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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

Details	
Product Status	Discontinued at Digi-Key
Core Processor	Celeron G3930TE
Number of Cores/Bus Width	2 Core, 64-Bit
Speed	2.7GHz
Co-Processors/DSP	-
RAM Controllers	DDR3L, DDR4
Graphics Acceleration	Yes
Display & Interface Controllers	-
Ethernet	-
SATA	-
USB	-
Voltage - I/O	-
Operating Temperature	-
Security Features	-
Package / Case	1151-LGA Module
Supplier Device Package	1151-FCLGA (37.5x37.5)
Purchase URL	https://www.e-xfl.com/product-detail/advantech/96mpclk-2-7-2m11t

Intel® Celeron® Processor G3930TE

2M Cache, 2.70 GHz

Spec Code	SR38H
Ordering Code	CM8067703318900

Intel® Celeron® Processor G3930TE (2M Cache, 2.70 GHz)

Code Name	Kaby Lake
Essentials	
Vertical Segment	Desktop
Processor Number	G3930TE
Status	Launched
Launch Date	Q2'17
Recommended Customer Price	$42.00
Performance	
# of Cores	2
# of Threads	2
Processor Base Frequency	2.70 GHz
Cache	2 MB
TDP	35 W
Supplemental Information	
Embedded Options Available	Yes
Memory Specifications	
Max Memory Size (dependent on memory type)	64 GB
Memory Types	DDR4-2133, DDR3L-1600
Max # of Memory Channels	2
ECC Memory Supported ‡	Yes
Processor Graphics	
Processor Graphics	Intel® HD Graphics 610
Graphics Base Frequency	350 MHz

Graphics Max Dynamic Frequency	950 MHz
Graphics Video Max Memory	64 GB
4K Support	Yes, at 60Hz
Max Resolution (HDMI 1.4)‡	4096x2304@24Hz
Max Resolution (DP)‡	4096x2304@60Hz
Max Resolution (eDP - Integrated Flat Panel)‡	4096X2304@60Hz
DirectX* Support	12
OpenGL* Support	4.4
Intel® Quick Sync Video	Yes
Intel® InTru™ 3D Technology	Yes
Intel® Clear Video HD Technology	Yes
Intel® Clear Video Technology	Yes
# of Displays Supported ‡	3
Device ID	0x5902
Expansion Options	
Scalability	1S Only
PCI Express Revision	3
PCI Express Configurations ‡	Up to 1x16, 2x8, 1x8+2x4
Max # of PCI Express Lanes	16
Package Specifications	
Sockets Supported	FCLGA1151
T$_{JUNCTION}$	88°C
Package Size	37.5mm x 37.5mm
Low Halogen Options Available	See MDDS
Advanced Technologies	
Intel® Optane™ Memory Supported ‡	No
Intel® Turbo Boost Technology	No
Intel® vPro™ Technology ‡	No
Intel® Hyper-Threading Technology ‡	No
Intel® Virtualization Technology (VT-x) ‡	Yes
Intel® Virtualization Technology for Directed I/O (VT-	Yes
Intel® VT-x with Extended Page Tables (EPT) ‡	Yes
Intel® TSX-NI	No

Intel® 64 ‡	Yes
Instruction Set	64-bit
Instruction Set Extensions	SSE4.1/4.2
Idle States	Yes
Enhanced Intel SpeedStep® Technology	Yes
Thermal Monitoring Technologies	Yes
Intel® Identity Protection Technology ‡	Yes
Security & Reliability	
Intel® AES New Instructions	Yes
Secure Key	Yes
Intel® Software Guard Extensions (Intel® SGX)	Yes
Intel® Memory Protection Extensions (Intel® MPX)	Yes
Intel® OS Guard	Yes
Intel® Trusted Execution Technology ‡	No
Execute Disable Bit ‡	Yes
Intel® Boot Guard	Yes