



ES Components

A Franchised Distributor

108 Pratts Junction Road
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GM SYSTEMS



All The Bare Die, Surface Mount, And Precision Components You Need

- ✓ Large Off The Shelf Inventory (OTSI)
- ✓ MIL-PRF-38534/19500 Element Evaluations to Class H and K
- ✓ Up-screening to Military and Customer Drawings
- ✓ We also have a large inventory of obsolete (DMSMS) Die



All divisions including:

- Dale
- Electro-Films
- Semiconductors
- Sfernice
- Siliconix
- Sprague
- Vishay Thin-Film
- Vitramon
- And many more...





		ASI	Gowanda	ISOLINK	Micrel	Microchip	Novacap	Semikron	Semicoa	Sendyne	Sensitron	Skyworks	United Silicon Carbide	Vishay Dale	Vishay Dale Thin-Film	Vishay Electro-Films	Vishay Semiconductors	Vishay - Sfernice	Vishay - Siliconix (IR Divested)	Vishay - Sprague	Vishay - Vitramon	VPG - Alpha	VPG - Foil Resistors	VPG - Powertron	Zetex		
Passives	Capacitors	CDR/MIL/DSCC																									
		High Frequency																									
		MIL-PRF-123																									
		MLCC																									
		MOS/NMOS																									
	High-Freq.	Tantalum																									
		Attenuators, Silicon Capacitors, Switches																									
	Inductors	Spiral																									
		Power/Hi-Freq./MIL																									
		Conical																									
Resistors	Thick-Film (including power)																										
	Thin-Film (including high frequency, high-temp and IGBT gate resistors)																										
	Current Sensing and Shunt, Metal Foil																										
	Calibration – Standard/Reference																										
	Thermistors																										
	Ultra Precision Surface Mount, J-Lead, Metal Foil																										
Substrates	Power and High Frequency																										
Actives	Diodes	Rectifiers, Power Zener, TVS, Schottky , Switching , High Voltage																									
		Small Signal Zener, ESD																									
	High-Freq.	LNA, Pin, Varactor, Limiter, GaAs																									
	Integrated Circuits	Micros & Memory																									
		PLLs and Clock Generators																									
		Interface Controllers																									
		LDOs, Op-Amps																									
		Analog Switches																									
	IGBT	IGBT and Fred PT Gen 4 Diode																									
	Modules	Precision High/Low Current Sensing																									
		Power Ground Fault Detection																									
	Opto Couplers																										
	Silicon Carbide	JFETs																									
		Diodes - Schottky																									
	Transistors and MOSFETs	VIMOS L-Band and UHF (Pulsed Power LDMOS Alternative)																									
MOSFET & JFET																											
MOSFET Drivers																											
Small Signal RF Transistors																											
Bipolar (including JAN versions)																											

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- Bare Die – Wire Bondable – Epoxyable
- ◆ Packaged (SMT/Through Hole)
- Bare Die or Packaged (SMT/Through Hole)





Die/Hybrid Applications										SMT and Through-Hole Applications							
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		Connector (Protection)	High - Temp. Downhole	Medical Implant	Medical Inst.	Military and Space	Oscillators/Frequency Control	Power Modules and Invertors	Radar - GPS	RF/Microwave	Solar Panels (Bypass Diode)	Battery Management and EV	Calibration Resistors	Medical Instrumentation	Motor Control	Oscillators/Frequency Control	Power Modules - Convertors	Radar - GPS	RF/Microwave	Solar Panels - Invertors	Test Equipment		
Passives	Capacitors	CDR/MIL/DSCC				✓																	
		High Frequency			✓	✓	✓		✓	✓				✓		✓		✓	✓			✓	
		MIL-PRF-123				✓																	
		MLCC				✓	✓								✓								
		MOS/NMOS			✓		✓				✓												
	High-Freq.	Tantalum											✓			✓		✓				✓	✓
		Attenuators, Silicon Capacitors, Switches				✓	✓	✓		✓	✓												
	Inductors	Spiral			✓	✓	✓	✓		✓	✓												
		Power/Hi-Freq./MIL				✓	✓	✓	✓	✓	✓		✓		✓		✓	✓	✓	✓			
		Conical					✓	✓		✓	✓						✓		✓	✓			
Resistors	Thick-Film (including power)					✓		✓				✓			✓		✓				✓		
	Thin-Film (including high frequency, high-temp and IGBT gate resistors)		✓	✓		✓		✓				✓		✓	✓		✓				✓		
	Current Sensing and Shunt, Metal Foil	✓			✓	✓		✓				✓		✓	✓		✓				✓	✓	
	Calibration – Standard/Reference													✓								✓	
	Thermistors		✓	✓	✓	✓						✓		✓	✓							✓	
Substrates	Ultra Precision Surface Mount, J-Lead, Metal Foil					✓																	
	Power and High Frequency					✓		✓				✓			✓		✓				✓		
Diodes	Rectifiers, Power Zener, TVS, Schottky , Switching , High Voltage	✓	✓	✓	✓	✓	✓	✓				✓		✓	✓		✓				✓	✓	
	Small Signal Zener, ESD		✓	✓	✓	✓		✓				✓		✓	✓		✓				✓	✓	
High-Freq.	LNA, Pin, Varactor, Limiter, GaAs					✓	✓			✓												✓	
Integrated Circuits	Micros & Memory		✓	✓	✓	✓						✓		✓	✓							✓	
	PLLs and Clock Generators					✓	✓									✓						✓	
	Interface Controllers					✓	✓					✓										✓	
	LDOs, Op-Amps					✓	✓		✓			✓		✓	✓		✓				✓	✓	
	Analog Switches					✓	✓															✓	
Modules	IGBT and Fred PT Gen 4 Diode					✓		✓				✓			✓		✓				✓		
	Precision High/Low Current Sensing							✓				✓			✓		✓				✓	✓	
Opto Couplers	Power Ground Fault Detection							✓				✓			✓		✓				✓		
						✓									✓								
Silicon Carbide	JFETs		✓			✓		✓				✓		✓	✓		✓				✓		
	Diodes - Schottky		✓			✓		✓				✓		✓	✓		✓				✓		
Transistors and MOSFETs	VIMOS L-Band and UHF (Pulsed Power LDMOS Alternative)					✓		✓										✓					
	MOSFET & JFET			✓	✓	✓		✓				✓		✓	✓		✓				✓	✓	
	MOSFET Drivers			✓	✓	✓		✓				✓		✓	✓		✓				✓	✓	
	Small Signal RF Transistors					✓			✓	✓									✓	✓			
	Bipolar (including JAN versions)					✓																	

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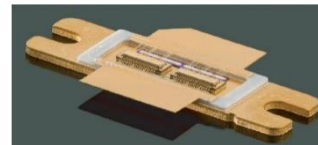
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"From Old to New"

ASSEMBLY SERVICES - ELECTRONIC COMPONENTS, DESIGN, TEST AND SOFTWARE SERVICES
SUBSTRATES & PACKAGES - EQUIPMENT & TOOLS - MATERIALS & ADHESIVES

Representing the following Companies:

ASSEMBLY SERVICES

Advanced Circuit Technology is a contract manufacturer of hybrid circuits and SMT printed circuit board assemblies and boxes. Advanced Circuit Technology is ITAR certified, has a secure facility for classified work, an Altitude Chamber, and a SCS Parylene Conformal Coater (<http://www.advcircuit.com/index.php>)

Cirtek Electronics—semiconductor and SMT device assembly providing services from wafer probe, wafer back grinding, wire bonding, assembly and packaging and final testing of semiconductor devices. Plastic Package offerings range from diodes, QFN's, Metal can TO-packages, to Chip on Board (COB). (<http://www.cirtek-electronics.com>)

ELECTRONIC COMPONENTS, DESIGN, TEST and SOFTWARE SERVICES

Agile Microwave Technology design, develops and manufacturers standard and custom RF and Microwave LNA's and Power Amplifiers, multi-function RF & Microwave modules and MCM's for Wireless, Telecom, Military and Space Markets. (<http://www.agilemw.com>)

DTA-SA is Satellite Equipment Manufacturer (Amplifiers- SSPA, Demodulator, Down Converters, Embedded software) providing development of customized and standard products in the field of satellite communication both for turnkey terrestrial solutions as well as for on board satellite Flight systems. (<http://www.dta-sa.com/index.html>)

OMMIC is a supplier of MMIC circuits, Foundry Service and Epitaxial Wafers based on III-V (GaAs, GaN and InP) materials. OMMIC provides its customers with cutting edge performance for Telecommunication, Space and Defense Applications. include mixed mode E/D PHEMT, Low Noise and Power PHEMT, Metamorphic HEMT and InP DHBT allowing the design of a wide range of MMICs including LNAs from 900 MHz to 160 GHz, Highly Integrated T/R Functions and Millimeter wave Power Amplifiers. (<http://www.ommic.com>)

COMPUPOWER PRIVATE LIMITED— over the years has provided highly reliable 1553 databus couplers and transformers for Mil-Std-1553 applications as well as providing custom design, manufacturing and test services related to Mil-Std-1553 Data Bus Products. In addition to offering of-the -shelf products for Military and Aerospace markets. (<http://www.compupowerindia.com/index.html>)

CISSOID is the leader in high temperature semiconductor solutions, delivering standard products and custom solutions for power management, power conversion and signal conditioning in extreme temperature and harsh environments. CISSOID provides high reliability products guaranteed from -55°C to +225°C and commonly used outside that range, from cryogenic lows to upper extremes. (<http://www.cisoid.com>)

ES Components is a bare die distributor supplying Military and Commercial grade Bare Die and Epoxy Mountable Passive components to the Hybrid and MCM markets. With an extensive inventory of over 40,000 line items, managed inventory solutions and value-added services, ES Components is your source for active and passive microelectronic components in wafer, bare die, and package form. (<http://www.escomponents.com/index.php>)

Silicon Link is a supplier of power management Integrated Circuits, Power MOSFETS, TVS Diode, SCR's semiconductors. Silicon Link acquired the semiconductor division of Astec Power Supply. (<http://www.silicon-link.com>)

Indie Semiconductor is a privately held semiconductor company, specializing in custom ASIC development for embedded systems in the consumer, medical and automotive spaces. Indie's ASICs may embed an ARM microcontroller core together with a variety of analog and mixed signal blocks, including low power or high voltage power management, wired and wireless communications interfaces, sensor interfaces, user interfaces or high voltage control interfaces. (<http://www.indiesemi.com>)

Midarome Electronics is a consulting firm specializing in product/test engineering and product marketing for discrete semiconductors. Specific services include troubleshooting yield/quality problems, optimizing test methods, sourcing test equipment, sourcing wafer foundries, and training. The training covers areas of project management, strategic marketing of technology products and QA methods. (<http://www.midarome.com>)

GM SYSTEMS, LLC. LINE CARD

Y.L.S Precision Industry Ltd. is a manufacturer of custom connectors, sensor housings, Insert Molding, automobile parts, computer peripheral connectors. They are the qualified supplier of TI, Sensata, Molex, FCI, Samtec, Teledyne, Amphenol, Foxlink, Taisol. (<http://www.yls-plastic.com/eng/index3.php>)

Aldec, Inc. is an industry-leading Electronic Design Automation (EDA) company delivering innovative design creation, simulation and verification solutions to assist in the development of complex FPGA, ASIC, SoC and embedded system designs. (<http://www.aldec.com/en>)

ALE System Integration provides custom Software and Hardware test solutions that save you time and money using the latest tools (LAB VIEW) and industry best practices. With flexible tools we are able to service a wide variety of industries and unique product applications including Commercial Component and Systems Manufacturing, Military, Aerospace, Test Labs, Research Groups, Automotive, Medical, Hospital, Oil & Gas, Telecommunications, RF and Microwave products, Railroad and Rail Systems, Data Interfacing & Measurement, Semiconductor Test, Energy, and Financial software. (<http://www.aleconsultants.com>)

Sysacom is an engineering firm that specializes in custom electronic circuits and systems design. They can develop the architecture and complete system designs, develop layouts, printed circuits, software and manufacture prototypes and experience with high performance circuits (VHDL) for high speed logic, audio, video and acoustic signal processing, engine controller, machine-to-machine. (www.sysacom.com)

GM Systems is a consulting company involved in project management, microelectronic marketing, sales, design, supply chain, manufacturing and assembly delivering innovative, customized electronic systems, semiconductor components, and RF solutions to a global base of leading OEMs

EQUIPMENT & TOOLS

Midarome also sells test equipment (handlers & testers) for discrete semiconductors and analog/mixed-signal devices, as well as hard-to-find components. (<http://www.midarome.com>)

Micro Printing Systems is the worldwide manufacturer and supplier of the MPS screen printers, Models TF100 and SP1500, to the hybrid, ceramic, micro-electronic and PC solder paste industries. & Squeegee materials. (<http://www.mps-intl.com>)

Micro-Coat Technologies provides specialized adhesives, coatings equipment for UV exposure and dispensing applications

MATERIALS

Koartan Microelectronic Interconnect Materials manufactures standard and custom thick film pastes which include silver, gold, and copper conductors, resistors, NTC and PTC thermistors, multilayer, cross-over, and capacitor dielectrics, sealing glasses, BeO and aluminum-nitride compatible pastes, thin-print, etchable, and nickel platable conductors. As well as aluminum wire bondable conductors for high temperature electronics. (<http://koartan.com>)

Micro-Coat Technologies provides specialized adhesives, coatings and equipment for high-tech and high-reliability applications used in semiconductors, military, medical, aerospace, high temperature electronics, and solar products. The company's diverse offerings include UV, Thermal & Air Cure Coatings, and Adhesives for the Semiconductor and SMD/PCB Assembly (Die Attach, Lid Seal, and Board Coatings), Optoelectronics and LED's (Optical coatings). (<http://www.m-coat.com/>)

SUBSTRATES & PACKAGES

Microcertec specializes in the Precision Grinding of advanced design ceramics. Our unique expertise is to combine precision grinding of 3D ceramics, thin-film metalizing and laser micro machining to serve high-tech markets as photonics, electronics, aerospace, semiconductors, and analytical instrumentation. (<http://www.microcertec.com/>)

Kerdry offers a wide variety of vacuum deposited thin films used in the Medical, Telecom, Military, and Aerospace Industries. (http://www.kerdry.com/english_kerdry/)

PNL INNOTECH Provides Glass and Ceramic-to-Metal hermetic components such as: Metal brazing to ceramics (Alumina, Zirconia, B4C, AlN, SiC, Si3N4), Glass-to-Titanium seals, Bakeable feedthroughs and connectors, Housing for Medical implants and U.H.V. viewports (Glass, Quartz, Sapphire, CaF2, BaF2) (<http://www.microcertec.com/>)

Shanghai Kessen Ceramics Co.,Ltd is an industrial ceramics and refractory materials manufacturer in China for years supplying oxide materials, nitride materials, carbon materials and other products. Our crucibles, tubes, rings, plates, balls and varied parts are used in varied industries as electricity, information, power, automobile, petrol, semiconductor, medical apparatus, electronic, and hybrids. **Pressed Oxide Materials** Al2O3,ZrO2,MgO,SiO2,Y2O3,BeO, **Nitride Materials** Si3N4,BN,AlN **Carbide Materials** SiC,C,B4C (<http://www.kscera.com>)

Sentec is a high volume manufacturer of metalized ceramic substrates for Low (<1W) to High (10W) power applications. They provide DBC substrates utilizing thin-film technology for the LED/ Optoelectronics, Automotive, Microwave, Semiconductor and Solar markets. Using Panasonic Process they manufacture High Accuracy **LOW SHRINKAGE** Multi-layer LTCC Substrates, Cu Slug Ceramic Substrate, Hermetic Ceramic Package (<http://www.sentecee.com>)