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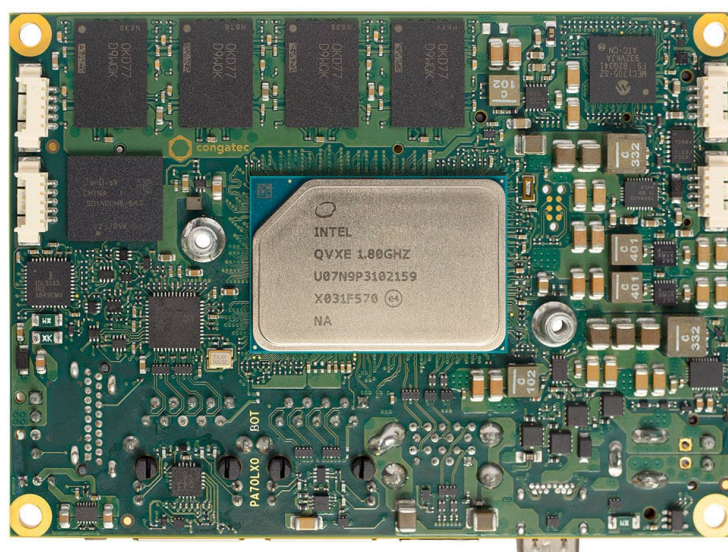
Datasheet

congatec

conga-PA7

2.5" Pico-ITX™ single board computer with Intel® Elkhart Lake processor Atom™ x6000E, Pentium® and Celeron®

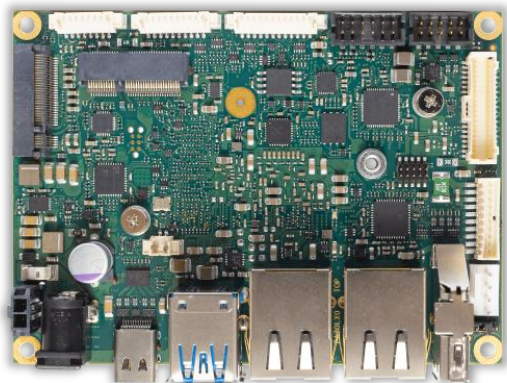
J series



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INDUSTRIAL PICO-ITX

conga-PA7



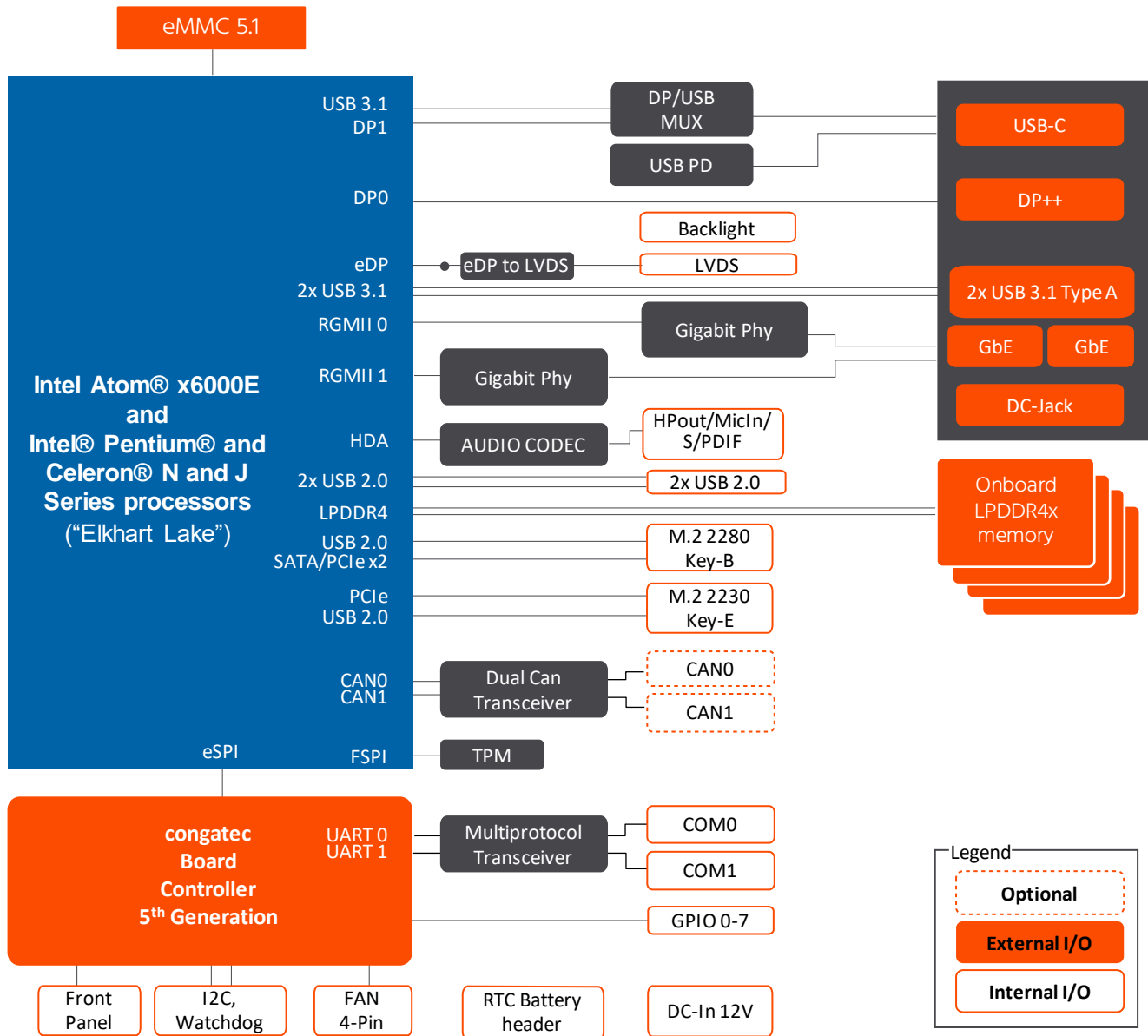
- Pico-ITX SBC based on Intel Atom® x6000E Series and Intel® Pentium® and Celeron® J and N Series processors
- High performance Intel® UHD Graphics for 10th Gen Intel® Processors
- LPDDR4x with up to 4.267 MT/s Memory Support
- Options for Time Sensitive Networking and Time Coordinated Computing for improved Realtime Capability
- Options for Industrial Temperature Range -40°C to 85°C

Form Factor

Pico-ITX Single Board Computer

CPU	Processor	TDP	Cores / Threads	Base/max. Turbo Frequency	Gfx EUs	Intel Use Condition
	J6413	10W	4 / 4	18 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	13 GHz / 3.0 GHz	16 EU	Embedded
	x6413E	9W	4 / 4	15 GHz / 3.0 GHz	16 EU	Embedded
	x6425E	12W	4 / 4	2.0 GHz / 3.0 GHz	32 EU	Embedded
	x6212RE	6W	2 / 2	12 GHz / ---	16 EU	Industrial
	x6414RE	9W	4 / 4	15 GHz / ---	16 EU	Industrial
	x6425RE	12W	4 / 4	19 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 2x real-time trigger					
Mass Storage	eMMC 5.1 onboard flash up to 64 GB (optional up to 128 GB)					
Audio	Intel® High Definition Audio					
Graphics	High performance Intel® UHD Graphics for 10th Gen Intel® Processors					
Internal Connectors	2x USB 2.0 LVDS 18/24bit Backlight power connector (5V, 12V) Audio Connector (HP/Line Out, MIC In, S/PDIF) Power In (+12V) 2x COM (RS232/422/485) Fan Connector with PWM Feature Connectors M.2 key ID B type 2280 (2 PCIe lanes/SATA, USB 2.0) M.2 key ID E (1 PCIe lane, USB 2.0) 2x CAN (opt)					
External Connectors	DisplayPort DP++ 2x LAN RJ45 USB Type C (with Power Delivery and DP) 2x USB Type A 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 11 IoT Enterprise Microsoft® Windows 10 Microsoft® Windows 10 IoT Enterprise Linux Yocto					
Hypervisor	RTS Real-Time Hypervisor					
Power Consumption	See manual for full details					
Temperature	Commercial variants	Operation 0° to +60°C		Storage -20° to +80°C		
	Industrial variants	Operation -40° to +85°C		Storage -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					

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, 8GB 3733MT/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, 4GB 3200MT/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, 4GB 3200MT/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, 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, 4GB 3200MT/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, 4GB 3200MT/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, 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, 4GB 3733MT/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 processor series. All standoffs are M2.5 threaded.
conga-PA7/CSP-T	048952	Passive cooling 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-CSP-T	048953	Passive cooling solution for conga-PA7 based on lidded silicon Intel Atom® X6000E processor series. 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 series. All standoffs are with 2.7mm borehole.

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