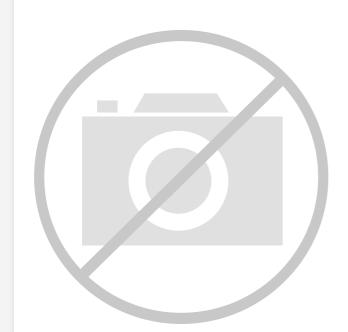
# E·XFL



#### Welcome to E-XFL.COM

### **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 M
Number of Cores/Bus Width	2 Core, 64-Bit
Speed	2.2GHz
Co-Processors/DSP	-
RAM Controllers	DDR3, DDR3L
Graphics Acceleration	Yes
Display & Interface Controllers	-
Ethernet	-
SATA	-
USB	-
Voltage - I/O	-
Operating Temperature	-
Security Features	-
Package / Case	Module
Supplier Device Package	-
Purchase URL	https://www.e-xfl.com/product-detail/advantech/96mpcm-2-2-2m9t

Email: info@E-XFL.COM

Address: Room A, 16/F, Full Win Commercial Centre, 573 Nathan Road, Mongkok, Hong Kong



## Intel® Celeron® Processor 1020E (2M Cache, 2.20 GHz)

Essentials	
Status	Launched
Launch Date	Q1'13
Processor Number	1020E
# of Cores	2
# of Threads	2
Clock Speed	2.2 GHz
Intel® Smart Cache	2 MB
DMI	5 GT/s
Instruction Set	64-bit
Instruction Set Extensions	SSE4.1, 4.2
Embedded Options Available	Yes
Lithography	22 nm
MaxTDP	35 W
Description	ECC on BGA only

## **Memory Specifications**

Max Memory Size (dependent on memory type)	16 GB
Memory Types	DDR3/L - 1333/1600
# of Memory Channels	2
Max Memory Bandwidth	25.6 GB/s
ECC Memory Supported	Yes

Graphics Specifications					
Processor Graphics	Intel® HD Graphics				
Graphics Base Frequency	650 MHz				
Graphics Max Dynamic Frequency	1 GHz				
Graphics Output	eDP/DP/HDMI/SDVO/CRT				
Intel® Quick Sync Video	No				
Intel® InTru™ 3D Technology	No				
Intel® Insider™	No				
Intel® Wireless Display	No				
Intel® Clear Video HD Technology	No				
# of Displays Supported	3				

Expansion Options	
PCI Express Revision	2.0
PCI Express Configurations	1x16, 2x8, 1x8 & 2x4
# of PCI Express Lanes	1

Package Specifications				
Max CPU Configuration	1			
TJUNCTION	105C			
Package Size	37.5mm x 37.5mm (rPGA988B); 31mm x 24mm (BGA1023)			
Graphics and IMC Lithography	22 nm			
Sockets Supported	FCBGA1023, FCPGA988			
Low Halogen Options Available	See MDDS			

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Advanced Technologies		
Intel® vPro Technology	0 No	
Intel® Hyper-Threading Technology	3 No	
Intel® Virtualization Technology (VT-x)	Ves Yes	
Intel® Virtualization Technology for Directed I/O (VT-d)	No No	
Intel® Trusted Execution Technology	🛛 No	
AES New Instructions	3 No	
Intel® 64	Ves Yes	
Intel® Anti-Theft Technology	No	
Intel® My WiFi Technology	No	
Idle States	Yes	
Enhanced Intel SpeedStep® Technology	l Yes	
Thermal Monitoring Technologies	Yes	
Intel® Fast Memory Access	Yes	
Intel® Flex Memory Access	Yes	
Execute Disable Bit	Yes	
Intel® VT-x with Extended Page Tables (EPT)	2 Yes	

## **ORDERING AND SPEC INFORMATION**

## Intel® Celeron® Processor 1020E (2M Cache, 2.20 GHz) FC-BGA12F, Tray

Socket	Step	TDP	Ordering Code	Spec Code	VT-x
FCBGA1023	P0	35 W	AV8063801276200	SR0VR	

### Intel® Celeron® Processor 1020E (2M Cache, 2.20 GHz) FC-PGA12F , Tray

Socket	Step	TDP	Ordering Code	Spec Code	VT-x
FCPGA988	P0	35 W	AW8063801117700	SR10D	