◆
Encoder									◆
Fader									◆
Hour Meter									◆
Industrial				◆			◆	◆	◆
Keylock				◆			◆		◆
Keypress				◆			◆		◆
Knobs							◆		◆
Limit				◆			◆		◆
Membrane							◆		◆
Navigation				◆					◆
Optical							◆	◆	◆
Paddle				◆			◆		◆
Panel Mount				◆			◆		◆
Power Rocker				◆					◆
Pressure Switch							◆		◆
Pushbutton				◆			◆	◆	◆
Pushwheel				◆					◆
Reed							◆		◆
Rocker				◆			◆		◆
Rotary				◆			◆		◆
Safety				◆			◆		◆
Selector				◆			◆		◆
Slide				◆					◆
Snap Action				◆			◆	◆	◆
Special Purpose				◆			◆	◆	◆
Switchlock				◆					◆
Surface Mount				◆			◆	◆	◆
Tactile				◆			◆	◆	◆
Thumbwheel				◆			◆		◆
Toggle				◆			◆		◆
Vacuum							◆		◆

**THANK YOU**

