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Understanding Embedded - Microprocessors

Embedded microprocessors are specialized computing chips designed to perform specific tasks within an embedded system. Unlike general-purpose microprocessors found in personal computers, embedded microprocessors are tailored for dedicated functions within larger systems, offering optimized performance, efficiency, and reliability. These microprocessors are integral to the operation of countless electronic devices, providing the computational power necessary for controlling processes, handling data, and managing communications.

Applications of **Embedded - Microprocessors**

Embedded microprocessors are utilized across a broad spectrum of applications, making them indispensable in

Product Status	Discontinued at Digi-Key	
Core Processor	Xeon Gold 6130T	
Number of Cores/Bus Width	16 Core, 64-Bit	
Speed	2.1GHz	
Co-Processors/DSP	-	
RAM Controllers	DDR4	
Graphics Acceleration	No	
Display & Interface Controllers	-	
Ethernet	-	
SATA	-	
USB	-	
Voltage - I/O	-	
Operating Temperature	-	
Security Features	-	
Package / Case	3647-LGA Module	
Supplier Device Package	3647-FCLGA (76x56.5)	
Purchase URL	https://www.e-xfl.com/product-detail/advantech/96mpxe-2-1-22m36a	

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Intel[®] Xeon[®] Gold 6130T Processor

22M Cache, 2.10 GHz

Spec Code

SR3J8

Ordering Code

CD8067303593000

Intel® Xeon® Gold 6130T Processor (22M Cache, 2.10 GHz)

Code Name	Skylake		
<u>Essentials</u>			
Vertical Segment	Server		
Processor Number	6130T		
Status	Launched		
Launch Date	Q3'17		
Lithography	14 nm		
Recommended Customer Price	\$1988.00		
Performance			
# of Cores	16		
# of Threads	32		
Processor Base Frequency	2.10 GHz		
Max Turbo Frequency	3.70 GHz		
Cache	22 MB L3		
# of UPI Links	3		
TDP	<u>125 W</u>		
Supplemental Information			
Embedded Options Available	Yes		
Conflict Free	Yes		
Datasheet	Link		
Product Brief	Link		
Memory Specifications			
Max Memory Size (dependent on memory typ 768 GB			

Memory Types	DDR4-2666			
	2.67 GHz			
Maximum Memory Speed				
Max # of Memory Channels	6			
ECC Memory Supported ± Yes				
Expansion Options				
Scalability	S4S			
PCI Express Revision	3.0			
Max # of PCI Express Lanes	<u>48</u>			
Package Specifications				
Sockets Supported	FCLGA3647			
T _{CASE}	92°C			
Package Size	76.0mm x 56.5mm			
Low Halogen Options Available	See MDDS			
Advanced Technologies				
Intel® Optane™ Memory Supported ‡	No			
Intel® Speed Shift Technology	Yes			
Intel® Turbo Boost Max Technology 3.0 ‡	No			
Intel® Turbo Boost Technology	2.0			
Intel® vPro™ Technology ‡	Yes			
Intel® Hyper-Threading Technology ‡	Yes			
Intel® Virtualization Technology (VT-x) ‡	Yes			
Intel® TSX-NI	Yes			
Intel® 64 ‡	Yes			
Instruction Set Extensions	Intel® SSE4.2, Intel® AVX, Intel® AVX2, Intel® AVX-512			
# of AVX-512 FMA Units	2			
Intel® Volume Management Device (VMD)	Yes			
Security & Reliability				
Intel® AES New Instructions	Yes			
Intel® Trusted Execution Technology ‡	Yes			
Intel® Run Sure Technology	Yes			
Mode-based Execute Control (MBE)	Yes			