

/ LINECARD  
RSA

AVNET® SILICA



SUPPLIER & TECHNOLOGY PORTFOLIO



# / PORTFOLIO



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](http://avnet-asic.com) for more information or contact us at [asic-solutions@avnet.eu](mailto:asic-solutions@avnet.eu).

# / MCUs | MPUs

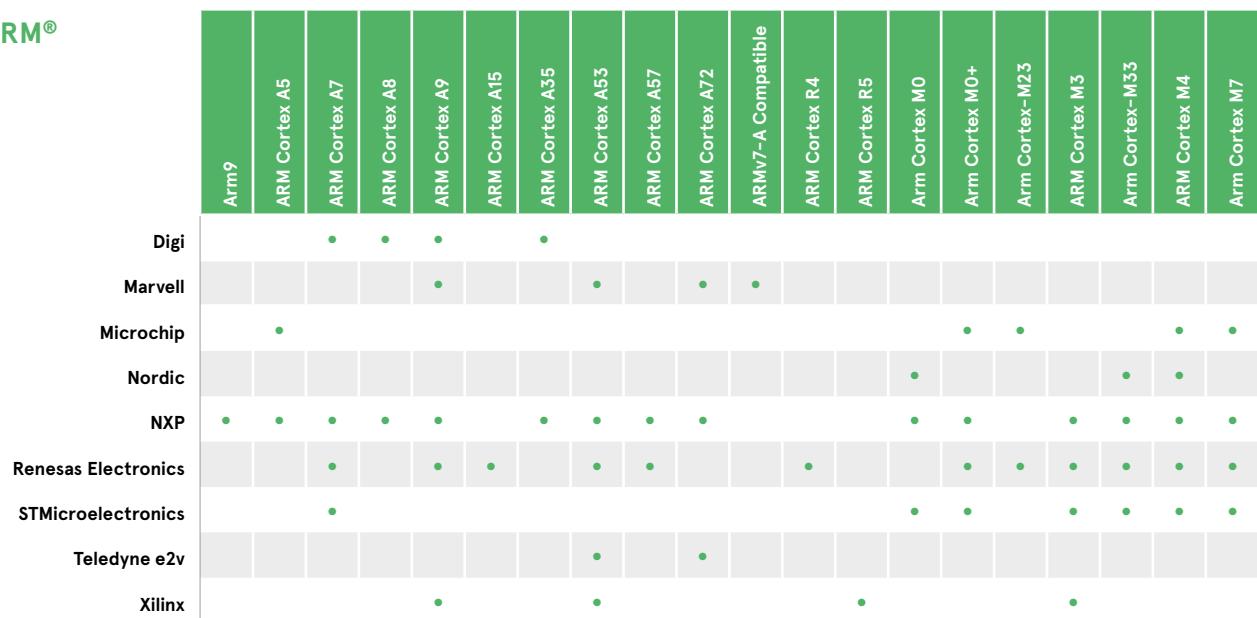
## MCUs | MPUS

	MCU	MCU Wireless	MPU	x86
AMD			•	•
Digi	•	•	•	
Echelon / Adesto	•	•		
Intel			•	•
ISSI	•			
Marvell	•		•	
Microchip	•	•	•	
Nordic	•	•		
NXP	•	•	•	
onsemi	•	•		
Renesas Electronics	•	•	•	
Rohm	•			
STMicroelectronics	•	•	•	
Teledyne e2v	•	•	•	
Xilinx			•	

## OTHER

	8 Bits Core	16 Bits Core	32 Bits Core	RISC-V
Echelon / Adesto	proprietary			
ISSI	8051			
Microchip	AVR , PIC		AVR, MIPS	•
NXP	HC08, HCS08, LPC9x, 8051		ColdFire, ColdFire+, Power Architecture	•
onsemi	LC87, 8051			
Renesas Electronics		RL78	"RX100/200/600/700 V850, RH850"	
Rohm	8051			
STMicroelectronics	STM8			
Teledyne e2v			ColdFire, ColdFire+, Power Architecture	
Xilinx			MicroBlaze, ARC, FPGA Soft Core	

**ARM®**



# /ANALOG

	Switch & Mux	Op Amps & Comparators	Current Sense Amps	Digital Pots	ADCs & DACs	Analog Signal Conditioners	Energy Measurement AFE	Audio/Video Processing	Programmable Mixed Signal	Voltage References
Cirrus Logic	•				•	•	•			
Dialog Semiconductor								•	•	
Diodes	•	•	•			•		•		•
Elmos						•				
Microchip	•	•	•	•	•	•	•	•		•
Nexperia	•									
NXP	•					•		•		
onsemi	•	•	•	•		•		•		•
Renesas Electronics	•	•	•	•	•	•	•	•		•
ROHM Semiconductor	•	•			•	•		•		
Semtech		•						•		•
STMicroelectronics	•	•	•		•	•	•	•		•
Teledyne e2v					•					



# / SENSORS

	Environment									Motion					HMI & Others									
						Axis Sensors		Speed/Position																
	Temperature	Light/Proximity	Pressure	Humidity	Gas/Smoke	Ultrasonic	Mass Flow	ToF Ranging	Radar	Audio (Mic.)	Accelerometer	Gyroscope	Compass	Hall	Magnetic	Optical	Inductive	Encoder	Current	Touch Sense IF	Image	PIR Controllers	3D Sensing	Biosensing
Allegro														•	•		•	•						
Cirrus Logic									•															
Dialog Semiconductor																			•					
Diodes	•													•	•			•					•*	
Elmos	•	•	•	•	•*	•*												•				•*		
ISSI																				•				
Microchip	•			•*	•*	•*										•	•*	•						•
NXP	•			•							•	•	•		•					•				
onsemi	•	•					•												•	•	•	•*		
Renesas Electronics	•	•		•	•		•													•	•			
ROHM Semiconductor	•	•	•								•	•		•						•		•*		
Semtech																				•				
Sharp		•													•					•		•		•
STMicroelectronics	•	•	•	•	•		•*				•	•	•	•						•		•	•	
TD next																					•			
Torex	•													•										

\*: 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	Motion Control	RF Power	Wireless Charging	Power Magnetics	EMI/RFI/LC Filters
Dialog Semiconductor																															
Diodes	•	•	•					•	•			•	•	•	•	•				•	•	•	•	•	•	•	•				
Elmos												•		•							•	•					•				
ISSI																					•										
Microchip	•	•	•	•	•	•	•					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
Nexperia		•						•	•												•	•	•								
NXP			•						•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
onsemi	•	•	•	•	•	•	•	•				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
Qorvo																			•												
Renesas Electronics	•	•	•	•	•	•	•					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
ROHM Semiconductor	•	•	•	•	•	•	•	•				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
Semtech												•	•	•	•	•				•	•	•	•	•	•	•	•	•			
STMicroelectronics	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
Torex		•							•	•										•	•	•	•	•	•						
WeEn	•	•							•	•																					

x: associated components



# / MEMORY



# / WIRELESS

	NFC/RFID	Sub 1GHZ	Zigbee	Thread	Proprietary 2.4 GHZ	Bluetooth	WIFI	Cellular			DECT	Location	Sigfox	Lora
Azurwave					M	M		2G, 3G, 4G	LTE cat. M1	LTE cat. NB1	5G			
Dialog					CM	CM					M			
Digi International	M	M		M	M		M							
Laird		M		M	M	M						M		
Marvell					C	C								
Microchip	CM		CM	CM	CM	CM						CM		
MiroMico													MGS	
Nordic	C	C	CM	C	C	C		M	M				C	
NXP	C	CM	CM	C	CM	CM							CM	
onsemi	C	CM	CM	C	CM	C								
Qorvo*			C	C	C	C	FEM	FEM	FEM	FEM	FEM			
Quectel					M	M	M	M	M	M	M	M		
Raytac					M									
Renesas					CM									
Semtech	C	CM	C	C	C	CM							C	
STMicroelectronics	C	CM	C	C							M	C	C	
TD-Next												M		

C = Chip; M = Modules

G = LoRaWAN Gateway

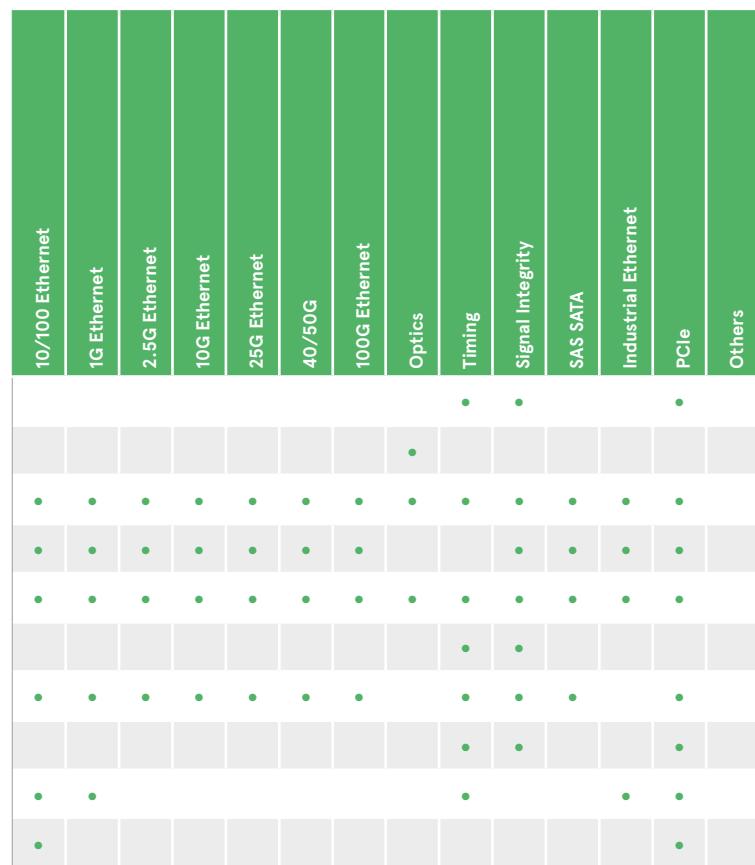
S = LoRaWAN sensor

FEM = Front End Module

\* = Automotive market



# / DATACOM



# 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	10M/100M/1G Ethernet	100G 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-ADC w/up to 10GSPS DUC	14bit RF-ADC w/up to 5GSPS DDC	RF input Max Freq. (GHz)	SD-FEC	Decimation/Interpolation	
Xilinx	Virtex-5 QV	65		•					•		•	•	soft																
	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	•	•	•				•		•	•	•	•		Gen2x4/ Gen2x8	2x		soft	soft									
	Zynq Ultrascale +	16	•	•	•	•			•		•	•	•	•	•	Gen2x4/ Gen 3x16 / Gen4x8		4x	2x	soft	soft	Mali 400MP2	•						
	RFSoC	16			•	•					•	•	•	•	150G	Gen2x4/ Gen 3x16 / Gen4x8		4x	2x	soft	soft			up to 16	up to 16	up to 6GHz	up to 8	up to 40x	

	ProASIC3	130	•			•	•	•																					
Microchip	IGLOO	130	•	•																									
	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	Gen2x2 (RC/EP)					soft									
	SX-A	Antifuse 0.22μ		•					•		•	•																	
	Axcelerator	Antifuse 0.15μ		•					•		•	•																	

# / SECURITY

	Use Cases	Secure Element ( SE )												FPGA / SoC Anti-Tamper											
		With Operating System ( OS )						Without Operating System ( OS )																	
		Brand Protection	Usage Control	Secure FW Update	Local Network ( Intranet )	External Network ( Internet )	Secure Boot MCU	Java Card OS	TPM OS	Proprietary OS	Single Authentication	Mutual Authentication	Symmetric Encryption	Asymmetric Encryption	ECC	RSA	Public Key Infrastructure ( PKI )	Remote Key Provisioning	Single Authentication	Mutual Authentication	Symmetric Encryption	Asymmetric Encryption	ECC	RSA	
Digi International	• • • • •							• • • • •									• • •								
Intel	• • • • •							• • • • •									• • •								
Marvell	• • • • •							• • • • •										•							
Microchip	• • • • •							• • • • •									• • • • •								
NXP	• • • • •							• • • • •									• • • • •								
Renesas Electronics	• • • • •							• • • • •									• • •								
STMicroelectronics	• • • • •							• • • • •									•								
Trusted Objects	• • • • •							• • • • •									• •								
Xilinx (FPGA / SoC)																	• •								



# / LIGHTING

## LEDs

	Low Power	Mid Power	High Power	COBs	Modules	Light Engines	Display/signage
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	7 - 320 W	CC, CV, CC/CV	•	•	AC, 0-10V, R, PWM, DALI		
Moons	12 - 320 W	CC, CV, CP	•	•	AC, 0-10V, R, PWM, DALI, DMX/RDM	Current, Clock, Constant Light	•

## 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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