

TQMxE39M

x86 Family



COM Express® Mini Type 10 Module with Intel Atom® x5/x7 E3900 ("Apollo Lake-I").

Based on

COM Express



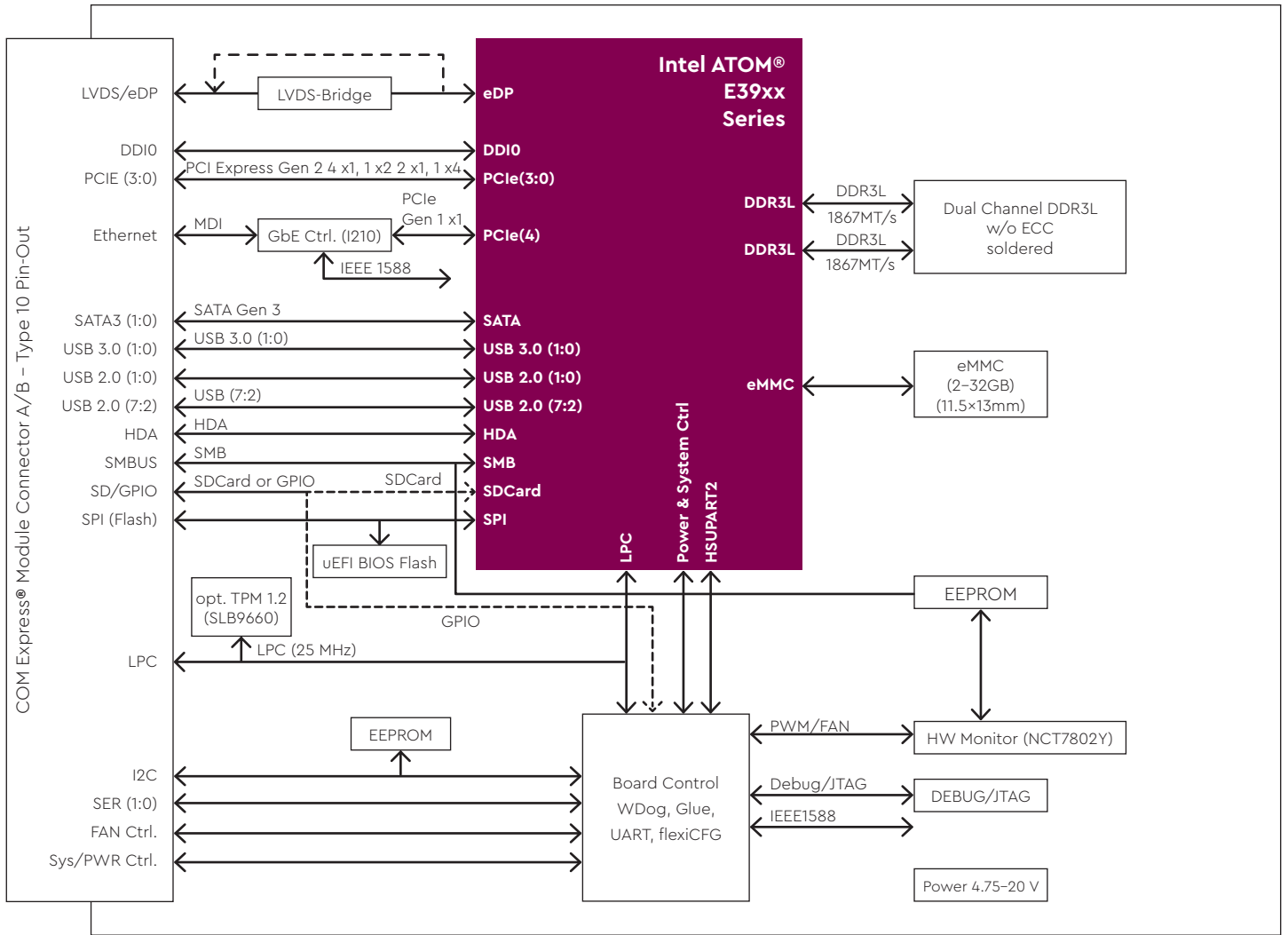
HIGHLIGHTS

- ▶ Intel Atom® x5/x7 E3900 series ("Apollo Lake-I"), Pentium® N4200 and Celeron® N3350 processors
- ▶ Dual/Quad core computing power with up to 2.5 GHz
- ▶ 4/8 GB DDR3L (dual channel), soldered
- ▶ High-speed interconnected with Gbit Ethernet,
- ▶ 8x USB (3.0/2.0) and up to 4 PCIe lanes
- ▶ Dual Display support with DP/HDMI (up to 4K UHD) and eDP or LVDS
- ▶ Up to 64 GB eMMC Flash, soldered
- ▶ Extended temperature support
- ▶ Watchdog und thermal management
- ▶ Highest reliability, 24/7 certified
- ▶ Conformal coating (optional) and optimized cooling solutions for ruggedized applications

TECHNICAL SPECIFICATION

CPU	Intel Atom® x5/x7 E3900 („Apollo Lake-I") Atom™ x5-E3930 2x 1.3/1.8 GHz, 6.5 W Atom™ x5-E3940 4x 1.6/1.8 GHz, 9.5 W Atom™ x7-E3950 4x 1.6/2.0 GHz, 12 W Celeron® N3350 2x 1.1/2.4 GHz, 6 W Pentium® N4200 4x 1.1/2.5 GHz, 6 W	Peripheral interfaces	2x SATA 3.0 (up to 6 Gb/s), eSATA capable 4x PCIe 2.0 (up to 5 Gb/s) 1x LPC bus 1x Intel® HD audio (HDA) 1x I2C, (2nd I2C optional) (master/slave capable) 1x SMBus 1x SPI (for external uEFI BIOS flash) 2x Serial port (Rx/Tx, legacy compatible) (4 wire optional through TQ flexiCFG) 1x SD card interface/optional 8x GPIO (multiplexed)
Memory	DDR3L: 4/8 GB non-ECC, Dual Channel eMMC: 4-64 GB EEPROM: 32-kbit (24LC32)	Power supply	Voltage: 4.75 V – 20 V, 4.75 V – 20 V Standby (optional), 3 V Battery Power: typ. 3 – 8 W/max. 14 W (Green ECO-Off: < 0.1 W)
Graphics	1x Digital Display Interface (DDI) for DP 1.2a, eDP 1.3, HDMI 1.4b 1x eDP1.4/Single Channel LVDS (also usable for second external monitor)	Environment	Standard temperature: 0°C...+60°C Extended temperature: -40°C...+85°C
Interfaces	1x Gbit Ethernet (Intel® i210) (external IEEE1588 sync optional through TQ flexiCFG) 2x USB 3.0 6x USB 2.0	Form factor/dimensions	COM Express® Mini, type 10, 84 mm x 55 mm
Security components	TPM (SLB9660 TPM 1.2, alternatively SLB9665 TPM 2.0)		
Others	TQMx86 board controller with watchdog and flexiCFG Hardware monitor		

BLOCK DIAGRAM TQMxE39M



ORDERING INFORMATION

TQMxE39M-AA	Intel Atom® x7-E3950 (4x 1.6/2.0 GHz, 2 MB Cache, 12 W TDP), 4 GB DDR3L, 32 GB eMMC, eDP, Industrial-Temp. -40..+85°C
TQMxE39M-AB	Intel Atom® x5-E3940 (4x 1.6/1.8 GHz, 2 MB Cache, 9.5 W TDP), 4 GB DDR3L, 16 GB eMMC, LVDS, Industrial-Temp. -40..+85°C
TQMxE39M-AC	Intel Atom® x5-E3930 (2x 1.3/1.8 GHz, 2 MB Cache, 6.5 W TDP), 2 GB DDR3L, eDP, Standard-Temp. 0..+60°C
TQMxE39M-AD	Intel® Celeron® N3350 (2x 1.1/2.4 GHz, 2 MB Cache, 6 W TDP), 2 GB DDR3L, eDP, Standard-Temp. 0..+60°C
TQMxE39M-AE	Intel® Pentium® N4200 (4x 1.1/2.5 GHz, 2 MB Cache, 6 W TDP), 4 GB DDR3L, LVDS, Standard-Temp. 0..+60°C

Other configurations on request

MB-COME10-1 Mainboard for COM Express® Minimodules, Type 10 Interfaces: DP, eDP/LVDS, 2x Gb Ethernet, 4x USB, 3x COM, audio, mini PCIe, mSATA, 2.5" SSD, SD card, riser extension with PCIe and USB, fan, debug, 170 mm x 170 mm

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