

/ LINECARD

AVNET[®] SILICA



SUPPLIER & TECHNOLOGY PORTFOLIO



PARTNERING FOR SCALE WITH DEDICATED RESOURCES AND ENHANCED TECHNICAL SUPPORT

Avnet ASIC Solutions is your one-stop-shop for ASIC Design Services and Turnkey manufacturing services, operating for over 30 years with 350 successful completed projects. We can step in with a very skilled design team and offer you flexible business models.

We offer a complete range of ASIC services, from specification to mass production, with robust design practices and smooth ramp path to mass production.

Avnet ASIC Solutions has strong established relationships with the main foundries like Samsung, TSMC, Global Foundry, ST, Xfab and SocioNext. We choose the technology that is most suited for a particular application and your specific needs and we take charge to enable you to work with a single point of contact only: Avnet ASIC Solutions. Our proven technology nodes expertise get down to advanced EUV 7nm for Digital, Analog or Mix Signal designs.

The ASIC focus application areas are: Automotive, Industrial, Artificial Intelligent, Consumer, Internet of Things, Bio-Medical, Communication, Crypto Currency and many more.

OUR SERVICE FOR YOU:

- Logic Design
- Verification
- Emulation
- Synthesis
- Backend (Chip Layout)
- Design for Test
- Physical Verifications
- Package Development
- Production Test Program
- Production Test H/W Development
- Mass Production Logistics Management

END OF LIFE SOLUTIONS:

The current and upcoming market changes bring more and more mature technology to an End of Life Status. The needed re-designs can often not be implemented in time with all re-design and re-qualification needs.

Avnet ASIC Solutions offers you to develop pin compatible solutions which avoid system re-design and re-qualification. Our replacement capabilities are Analog, Digital, Mix Signal as well as old ASIC (standard cell and gate array) and FPGAs with the capability to offer 5V and 5V/3.3V core voltage.

Visit avnet-asic.com for more information or contact us at asic-solutions@avnet.eu.

MCUS | MPUS



/ ANALOG

	Signal Chain		Power Management		Interface	
AMD / Xilinx	Switches and Muxes Op Amps & Comparators Current Sense Amplifiers Digital Pots	Data Converters (ADC - DAC) Analog Signal Conditioners Energy measurement AFE Audio/video Processing	Programmable Mixed Signal Voltage References	AC/DC converters/controllers DC/DC converters/controllers DC/DC Power Modules	Linear regulators Gated Drivers Motor and solenoid drivers Power Over Ethernet Battery management ICs Power/Load Switches LED and lighting drivers Supervisors/Reset ICs/voltage detectors	Hot-swap Power Management Wireless Chargers USB power PMICs RS-485/RS-232 CAN/LIN USB data SmartCard IO-link Poweline modems IO Expanders Level Translators Signal equalizers/conditioners/protection Digital Isolators Other interfaces
Cirrus Logic						
Diodes Incorporated	• • •	• •	•	• • • •	• • • • • • • •	• • •
Elmos		•		• •	•	•
Microchip	• • • • •	• • •	•	• • • • • • • •	• • • • • • • •	•
Monolithic Power Systems (MPS)	• • •		•	• • • • • • • •	•	•
Nexperia	•			•	• •	
NXP	•	• •	•	• • • • • • • •	• • • • • • • •	•
onsemi	• • • • •	• •	•	• • • • • • • •	• • • • • • • •	• • •
Qorvo	• •		•	• •	•	•
Renesas Electronics	• • • • •	• • •	•	• • • • • • • •	• • • • • • • •	•
ROHM Semiconductor	• •	•	•	• • • • • • • •	• • • • • • • •	•
Semtech	• •		•	• •	•	•
STMicroelectronics	• • •	• •	•	• • • • • • • •	• • • • • • • •	•
Teledyne - e2v	•			• • •	•	
Torex				• • •	•	



/ SENSORS

	ENVIRONMENT						MOTION			HMI & Others									
	Temperature	Light / Proximity	Pressure	Humidity	Gas / Smoke	Ultrasonic	Flow / Mass	Tof ranging / LiDAR	Audio (microphone)	Accelerometer	Gyroscope	Compass	Hall / Magnetic	Inductive	Current	Touch Sense I/F	Image	PIR controllers	3D sensing
Coilcraft																			
Diodes	•																•		
Elmos		•	•															•	
Microchip	•																		
Monolithic Power Systems																			
NXP	•		•																
onsemi	•	•																	
Renesas Electronics	•	•		•	•			•	•										
ROHM Semiconductor	•	•	•	•	•					•	•	•	•	•	•	•	•	•	•
Semtech																			
Sharp		•		•															
STMicroelectronics	•	•	•							•	•	•	•	•	•	•	•	•	•

*: signal conditioning only



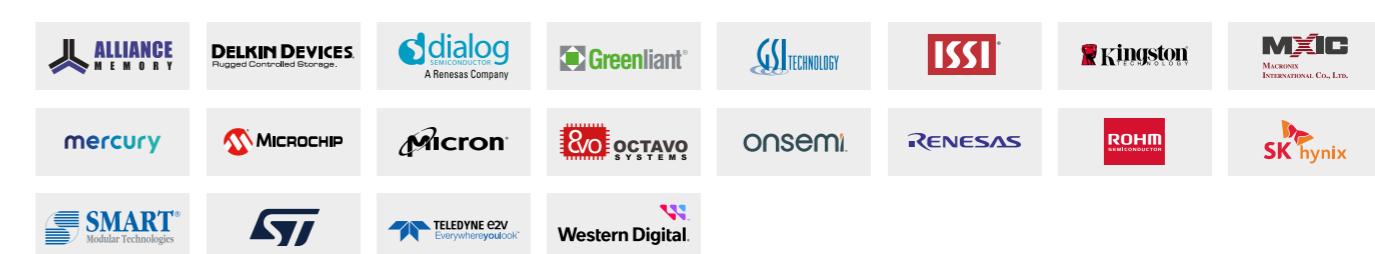
POWER

	High-Power WBG (SiC, GaN)	Bipolar Transistors (>1W)	MOSFETs	IGBTs	MOSFET Modules	IGBT Modules	IPM Modules	Diodes	ESD Protection & TVS Devices	Thyristors	Thyristor/ Diode Modules	AC/DC Offline	Power-Factor Controllers	Linear & LDO Regulators	DC/DC Controllers	DC/DC Converters	PMIC	DC/DC Modules	Voltage References	Gate Drivers	LED Drivers & Controllers	Special Power Functions	Load Switches	Power-Over-Ethernet/USB	Digital Power	Battery Management	Motoron Control	RF Power	Wireless Charging	Power/Magnetics	EMI/RFI/LC Filters
Coilcraft										X	X	X	X					X	X	X	X	X	X	X	X						
Dialog Semiconductor																															
Diodes	•	•	•																												
Elmos																															
ISSI																															
Microchip	•	•	•	•	•	•	•																								
Monolithic Power Systems																															
Nexperia	•																														
NXP			•																												
Octavo Systems																															
onsemi	•	•	•	•	•	•	•																								
Qorvo																															
Renesas Electronics	•	•	•	•																											
ROHM Semiconductor	•	•	•	•	•	•	•	•																							
Semtech																															
STMicroelectronics	•	•	•	•	•	•	•	•	•																						
Torex	•																														
WeEn	•	•																													

x: associated components

MEMORY

	DRAM				NAND				SRAM		EEPROM		NOR		MCP		SRAM		EEPROM		
	EDO & Fast Page Mode		SDRAM		Raw NAND		Managed NAND Flash		Solid State Storage		NOR		MCP		SRAM		EEPROM		NVRAM		
Alliance	EDO & Fast Page Mode	SDRAM	DDR	DDR2	DDR3	DDR4	DDR5	LPDRAM	DRAM Modules	3D NAND	TLC NAND	MLC NAND	SLC NAND	Serial NAND	Embedded USB	Embedded Multimedia Card	SD + USD Cards	CF Cards	PCMCIA	USB Flash Drive	2.5"
Delkin Devices		•	•	•	•					•				•		•	•	•	•	•	•
Dialog / Adesto	•																				
Greenlant										•											
GSI Technology																					
ISSI	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Kingston										•	•	•	•	•							
Macronix																					
Mercury Systems	•	•	•	•	•	•	•	•	•												
Microchip																					
Micron	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Octavo Systems																					
onsemi																					
Renesas Electronics																					
SK Hynix																					
Smart Modular Technologies																					
STMicroelectronics																					
Teledyne e2v	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Western Digital																					

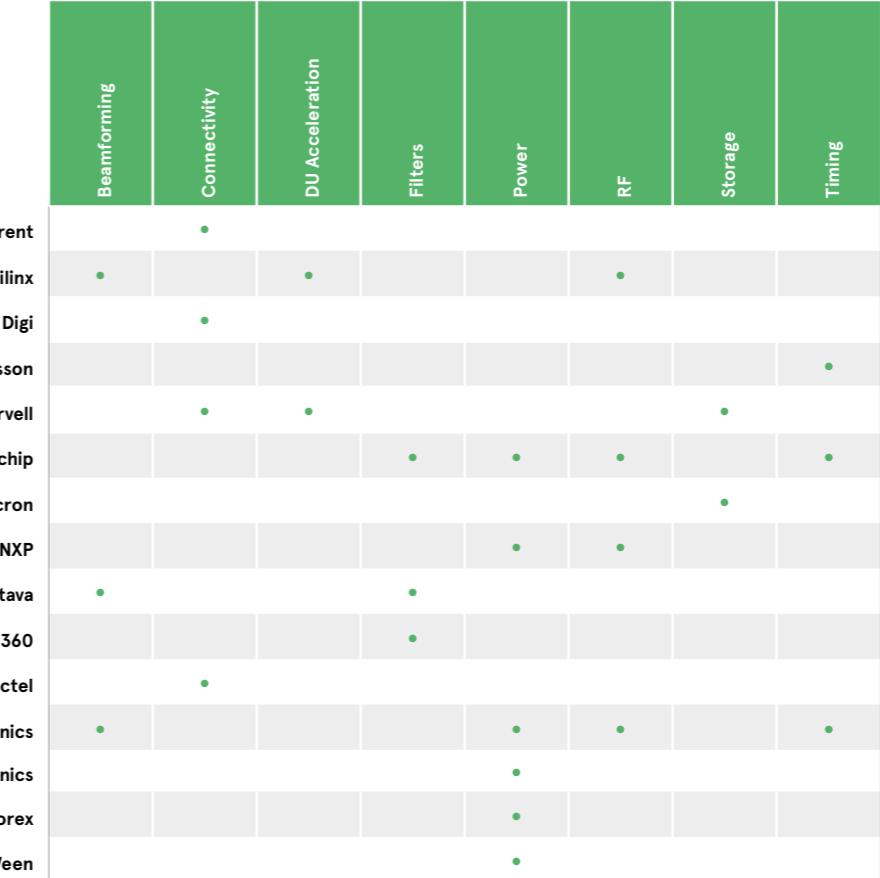


/ WIRELESS

/ 5G

	Short Range								Cellular				Antenna		Wireless Devices											
	NFC/RFID	Sub 1GHz	Zigbee	Thread	Proprietary 2.4 GHz	Bluetooth	Sigfox	Lora	WiFi	UWB	DECT	V2X	2G / 3G	LTE MTC	LTE & LTE Adv.	5G	GNSS	Satellite	Wireless SOM	internal	external	Modem	Gateway	Router		
2J Antenna																			X	X						
Antenova																			X	X						
Azurewave	M	M	M	M	M	M													X							
Digi International	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M				X	X				
Insight SIP	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M									
H&D Wireless							M	M																X		
Laird			M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	X	X	X	X	X	X			
Microchip	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	M	M	M	M	M	M	M	M	M	M	M	M		
MiroMico	M						M																	X		
Nordic	C	C	C	C	C	C	C	C	C	C	C	C	M	M	M	M	M	M	M	M	M	M	M	M		
NXP	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C		
onsemi	C	C	C	C	C	C	CM	CM	C																	
Panasonic	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
Qorvo							FEM	CM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM	FEM		
Quectel						M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	X	X	X	X		
Raytac	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
Renesas Electronics	C	C	C	C	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM		
Semtech	C	C	C	C	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM	CM		
STMicroelectronics	C	CM	CM	CM	CM	CM	C	CM	C	CM	C	CM	C	CM	C	CM	C	CM	C	CM	C	CM	C	CM		
Teltonika																								X	X	X
U-blox	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		

C = Chip; M = Modules
FEM = Front End Module
X = associated components



DATA COM

PROGRAMMABLE & SYSTEM-ON-CHIP (SoC)



	Technology (Flash/SRAM)	Low Power Capabilities	Low-density FPGA (from 0 to 150k LC)	Mid-Density FPGA (from 0 to 500k LC)	Hi-Density FPGA (from 0 to 2M LC)	Ultra-high density FPGA (from 0 to 5.5M LC)	Defense-Grade FPGA	Space-Grade FPGA	Automotive-Grade FPGA	DSP	Multi Gb/s Serial I/O	10GbE/1GbE Ethernet	10GbE Ethernet	Interlaken	PCIe	ARM Cortex A9 processor (up to)	ARM Cortex A53 processor (up to)	ARM Cortex R5 controller (up to)	ARM Cortex M3 controller (up to)	RISC-V	GPU	H264/H265 Video Codec	14bit RF-DAC w/up to 10GSPS DUC	14bit RF-ADC w/up to 5GSPS DDC	RF Input Max Freq. (GHz)	Decimation/Interpolation		
AMD / Xilinx																												
	Virtex-5 QV	65																										
	Spartan 6	45	•	•							•	•	•	•	soft		Gen1x1											
	Spartan 7	28	•	•							•	•	•	•	soft													
	Artix 7	28	•	•	•	•					•	•	•	•	soft		Gen2x4											
	Kintex 7	28		•	•	•	•				•	•	•	•	soft		Gen2x8											
	Virtex 7	28		•	•	•	•	•			•	•	•	•	soft		Gen3x8											
	Kintex Ultrascale	20		•	•	•	•	•			•	•	•	•	soft	150G	Gen3x8											
	Virtex Ultrascale	20			•	•	•	•			•	•	•	•	soft	150G	Gen3x8											
	Kintex Ultrascale +	16		•	•	•	•	•			•	•	•	•	soft	150G	Gen3x16/ Gen4x8											
	Virtex Ultrascale +	16			•	•	•	•			•	•	•	•	soft	150G	Gen3x16/ Gen4x8											
	Zynq 7000/S	28	•	•	•						•	•	•	•			Gen2x8	2x	soft	soft								
	Zynq Ultrascale +	16	•	•	•	•	•				•	•	•	•		150G	Gen2x4/ Gen3x16 / Gen4x8	4x	2x	soft	soft	Mali 400MP2	•					
	RFSoC	16			•	•					•	•	•	•		150G	Gen2x4/ Gen3x16 / Gen4x8	4x	2x	soft	soft		up to 16	up to 16	up to 6GHz	up to 8	up to 40x	
	ProASIC3	130			•						•	•	•	•														
	IGLOO	130			•	•																						
Microchip	SmartFusion 2	65	•	•							•	•	•	•	(hard MAC) / 10G		Gen2x4 (EP)			1x								
	IGLOO2	65	•	•							•	•	•	•	(soft IP) / 10G		Gen2x4 (EP)			soft								
	PolarFire FPGA	28	•		•							•	•	•	(soft IP) / 10G	6.375G, 12.7G	Gen2x4 (RC/EP)										soft	
	SX-A	Antifuse 0.22µ																										
	Axcelerator	Antifuse 0.15µ																										
	PolarFire SOC Family	28	•	•	•						•	•	•	•	(hard MAC) / 1G (soft IP) / 10G	6.375G, 12.7G	Gen2x4 (RC/EP)			5x								
Octavo Systems	SRAM																											



SECURITY

	Use Cases				Secure Element (SE)				FPGA / SoC Anti-Tamper																
	With Operating System (OS)		Without Operating System (OS)		Passive		Active																		
	Brand Protection	Usage Control	Secure FW Update	Local Network (Intranet)	Secure Boot, MCU	Java Card OS	TPM OS	Proprietary OS	ECC	RSA	Public Key Infrastructure (PKI)	Remote Key Provisioning	Single Authentication	Mutual Authentication	Symmetric Encryption	Asymmetric Encryption	ECC	RSA	Transport Layer Security (TLS)	Datagram Transport Layer Security (DTLS)	Physical Unclooneable Function (PUF)	Certification Available	Key Provisioning by Avnet Silica	Low Power	AES256 (BBRAM & eFUSE), Secure Config/Boot (PL / PS), Hardened Readback Disable, Decrypt then Authenticate
AMD / Xilinx (FPGA / SoC)																									
Digi International	•	•	•	•	•					•	•	•	•	•	•	•	•	•	•	•	•	•	•		
Marvell	•	•	•	•	•	•				•	•	•	•	•	•	•	•	•	•	•	•	•	•		
Microchip	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
NXP	•	•	•	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
Renesas Electronics	•	•	•	•	•				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
STMicroelectronics	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
Trusted Objects	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		

LIGHTING

LEDs

	Low Power	Mid Power	High Power	COBs	Modules	Light Engines	Display/signage
CREE	•	•	•	•	•		•
Lumileds	•	•	•	•	•	•	•
Seoul Semiconductor	•	•	•	•	•	•	•

OPTICS

	Low Power	Mid Power	High Power	COBs	Modules
Gaggione		•	•	•	•
LEDiL	•	•	•	•	•

HOLDERS

Bender+Wirth				•	
LEDiL				•	

POWER

	Power	Topology	Indoor	Outdoor	Dimming Options	Programmable	Wireless
Delta Electronics	15-1500 W	CV, CC, CP	•	•	Analog, PWM, DALI2	Wired, NFC	•
Inventronics	9-1200 W	CV, CC, CP	•	•	Analog, PWM, DALI2	Wired, NFC	
Lifud	1-250 W	CV, CC, CP	•	•	Analog, PWM, DALI2	Switches, Wired	
Moons	12 - 320 W	CV, CC, CP	•	•	Analog, PWM, DALI2	Wired, NFC	•

THERMAL MANAGEMENT

	Mid Power	High Power	COBs	High Voltage
0.3 - 0.9 W	1 - 4 W	4 - 10 W		
Mechatronix	•	•	•	•

LED DRIVERS

Diodes	Elmos	ISSI
NXP	Onsemi	STMicroelectronics

LEDs



Optics



COB Holders



Power



Thermal Management



LED Drivers



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