

conga-TC87 COM Express® Type 6 Compact module

conga-TC87

Highest Performance COM Express Type 6

4th Generation Intel® Core™ processor family

Better transcode HD-HD, HD Video Conferencing

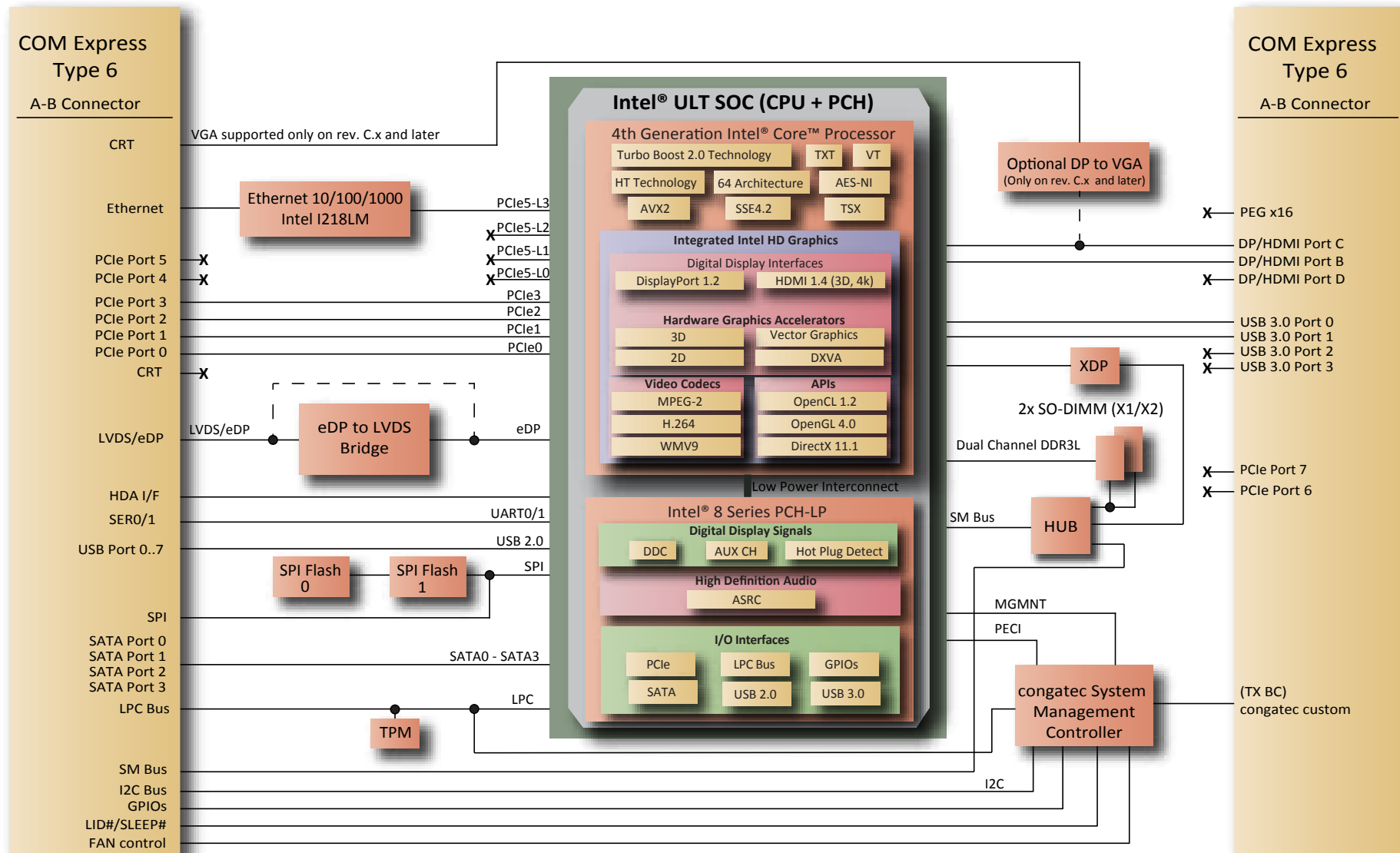
Improved Graphics Performance, DirectX®11

Ultra low standby power consumption



Formfactor	COM Express® Compact, (95 x 95 mm), Type 6 Connector Layout
CPU	Intel® Core™ i7-4650U Dual Core, 1.7 GHz, Turbo Boost 3.3 GHz, 4M Cache, TDP 15W configurable to 11.5W, AES-NI, AVX2, AMT 9.5, TXT Intel® Core™ i5-4300U Dual Core, 1.9 GHz, Turbo Boost 2.9 GHz, 3M Cache, TDP 15W configurable to 11.5W, AES-NI, AVX2, AMT 9.5, TXT Intel® Core™ i3-4010U Dual Core, 1.7 GHz, 3M Cache, TDP 15W, AES-NI, AVX2 Intel® Celeron® 2980U Quad Core, 1.6 GHz, 3M Cache, TDP 15W Intel® Turbo Boost Technology, Intel® Hyper-Threading Technology (Intel® HT Technology), Intel® Advanced Vector Extensions 2.0 (Intel® AVX2), Intel® Advanced Encryption Standard New Instructions (Intel® AES-NI), Integrated dual channel memory controller, up to 25.6 GByte/sec. memory bandwidth, Integrated Intel® HD Graphics 5000 series with dynamic frequency up to xxGHz, Intel® Clear Video HD Technology Intel® Virtualization Technology (Intel® VT), Intel® Trusted Execution Technology (Intel® TXT), Intel® Streaming SIMD Extensions 4.2 (Intel® SSE4.2), PCLMULQDQ Instruction, Intel® Secure Key, Intel® Transactional Synchronization Extensions (Intel® TSX)
DRAM	2 Sockets, SO-DIMM DDR3L@1.35V up to 1600MT/s and 16GByte
Chipset	Integrated mobile Intel® 8 Series Chipset: Intel® QM87 / HM86 @ planned Celeron variants
Ethernet	Intel® I218-LM GbE LAN Controller with AMT 9.5 support
I/O Interfaces	4x PCI Express™ GEN. 2.0 lanes, 4x Serial ATA® RAID 0/1/5/10 support, 2x ExpressCard®, 2x USB 3.0 (XHCI), 8x USB 2.0 (EHCI), LPC bus, I²C bus (fast mode, 400 kHz, multi-master)
Sound	Digital High Definition Audio Interface with support for multiple audio codecs
Graphics	Next Generation Intel® HD Graphics with OpenCL 1.2, OpenGL 4.0 and DirectX11.1 support; up to three independent displays: HDMI 1.4, DVI, DisplayPort 1.2; High performance hardware MPEG-2 decoding, WMV9 (VC-1) and H.264 (AVC) support Blu-ray support @ 40 MBit/s
LVDS	Dual channel LVDS transmitter, Supports flat panels 2x24 Bit interface, VESA mappings, resolutions up to 1920x1200, Automatic Panel Detection via EDID/EPI
Digital Display Interface (DDI)	2x TMDS (HDMI) / DisplayPort 1.2a with daisy chaining, resolutions up to 4k
congatec Board Controller	Multi Stage Watchdog, non-volatile User Data Storage, Manufacturing and Board Information, Board Statistics, BIOS Setup Data Backup, I²C bus (fast mode, 400 kHz, multi-master), Power Loss Control
Embedded BIOS Features	AMI Aptio® UEFI 2.x firmware, 8 MByte serial SPI firmware flash
Security	The conga-TC87 can be optionally equipped with a discrete "Trusted Platform Module" (TPM). It is capable of calculating efficient hash and RSA algorithms with key lengths up to 2,048 bits and includes a real random number generator. Security sensitive applications such as gaming and e commerce will benefit also with improved authentication, integrity and confidence levels.
Power Management	ACPI 4.0 with battery support
Operating Systems	Microsoft® Windows 8, Microsoft® Windows 7, Linux, Microsoft® Windows® embedded Standard
Power Consumption	Typ. application: tbd., see User's Guide for full details, CMOS Battery Backup Ultra low standby power, support for CPU power states up to C10
Temperature:	Operating: 0 .. +60°C Storage: -20 .. +80°C
Humidity Operating:	Operating: 10 - 90% r. H. non cond. Storage: 5 - 95% r. H. non cond.
Size	95 x 95 mm (3.74" x 3.74")

conga-TC87 - Block diagram



conga-TC87 - Order information

Article	PN	Description
conga-TC87/i3-4010U	046903	COM Express Type 6 Compact module with Intel® Core™ i3-4010U dual core processor with 1.7GHz, 3MB L2 cache and 1600MT/s dual channel DDR3L memory interface.
conga-TC87/i5-4300U	046902	COM Express Type 6 Compact module with Intel® Core™ i5-4300U dual core processor with 1.9GHz, 3MB L2 cache and 1600MT/s dual channel DDR3L memory interface.
conga-TC87/i7-4650U	046901	COM Express Type 6 Compact module with Intel® Core™ i7-4650U dual core processor with 1.7GHz, 4MB L2 cache and 1600MT/s dual channel DDR3L memory interface.
conga-TC87/HSP-B	046953	Standard heatspreader for COM Express module conga-TC87. All stand-offs are with 2.7mm bore hole.
conga-TC87/HSP-T	046954	Standard heatspreader for COM Express module conga-TC87. All stand-offs are M2.5 threaded.
conga-TC87/CSP-B	046951	Standard passive cooling solution for COM Express module conga-TC87. All standoffs are with 2.7mm bore hole.
conga-TC87/CSP-T	046952	Standard passive cooling solution for COM Express module conga-TC87. All standoffs are M 2.5 treaded.
DDR3L-SODIMM-1600 (2GB)	068755	DDR3L-SODIMM memory module with 1600 MT/s (PC3L-12800S) and 2GB RAM
DDR3L-SODIMM-1600 (4GB)	068756	DDR3L-SODIMM memory module with 1600MT/s (PC3L-12800S) and 4GB RAM
DDR3L-SODIMM-1600 (8GB)	068757	DDR3L-SODIMM memory module with 1600MT/s (PC3L-12800S) and 8GB RAM

Engineering Tools / Accessories for COM Express®

conga-TEVAL	065800	Evaluation carrier board for Type 6 COM-Express-modules
conga-LDVI/EPI	011115	LVDS to DVI converter board for digital flat panels with onboard EEPROM
COM-Express-carrierboard-Socket-5	400007	Connector for COM-Express carrier boards, height 5mm, packing unit 4 pieces
COM-Express-carrierboard-Socket-8	400004	Connector for COM-Express carrier boards, height 8mm, packing unit 4 pieces

© 2013 congatec AG. All rights reserved. All data is for information purposes only. Although all the information contained within this document is carefully checked, no guarantee of correctness is implied or expressed. The products may include software. Use of the software is subject to the terms and conditions set out in the respective owner's license agreements, which are available at www.congatec.com and/or upon request. Product names, logos, brands, and other trademarks featured or referred to within this datasheet, or the congatec website, are the property of their respective trademark holders. These trademark holders are not affiliated with congatec AG, our products, or our website.
Rev. November 27, 2013 KS