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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	Active
Core Processor	i3-2120
Number of Cores/Bus Width	2 Core, 64-Bit
Speed	3.3GHz
Co-Processors/DSP	-
RAM Controllers	-
Graphics Acceleration	-
Display & Interface Controllers	-
Ethernet	-
SATA	-
USB	-
Voltage - I/O	-
Operating Temperature	-
Security Features	-
Package / Case	1155-LGA Module
Supplier Device Package	1155-FCLGA (37.5x37.5)
Purchase URL	https://www.e-xfl.com/product-detail/advantech/96mpi3-3-3-3m11t

Email: info@E-XFL.COM

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

SPECIFICATIONS

All

Essentials

Memory Specifications

**Graphics Specifications** 

**Expansion Options** 

Package Specifications

Advanced Technologies

COMPATIBLE PRODUCTS

BLOCK DIAGRAMS

ORDERING / SSPECS / STEPPINGS

### SPECIFICATIONS

Essentials	
Status	Launched
Launch Date	Q1'11
Processor Number	i3-2120
# of Cores	2
# of Threads	4
Clock Speed	3.3 GHz
Intel® Smart Cache	3 MB
Bus/Core Ratio	33
DMI	5 GT/s
Instruction Set	64-bit
Instruction Set Extensions	SSE4.1/4.2, AVX
Embedded Options Available	Yes
Lithography	32 nm
Max TDP	65 W
Recommended Channel Price	\$138.00
Memory Specifications	
Max Memory Size (dependent on memory type)	32 GB
Memory Types	DDR3-1066/1333
# of Memory Channels	2
Max Memory Bandwidth	21 GB/s
Graphics Specifications	
Processor Graphics	Intel® HD Graphics 2000
Graphics Base Frequency	850 MHz
Graphics Max Dynamic Frequency	1.1 GHz
Intel® Quick Sync Video	Yes
Intel® InTru™ 3D Technology,	Yes
Intel® Insider™	Yes
Intel® Wireless Display	No
Intel® Flexible Display Interface (Intel® FDI)	Yes
Intel® Clear Video HD Technology	Yes
Dual Display Capable	Yes

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## QUICK LINKS

- Products formerly Sandy Bridge
- Download Datasheet
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## ADDITIONAL INFORMATION

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BXC80623I32120 Buy From: Arrow | Avnet

CM8062301044204

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PCN/MDDS INFORMATION

Expansion Options					
PCI Express Revision	2.0				
Package Specifications					
Max CPU Configuration	1				
TCASE	69.1°C				
Package Size	37.5mm x 37.5mm				
Sockets Supported	FCLGA1155				
Halogen Free Options Available	Yes				

"Announced" SKUs are not yet available. Please refer to the Launch Date for market availability.

Enabling Execute Disable Bit functionality requires a PC with a processor with Execute Disable Bit capability and a supporting operating system. Check with your PC manufacturer on whether your system delivers Execute Disable Bit functionality.

64-bit computing on Intel® architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers and applications enabled for Intel® 64 architecture. Processors will not operate (including 32-bit operation) without an Intel 64 architecture-enabled BIOS. Performance will vary depending on your hardware and software configurations. Consult with your system vendor for more information.

Hyper-Threading Technology (HT Technology) requires a computer system with an Intel® processor supporting HT Technology and an HT Technology enabled chipset, BIOS and operating system. Performance will vary depending on the specific hardware and software you use. See www.intel.com/products/ht/hyperthreading\_more.htm for more information including details on which processors support HT Technology.

Intel® Virtualization Technology requires a computer system with a processor, chipset, BIOS, virtual machine monitor (VMM) and for some uses, certain platform software, enabled for it. Functionality, performance or other benefit will vary depending on hardware and software configurations. Intel Virtualization Technology-enabled VMM applications are currently in development.

Note: Prices subject to change without notice. Prices are for direct Intel customers in 1000-unit bulk quantities and, unless specified, represent the latest technology versions of the products. Taxes and shipping, etc. not included. Prices may vary for other package types and shipment quantities, and special promotional arrangements may apply.

Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. See <a href="http://www.intel.com/products/processor\_number">http://www.intel.com/products/processor\_number for details.</a>

System and Maximum TDP is based on worst case scenarios. Actual TDP may be lower if not all VOs for chipsets are used

All information provided is subject to change at any time, without notice. Intel may make changes to manufacturing life cycle, specifications, and product descriptions at any time, without notice. The information herein is provided "as-is" and Intel does not make any representations or warranties whatsoever regarding accuracy of the information, nor on the product features, availability, functionality, or compatibility of the products listed. Please contact system vendor for more information on specific products or systems.

Halogen Free implies the following:

Bromine and/or chlorine in materials that may be used during processing, but do not remain within the final product are not included in this definition. The halogens fluorine (F), iodine (I), and astatine (At) are not restricted by this standard.

#### "BFR/CFR and PVC-Free" Definition:

"SERVICH and PVC-Free" Definition: All PCB laminates must meet Br and CI requirements for low halogen as defined in IPC-4101B For components other than PCB laminates, all homogeneous materials must contain < 900 ppm (0.09%) of Bromine [if the Bromine (B) source is from BFRs] and < 900 ppm (0.09%) of Chlorine [if the Chlorine (CI) source is from CFRs or PVC. Higher concentrations of Br and CI are allowed in homogenous materials of components other than PCB laminates as long as their

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Max Turbo Frequency refers to the maximum single-core frequency that can be achieved with Intel® Turbo Boost Technology, which requires a PC with a processor with Intel Turbo Boost Technology capability. Intel Turbo Boost Technology performance varies depending on hardware, software, and overall system configuration. Check with your PC manufacturer on whether your system delivers Intel Turbo Boost Technology. See www.intel.com/technology /turboboost/ for more information.

Advanced Technologies	
Intel® Turbo Boost Technology	No
Intel® vPro Technology	No
Intel® Hyper-Threading Technology	Yes
Intel® Virtualization Technology (VT-x)	Yes
Intel® Virtualization Technology for Directed I/O (VT-d)	No
Intel® Trusted Execution Technology	No
AES New Instructions	No
Intel® 64	Yes
Idle States	Yes
Enhanced Intel SpeedStep® Technology	Yes
Thermal Monitoring Technologies	Yes
Intel® Fast Memory Access	Yes
Intel® Flex Memory Access	Yes
Execute Disable Bit	Yes



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English

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Intel® Processors

2nd Generation Intel® Core™ i3 Processors

**BLOCK DIAGRAMS** 

Intel® Core™ i3-2100 Desktop Processor Series

i3-2120



Intel® Core™ i3-2120 Processor (3M Cache, 3.30 GHz)

SPECIFICATIONS

COMPATIBLE PRODUCTS

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**CPU** 1 DMI FDI (some SKUs) **PCH** (some SKUs)

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Intel® Processors

2nd Generation Intel® Core™ i3 Processors

Intel® Core™ i3-2100 Desktop Processor Series

i3-2120



# Intel® Core™ i3-2120 Processor (3M Cache, 3.30 GHz)

SPECIFICATIONS
COMPATIBLE PRODUCTS
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Ordering / sSpecs / Steppings Retired and Discontinued

### ORDERING AND SPEC INFORMATION

Ordering and Spec Information Boxed Intel® Core™ i3-2120 Processor (3M Cache, 3.30 GHz) FC-LGA10D, for China

Socket Step Step TDP Ordering Code Spec Code Halogen Free VT-x FCLGA1155 65 Watts BXC80623l32120 SR05Y

### Boxed Intel® Core™ i3-2120 Processor (3M Cache, 3.30 GHz) FC-LGA10D

Socket S	Step	Step TDP	Ordering Code	Spec Code	Halogen Free	VT-x
FCLGA1155		65 Watts	BX80623l32120	SR05Y	Yes	Yes

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FCLGA1155		65 Watts	CM8062301044204	SR05Y	Yes	Yes

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