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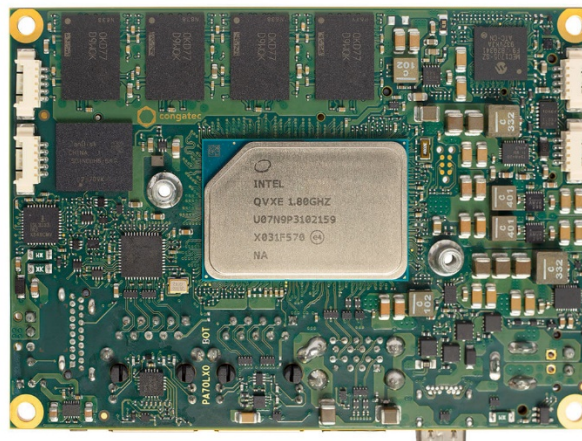
Datasheet

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conga-PA7

2.5" Pico-ITX Single-Board Computer with Elkhart Lake

Intel® Atom® x6000E, Pentium® and Celeron® J Series Processor



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INDUSTRIAL PICO-ITX

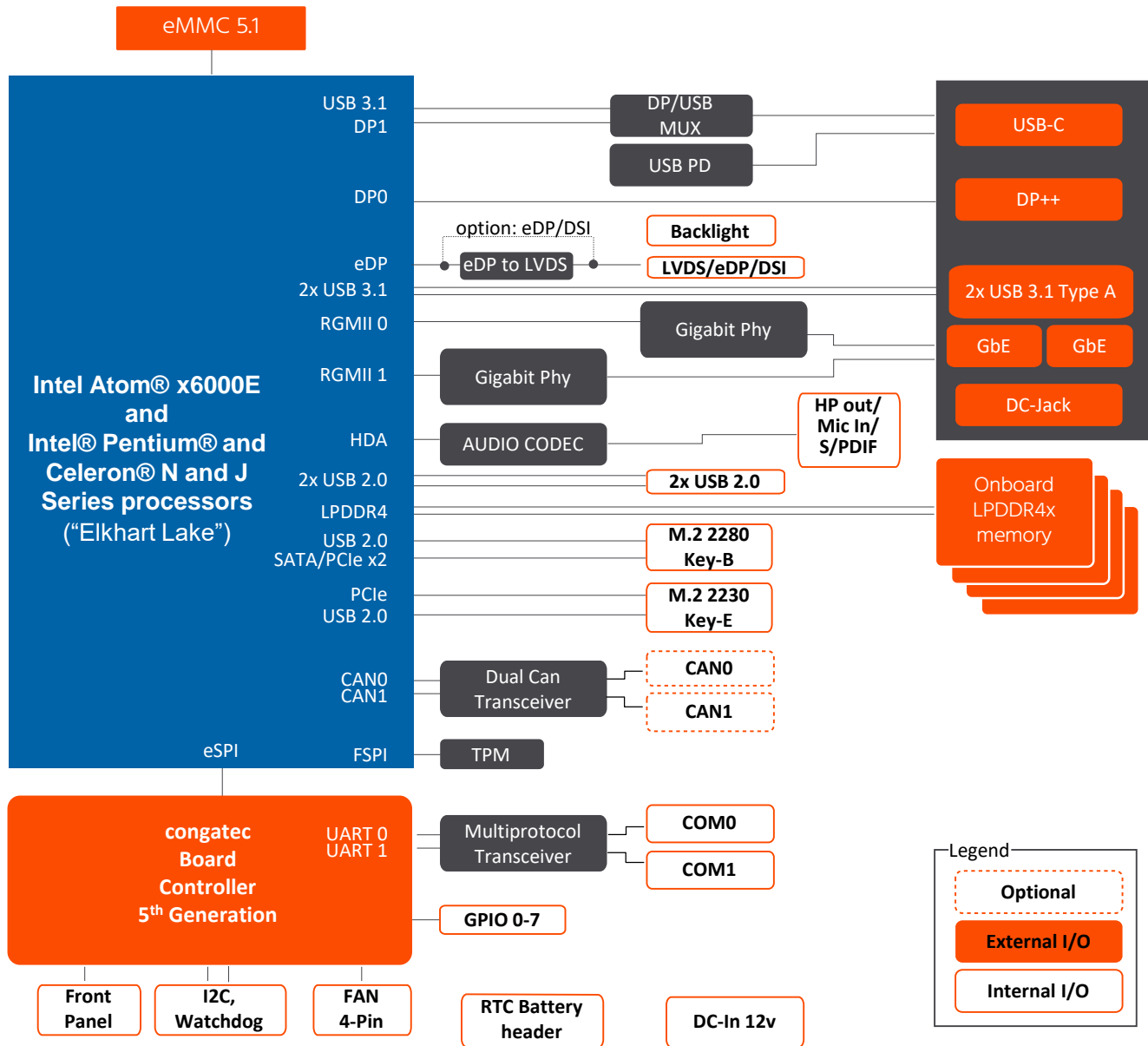
conga-PA7



- Pico-ITX SBC based on Intel® Atom® x6000E Series and Intel® Pentium® and Celeron® J and N Series processors
- High performance Intel® UHD Graphics (Gen11)
- Options for Industrial Temperature Range -40°C to 85°C
- Options for Time Sensitive Networking and Time Coordinated Computing for improved Realtime Capability
- Up to 4.267 MT/s Memory Support

Form Factor	Pico-ITX Single Board Computer 100 x 72 mm					
CPU	Processor	TDP	Cores/Threads	Base Frequency/max. Turbo	Gfx Gen11	Intel Use Condition
	J6413	10W	4 / 4	1.8 GHz / 3.0 GHz	16 EU	PC Client
	J6426	10W	4 / 4	2.0 GHz / 3.0 GHz	32 EU	PC Client
	x6211E	6W	2 / 2	1.3 GHz / 3.0 GHz	16 EU	Embedded
	x6413E	9W	4 / 4	1.5 GHz / 3.0 GHz	16 EU	Embedded
	x6425E	12W	4 / 4	2.0 GHz / 3.0 GHz	32 EU	Embedded
	x6212RE	6W	2 / 2	1.2 GHz / ---	16 EU	Industrial
	x6414RE	9W	4 / 4	1.5 GHz / ---	16 EU	Industrial
	x6425RE	12W	4 / 4	1.9 GHz / ---	32 EU	Industrial
DRAM	up to 4 Channels onboard LPDDR4x with up to 4,267 MT/s max. system capacity 16 GB					
Chipset	Integrated in SoC					
Ethernet	2x LAN Gbit / 100 Mbit / 10 Mbit with TSN support and Out-Of-Band Management 2x real-time trigger					
Mass Storage	eMMC 5.1 onboard flash up to 64 GB (optional up to 128 GB)					
Audio	Intel® HD Audio					
Graphics	Intel® UHD Graphics (Gen11)					
Internal Connectors	2x USB 2.0 1x LVDS 18/24bit or eDP (opt) or MIPI-DSI (opt) 1x Backlight power connector (5V, 12V) 1x Audio Connector (HP/Line Out, MIC In, S/PDIF, opt. DMIC) 1x Power In (+12V) 2x COM (RS232/422/485) 1x Fan Connector with PWM 3x Feature Connector 1x M.2 key ID B type 2280 (2 PCIe lanes/SATA, USB 2.0) 1x M.2 key ID E (1 PCIe lane, USB 2.0) 2x CAN (opt.)					
External Connectors	1x DisplayPort DP++ 2x LAN RJ45 1x USB 3.1 Gen2 Type C (with Power Delivery and DP) 2x USB 3.1 Gen2 Type A 1x DC-In					
congatec Board controller	Multistage watchdog non-volatile user data storage manufacturing and board Information board statistics fast mode and multi-master I ² C bus power loss control					
Embedded BIOS Feature	AMI Aptio® UEFI firmware 32 Mbyte serial SPI with congatec Embedded BIOS features OEM Logo OEM CMOS Defaults LCD Control Display Auto Detection Backlight Control Flash Update					
Security	TPM 2.0					
Power Management	ACPI 5.0 compliant Smart Battery Management					
Operating Systems	Microsoft® Windows 10 Microsoft® Windows 10 IoT Enterprise Microsoft® Windows IoT 10 Core Linux Android Yocto RTS Hypervisor					
Power Consumption	tbd. see manual for full details					
Temperature Range	Commercial:	Operating Temperature: 0 to +60°C		Storage Temperature: -20 to +85°C		
	Industrial:	Operating Temperature: -40 to +85°C		Storage Temperature: -40 to +85°C		
Humidity	Operating:	10 to 90% r. H. non cond.				
	Storage:	5 to 95% r. H. non cond.				
Size	100 x 72 mm (approx. 3.9 x 2.8")					

conga-PA7 | Block Diagram



Note: * Assembly options on request only

conga-PA7 | Order Information

Article	PN	Description
conga-PA7/x6425E-8G eMMC64	048900	Pico-ITX board with Intel® Atom® x6425E quad core processor with 2.0GHz core frequency up to 3.0GHz, 1.5MB cache, 8GB 4267MT/s LPDDR4x onboard memory and 64GB eMMC 5.1 onboard flash.
conga-PA7/x6413E-4G eMMC32	048901	Pico-ITX board with Intel® Atom® x6413E quad core processor with 1.5GHz core frequency up to 3.0GHz, 1.5MB cache, 4GB 4267MT/s LPDDR4x onboard memory and 32GB eMMC 5.1 onboard flash.
conga-PA7/x6211E-4G eMMC32	048902	Pico-ITX board with Intel® Atom® x6211E dual core processor with 1.3GHz core frequency up to 3.0GHz, 1.5MB cache, 4GB 4267MT/s LPDDR4x onboard memory and 32GB eMMC 5.1 onboard flash.
conga-PA7/i-x6425RE-8G eMMC64	048910	Pico-ITX board with Intel® Atom® x6425RE quad core processor with 1.9GHz core frequency, 1.5MB cache, 8GB 4267MT/s LPDDR4x onboard memory and 64GB eMMC 5.1 onboard flash. Industrial grade temperature range from -40°C to 85°C.
conga-PA7/i-x6414RE-4G eMMC32	048911	Pico-ITX board with Intel® Atom® x6414RE quad core processor with 1.5GHz core frequency, 1.5MB cache, 4GB 4267MT/s LPDDR4x onboard memory and 32GB eMMC 5.1 onboard flash. Industrial grade temperature range from -40°C to 85°C.
conga-PA7/i-x6212RE-4G eMMC32	048912	Pico-ITX board with Intel® Atom® x6212RE dual core processor with 1.2GHz core frequency, 1.5MB cache, 4GB 4267MT/s LPDDR4x onboard memory and 32GB eMMC 5.1 onboard flash. Industrial grade temperature range from -40°C to 85°C.
conga-PA7/J6426-8G eMMC64	048920	Pico-ITX board with Intel® Pentium® J6426 quad core processor with 2.0GHz core frequency up to 3.0GHz, 1.5MB cache, 8GB 3733MT/s LPDDR4x onboard memory and 64GB eMMC 5.1 onboard flash.
conga-PA7/J6413-4G eMMC32	048921	Pico-ITX board with Intel® Celeron® J6413 quad core processor with 1.8GHz core frequency up to 3.0GHz, 1.5MB cache, 4GB 4267 MT/s LPDDR4x onboard memory and 32GB eMMC 5.1 onboard flash.
conga-PA7/HSP-T	048950	Heatspreader solution for conga-PA7 based on open silicon Intel Pentium and Celeron J and N processors . All standoffs are M2.5 threaded.
conga-PA7/i-HSP-T	048951	Heatspreader solution for conga-PA7 based on lidded silicon Intel Atom x6000E processors. All standoffs are M2.5 threaded.
conga-PA7/CSP-T	048952	Passive cooling solution for conga-PA7 based on open silicon Pentium and Celeron J and N processors. All standoffs are M2.5 threaded.
conga-PA7/i-CSP-T	048953	Passive cooling solution for conga-PA7 based on lidded silicon Atom X6000E processors. All standoffs are M2.5 threaded.
conga-PA7/HSP-B	048954	Heatspreader solution for conga-PA7 based on open silicon Intel Pentium and Celeron J and N processors. All standoffs are with 2.7mm borehole.
conga-PA7/i-HSP-B	048955	Heatspreader solution for conga-PA7 based on lidded silicon Intel Atom x6000E processors. All standoffs are with 2.7mm borehole.

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