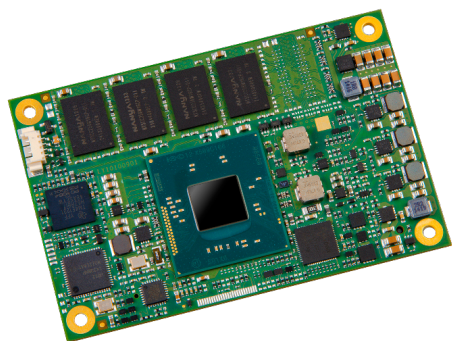


MSC C10M-BTC

Intel® Atom™ / Celeron® SOC



✂ 84 x 55

🌊 8 / 14W

🌡 -40 +85



IoT Solutions
Alliance

COM  Express

Description

The MSC C10M-BTC module is based on Intel's multi-core system-on-chip (SOC) Atom generation that integrates processor core, graphics, memory, and I/O interfaces into one solution. Based on 22nm processor technology it provides outstanding computing and graphics power and highest power efficiency.

The outstanding new feature of the MSC C10M-BTC is a USB 2.0 client interface.

It also offers dual independent display support, DirectX 11.1 and fast DDR3L memory on a very compact, power saving and cost-efficient COM Express Mini module.

Different SOC's with single-, dual- and quad-core processors are supported as well as an extensive set of interfaces and features. Optionally it offers hardware based security compliant to the requirements of TCG (Trusted Computing Group).

Type 10 pin-out supports USB 3.0 and digital display interfaces like DisplayPort, HDMI and DVI.

The rugged design with soldered memory, optional ECC support and extended temperature range opens new application areas.

Highlights

- Intel Atom E3845 quad-core 1.91GHz, 10W
- Intel Atom E3827 dual-core 1.75GHz, 8W
- Intel Atom E3826 dual-core 1.46GHz, 7W
- Intel Atom E3825 dual-core 1.33GHz, 6W
- Intel Atom E3815 single-core 1.46GHz, 5W
- Intel Atom E3805 dual-core 1.33GHz, 3W (no graphics)
- Intel Celeron N2930 quad-core 1.83GHz, 7.5W
- Integrated Intel Gen. 7 HD graphics
- Up to 8GB DDR3L SDRAM, ECC opt.
- Two SATA 3Gb/s mass storage interfaces
- eMMC SSD (optional)
- DisplayPort/HDMI/DVI interface
- LVDS/Embedded DisplayPort interface
- Two independent displays supported
- DirectX 11.1, OpenGL 3.2, OpenCL 1.1
- One USB 3.0/2.0 and four USB 2.0 interfaces
- One USB 2.0 client interface
- Two UARTs
- Trusted Platform Module (option)
- Extended temperature variants

Technical Data - MSC C10M-BTC

Technology	x86
Formfactor	COM Express Mini
CPU	Intel Atom E3845 quad-core 1.91GHz, 10W TDP Intel Atom E3827 dual-core 1.75GHz, 8W TDP Intel Atom E3826 dual-core 1.46GHz, 7W TDP Intel Atom E3825 dual-core 1.33GHz, 6W TDP Intel Atom E3815 single-core 1.46GHz, 5W TDP Intel Atom E3805 dual-core 1.33GHz, 3W TDP (no graphics) Intel Celeron N2930 quad-core 1.83GHz, 7.5W TDP
Chipset	SOC
RAM	up to 8GB DDR3L@1.35V SDRAM (DDR1333) soldered on board, ECC optional
Flash	eMMC optional
Storage Interfaces	2x SATA 3Gb/s
USB	1x USB 3.0, 4x USB 2.0, 1 x USB 2.0 client
Serial Interfaces	2x UART
Bus Interfaces	3x PCI Express x1 Gen 2, fourth channel is available if no GbE is used; LPC bus (Low Pin Count bus)
Display Controller	Integrated Intel HD graphics Gen. 7
Display Memory	UMA
Display Interfaces	1x Digital Display Interface (DP 1.1a (2560 x 1600), DVI/HDMI 1.4a (1920 x 1080)), 1x Embedded DisplayPort 1.3, 2560 x 1600 @ 60Hz (shared with LVDS), LVDS 24 bit, single-channel, 1366 x 768 @ 60Hz (shared with Embedded DisplayPort)
Network Interface	10/100/1000Base-TX (Intel i210)
Audio Interface	High Definition Audio
Security Device	TPM 1.2 (option)
Miscellaneous	Watchdog Timer: Initiates system reset, programmable RTC battery: external System Monitoring: voltage, temperature, CPU fan, system fan
Feature Highlights	Type 10 pin-out
Firmware	AMI Aptio UEFI

OS Support	Windows 7 Windows 10 Windows 10 IOT Core BSP for Linux on request EAPI (HW Programming Interface)
Power Requirement	Wide range input +5 ... +20V, 5V Stby optional, 8 W (typ.) up to 14 W (typ.)
Environment	Ambient Temperature; 0° ... 60°C (operating, commercial), -40° ... 85°C (operating, industrial), -40° ... 85°C (storage) Humidity: 5 ... 95% (operating, non-condensing), 5 ... 95% (storage, non-condensing)
Dimensions	84mm x 55mm

Order Reference - MSC C10M-BTC

Order Number	Description	Reference	Cat
67428	COM Express Type 10 Mini module (84mm x 55mm); CPU: Intel Atom E3815 single-core 1.46GHz, 512kB L2, 5W TDP; Graphics: integrated Intel HD Gen 7; DP/HDMI and LVDS interfaces; Ethernet: Intel i210 Gbit; 4GB DDR3L SDRAM; 4GB eMMC; TPM; HD audio; 2x SATA, 1x USB3, 4x USB2, 1x USB2 client, 1x PCU UART, 1x HS UART, 3x PCIe x1; -40 ... +85°C	MSC C10M-BTC-3161 PCBFTX	PV
67473	COM Express Type 10 Mini module (84mm x 55mm); CPU: Intel E3815 single-core 1.46GHz, 0.5MB L2, 5W TDP; Graphics: integrated Intel HD Gen 7; DP/HDMI and eDP interfaces; Ethernet: Intel i210 Gbit; 1GB DDR3 SDRAM; 4GB eMMC; HD audio; no TPM; 2x SATA, 1x USB3, 3x USB2, USB2 client, 2x HS UART, 3x PCIe x1:	MSC C10M-BTC-2441 PCBFTX	PV
67471	COM Express Type 10 Mini module (84mm x 55mm); CPU: Intel E3815 single-core 1.46GHz, 0.5MB L2, 5W TDP; Graphics: integrated Intel HD Gen 7; DP/HDMI and eDP interfaces; Ethernet: Intel i210 Gbit; 1GB DDR3 SDRAM; HD audio; no TPM; 2x SATA, 1x USB3, 3x USB2, USB2 client, 2x HS UART, 3x PCIe x1;	MSC C10M-BTC-2401 PCBFTX	PV
67430	COM Express Type 10 Mini module (84mm x 55mm); CPU: Intel Atom E3826 dual-core 1.46GHz, 1MB L2, 7W TDP; Graphics: integrated Intel HD Gen 7; DP/HDMI and LVDS interfaces; Ethernet: Intel i210 Gbit; 4GB DDR3L SDRAM; 4GB eMMC; TPM; HD audio; 2x SATA, 1x USB3, 4x USB2, 1x USB2 client, 1x PCU UART, 1x HS UART, 3x PCIe x1; -40 ... +85°C	MSC C10M-BTC-3163 PCBFTX	OR
67544	COM Express Type 10 Mini module (84mm x 55mm); CPU: Intel Atom E3845 quad-core 1.91GHz, 2MB L2, 10W TDP; Graphics: integrated Intel HD Gen 7; DP/HDMI and LVDS interfaces; Ethernet: Intel i210 Gbit; 4GB DDR3L SDRAM; 4GB eMMC; HD audio; 2x SATA, 1x USB3, 4x USB2, 1x USB2 client, 3x PCIe x1;	MSC C10M-BTC-2065 PCBFTX	OR
67426	COM Express Type 10 Mini module (84mm x 55mm); CPU: Intel Celeron N2930 quad-core 1.83/2.16GHz, 2MB L2, 7.5W TDP; Graphics: integrated Intel HD Gen 7; DP/HDMI and LVDS interfaces; Ethernet: Intel i210 Gbit; 4GB DDR3L SDRAM; 16GB eMMC; HD audio; 2x SATA, 1x USB3, 4x USB2, no USB2 client, 3x PCIe x1;	MSC C10M-BTC-30E6 PCBFTX	PV

Accessories

Order Number	Description	Reference
Carrier Options		
67293	COM Express Type 10 Evaluation Carrier Board with PCI Express x4 slot, USB 3.0/2.0, GbE, SATA, DisplayPort, eDP/LVDS and HD audio interfaces; Mini PCI Express socket, SD card slot, ATX power connector and single 12V power jack. Dimensions: 170mm x 170mm (Mini-ITX form factor)	MSC C10-MB-EV-001 PCBFTX
Cooling Options		
1126980	Passive Heatsink for C10M-BT and C10M-BTC consisting of a single-piece aluminum pin cooler, standoffs without thread (2.7mm inner diameter) and thermopad for the thermal contact to SOC. With threaded mounting holes for an optional fan.	MSC C10M-BT-01 HSI-001
1124457	Heatspreader for C10M-BT. Single-piece aluminum profile, standoffs without thread (2.7mm inner diameter) and thermopad for the thermal contact to SOC.	MSC C10M-BT-01 HSP-001
82109	Passive Heatsink for C10M-BT and C10M-BTC consisting of a single-piece aluminum pin cooler, standoffs with M2.5 thread and thermopad for the thermal contact to SOC. With threaded mounting holes for an optional fan.	MSC C10M-BT-02 HSI-001
1124458	Heatspreader for C10M-BT. Single-piece aluminum profile, standoffs with M2.5 thread and thermopad for the thermal contact to SOC.	MSC C10M-BT-02 HSP-001

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