

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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## 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
Max TDP	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	■ No
Intel® Hyper-Threading Technology	■ No
Intel® Virtualization Technology (VT-x)	Q Yes
Intel® Virtualization Technology for Directed I/O (VT-d)	No No
Intel® Trusted Execution Technology	■ No
AES New Instructions	■ No
Intel® 64	Q Yes
Intel® Anti-Theft Technology	No
Intel® My WiFi Technology	No
Idle States	Yes
Enhanced Intel SpeedStep® Technology	Q 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)	Q 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	