

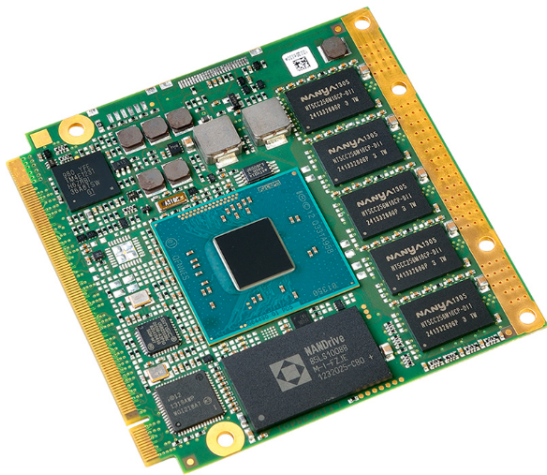
TRIA Q7-BT

Intel® System on Chip (SOC) Atom™ E3800

70 x 70 mm

4.5 to 12 W (typ.)

-40 +85



Q S E V E N



Highlights

- Intel® Atom™ System-On-Chip with Quad-/ Dual- /Single-Core Processor:
 - E3845 Quad-Core, 1.91 GHz, 10W TDP
 - E3827 Dual-Core, 1.75 GHz, 8W TDP
 - E3826 Dual-Core, 1.46 GHz, 7W TDP
 - E3825 Dual-Core, 1.33 GHz, 6W TDP
 - E3815 Single-Core, 1.46 GHz, 5W TDP
 - E3805 Dual-Core, 1.33 GHz, 3W TDP
- Up to 4GB DDR3L SDRAM (opt. ECC)
- Up to 32GB eMMC Flash (optional)
- 2x SATA-II interfaces (1 used for opt. Flash Disk)
- Integrated Intel Gen. 7 HD Graphics
- DisplayPort 1.1a up to 2560×1600, HDMI up to 1920×1200
- Dual-Channel LVDS 24 or 18 bit up to 1920×1200
- Dual Simultaneous Display support
- Gigabit Ethernet
- 3x PCIe x1 Gen. 2.0 ports
- USB 3.0 Host, optional USB 3.0 Device
- Up to 6x USB 2.0 Host, optional USB 2.0 Device
- UART, LPC, HD Audio, SPI, I2C, SMBus, SDIO, opt. TPM

Technical Data

Technology	x86
Formfactor	Qseven
CPU	Intel® Atom™ E3845, E3827, E3826, E3825, E3815, E3805
Chipset	in SOC
RAM	up to 4 GB LVDDR3-1333 SDRAM, soldered optional ECC
Flash	optional on-board SATA Flash Disk up to 64 GB optional in-board eMMC Flash up to 32GB
Storage Interfaces	2x SATA 3Gb/s one optionally used for SATA Flash Disk
USB	1x USB 3.0 Host up to 6x USB Host optional USB 3.0 Device optional USB 2.0 Device
Serial Interfaces	I ² C Bus SMBus SPI Bus
Bus Interfaces	3x PCI-Express x1 Gen. 2 LPC Bus
Display Controller	Integrated Intel HD Graphics Gen. 7
Display Memory	UMA
Display Interfaces	HDMI up to 1920 x 1200 @60Hz DisplayPort 1.1a up to 2560 x 1600 @60Hz LVDS 18/24 bit, dual channel, up to 1920 x 1200 @60Hz
Network Interface	10/100/1000Base-TX
Audio Interface	HD Audio (I2S optional)
Security Device	TPM 1.2 optional
Miscellaneous	Watchdog Timer: Initiates system reset, (programmable, 1s ... 255h) Fan Supply: PWM Speed Control for system fan on carrier board RTC battery: external System Monitoring: Voltage, Temperature, CPU Fan, System Fan
Feature Highlights	ECC controlled Memory Optional TPM for Security HDMI, DisplayPort outputs
Firmware	AMI Aptio UEFI
OS Support	Windows 7 / ES7 / 8 / 10 Linux EAPI (HW Programming Interface)
Power Requirement	+5V +/-5%, 5V Standby optional

Environment	Operating Temperature: 0° ... 60°C (operating, commercial) -40° ... 85°C (operating, industrial) -20° ... 85°C (storage, commercial) -40° ... 85°C (storage, industrial) Humidity: 5 ... 95% (operating, non-condensing), 5 ... 95% (storage, non-condensing)
Dimensions	70mmx70mm
Certificates	UL / CE
Cooling	Heatspreader with threaded standoffs Heatsink with threaded standoffs
Carrier	Qseven Rev. 2.0 Carrier board in 3.5" (ECX) form factor Carrier board for evaluation in ATX form factor

Technical Data for TRIA Q7-BT

Order Reference

Order No.	Description	Reference	Status*
65993	Qseven 2.0 module with Intel Atom E3815 SC 1.46GHz, 5W TDP, 1 GB DDR3L, GbE LAN, USB 3.0 Host, 6x USB 2.0 Host, UART, std. temp.	MSC Q7-BT-15-1001 PCBFTX	EOL
65995	Qseven 2.0 module with Intel Atom E3815 SC 1.46GHz, 5W TDP, 2 GB DDR3L, GbE LAN, USB 3.0 Host, USB 3.0 Device, 3x USB 2.0 Host, USB 2.0 Host/Device, UART, std. temp.	MSC Q7-BT-15-2008 PCBFTX	EOL
82310	Qseven 2.0 module with Intel Atom E3815 SC 1.46GHz, 5W TDP, 2GB DDR3L, 16GB eMMC Flash, GbE LAN, USB 3.0 Host, 5x USB 2.0, USB 2.0 Host/Device, UART, TPM, ind. temp.	MSC Q7-BT-15-2402I PCBFTX	EOL
48938	Qseven 2.0 module with Intel Atom E3815 SC 1.46GHz, 5W TDP, 2 GB DDR3L, 4 GB eMMC Flash, GbE LAN, USB 3.0 Host, 6x USB 2.0 Host, UART, ind. temp.	MSC Q7-BT-15-2201I PCBFTX	EOL
48924	Qseven 2.0 module with Intel Atom E3825 DC 1.33GHz, 6 W TDP, 2 GB DDR3L, 4 GB eMMC Flash, GbE LAN, USB 3.0 Host, 6x USB 2.0 Host, UART, ind. temp.	MSC Q7-BT-25-2201I PCBFTX	EOL
48925	Qseven 2.0 module with Intel Atom E3826 DC 1.46GHz, 7 W TDP, 2 GB DDR3L, 4 GB eMMC Flash, GbE LAN, USB 3.0 Host, 6x USB 2.0 Host, UART, ind. temp.	MSC Q7-BT-26-2201I PCBFTX	EOL
82312	Qseven 2.0 module with Intel Atom E3826 DC 1.46GHz, 7W TDP, 4GB DDR3L, 16GB eMMC Flash, GbE LAN, USB 3.0 Host, 5x USB 2.0, USB 2.0 Host/Device, UART, TPM, ind. temp.	MSC Q7-BT-26-4402I PCBFTX	EOL
65495	Qseven 2.0 module with Intel Atom E3827 DC 1.75GHz, 8 W TDP, 2 GB DDR3L, 4 GB eMMC Flash, GbE LAN, USB 3.0 Host, 6x USB 2.0 Host, UART, ind. temp.	MSC Q7-BT-27-2201I PCBFTX	EOL
66172	Qseven 2.0 module with Intel Atom E3845 QC 1.91GHz, 10 W TDP, 2 GB DDR3L, GbE LAN, USB 3.0 Host, 4x USB 2.0 Host, UART, ind. temp.	MSC Q7-BT-45-2006I PCBFTX	EOL
48927	Qseven 2.0 module with Intel Atom E3845 QC 1.91GHz, 10 W TDP, 2 GB DDR3L, 4 GB eMMC Flash, GbE LAN, USB 3.0 Host, 6x USB 2.0 Host, UART, TPM, ind. temp.	MSC Q7-BT-45-2200I PCBFTX	EOL
48991	Qseven 2.0 module with Intel Atom E3845 QC 1.91GHz, 10 W TDP, 4 GB DDR3L, GbE LAN, USB 3.0 Host, 6x USB 2.0 Host, UART, ind. temp.	MSC Q7-BT-45-4001I PCBFTX	EOL
82316	Qseven 2.0 module with Intel Atom E3845 QC 1.91GHz, 10W TDP, 4GB DDR3L, 16GB eMMC Flash, GbE LAN, USB 3.0 Host, 5x USB 2.0, USB 2.0 Host/Device, UART, TPM, ind. temp.	MSC Q7-BT-45-4402I PCBFTX	EOL
48929	Qseven 2.0 module with Intel Atom E3845 QC 1.91GHz, 10W TDP, 4GB DDR3L, ECC, GbE LAN, USB 3.0 Host, USB 3.0 Device, 3x USB 2.0, USB 2.0 Host/Device, UART, ind. temp.	MSC Q7-BT-45-8005I PCBFTX	EOL
67047	Qseven 2.0 module with Intel Atom E3815 SC 1.46GHz, 5W TDP, 2GB DDR3L, 4GB SATA Flash, GbE LAN, USB 3.0 Host, 5x USB 2.0, USB 2.0 Host/Device, UART, TPM, ind. temp.	MSC Q7-BT-15-20B2I PCBFTX	EOL
69460	Qseven 2.0 module with Intel Atom E3805 DC 1.33GHz, 3W TDP, 2GB DDR3L, 16GB eMMC Flash, GbE LAN, USB 3.0 Host, 5x USB 2.0, USB 2.0 Host/Device, UART, TPM, ind. temp. -- Processor & Module without any Graphics!	MSC Q7-BT-05-2402I PCBFTX	EOL
69353	Qseven 2.0 module with Intel Atom E3815 SC 1.46GHz, 5W TDP, 2GB DDR3L, 8GB eMMC Flash, GbE LAN, USB 3.0 Host, 6x USB 2.0, UART, std. temp.	MSC Q7-BT-15-2301 PCBFTX	EOL
67758	Qseven 2.0 module with Intel Atom E3826 DC 1.46GHz, 7W TDP, 2GB DDR3L, 8GB eMMC Flash, GbE LAN, USB 3.0 Host, 6x USB 2.0, UART, std. temp.	MSC Q7-BT-26-2301 PCBFTX	EOL

Order No.	Description	Reference	Status*
82314	Qseven 2.0 module with Intel Atom E3827 DC 1.75GHz, 8W TDP, 4GB DDR3L, 32GB eMMC Flash, GbE LAN, USB 3.0 Host, 6x USB 2.0, UART, ind. temp.	MSC Q7-BT-27-4501I PCBFTX	EOL
65316	Qseven 2.0 module with Intel Atom E3845 QC 1.91GHz, 10W TDP, 4GB DDR3L, 4GB eMMC Flash, GbE LAN, USB 3.0 Host, 5x USB 2.0, USB 2.0 Host/Device, UART, TPM, embedded DisplayPort Output (eDP), no LVDS, ind. temp.	MSC Q7-BT-45-4207I PCBFTX	EOL
71625	Qseven 2.0 module with Intel Atom E3845 QC 1.91GHz, 10W TDP, 2GB DDR3L, 8GB eMMC Flash, GbE LAN, USB 3.0 Host, 6x USB 2.0, UART, ind. temp.	MSC Q7-BT-45-2301I PCBFTX	EOL
71623	Qseven 2.0 module with Intel Atom E3845 QC 1.91GHz, 10W TDP, 4GB DDR3L, 4GB eMMC Flash, GbE LAN, USB 3.0 Host, 6x USB 2.0, UART, ind. temp.	MSC Q7-BT-45-4201I PCBFTX	EOL
73499	Qseven 2.0 module with Intel Atom E3815 SC 1.46GHz, 5W TDP, 2GB DDR3L, GbE LAN, USB 3.0 Host, 6x USB 2.0, UART, ind. temp.	MSC Q7-BT-15-2001I PCBFTX	EOL

Ordering Information for TRIA Q7-BT

*PV = Preferred variant; OR = on Request (in OEM quantities only)

Accessories

Carrier Options

Order No.	Description	Reference
67690	Qseven Rev. 2.0 compatible embedded platform (148 x 102mm), 10-28V input voltage, 1x RS232 on DB9 connector, 1x RS485 on pin header, 1x RS232 no handshake on pin header, dual RJ45 LAN connector with LED, 1x SATA, 1x mSATA slot, SD card holder, 1x USB 3.0 connector, 2x USB 2.0 connector, 1x USB 2.0 on pin row, 1x microUSB 2.0 OTG, CAN, I2C, LPC/ GPIO on pin header, I2C/SMBus, SPI, DisplayPort connector, LVDS/eDP on JLI30 connector, regulated backlight supply, mini PCI Express slot, HD Audio, CMOS battery. Commercial temperature range 0..+70°C	MSC Q7-MB-EP6-601 PCBFTX

Carrier Options for TRIA Q7-EL/AL/BT/BW

Cooling Options

Order No.	Description	Reference
1114190	Passive Heatsink for Q7-BT, consisting of a single-piece aluminum profile with fins, through-hole distance bolts and through-holes in the heatrail part, with thermo pad for the thermal contact to the CPU. M3 mounting holes for an optional fan. Heatsink is also suitable for Q7-BW (all modules) and Q7-AL (only modules with Celeron/Pentium processor)	MSC Q7-BT-01 HSI-001
1114178	Heatspreader for Q7-BT with through-hole distance bolts, only offers a 70x65mm aluminium plane to mount a heatsink or thermally connect to a cooler. Heatspreader is also suitable for Q7-BW (all modules) and Q7-AL (only modules with Celeron/Pentium processor)	MSC Q7-BT-01 HSP-001
1137658	Passive Heatsink for Q7-BT, consisting of a single-piece aluminum profile with fins, threaded distance bolts and threaded holes in the heatrail part, and thermo pad for the thermal contact to the CPU. M3 mounting holes for an optional fan. Heatsink is also suitable for Q7-BW (all modules) and Q7-AL (only modules with Celeron/Pentium processor)	MSC Q7-BT-02 HSI-001
1129447	Heatspreader for Q7-BT with through-hole distance bolts and threaded holes in the heatrail part, offers a 70x65mm aluminium plane to mount a heatsink or thermally connect to a cooler. Heatspreader is also suitable for Q7-BW (all modules) and Q7-AL (only modules with Celeron/Pentium processor)	MSC Q7-BT-02 HSP-001
1137181	Heatspreader for Q7-BT with threaded distance bolts and through-holes in the heatrail part, offers a 70x65mm aluminium plane to mount a heatsink or thermally connect to a cooler. Heatspreader is also suitable for Q7-BW (all modules) and Q7-AL (only modules with Celeron/Pentium processor)	MSC Q7-BT-04 HSP-001
82584	Heatspreader for Q7-BT/BW with through-hole distance bolts and 4 through-holes in the heatrail part, all holes for countersunk screws, offers a 70x65mm aluminium plane to mount a heatsink or thermally connect to a cooler. Heatspreader is also suitable for Q7-AL (only modules with Celeron/Pentium processor).	MSC Q7-BT-07 HSP-001
1053769	Heat rail for Q7 baseboards. Recommended for conductive heat transfer from the Q7 module to the Q7 baseboard. Already assembled on all MSC baseboards.	MSC Q7-XXX-01 HTR-001

Cooling Options for TRIA Q7-BT/BW

Starter Kits

Order No.	Description	Reference
46995	Starterkit for TRIA Q7-BT/BW modules. Includes TRIA Q7-MB-EP6 Baseboard, Power Supply, Cable Kit and Heatsink. Please order the Q7-BT/BW module of your choice separately.	MSC Q7-SK-BT-EP6-KIT001

Starter Kits for TRIA Q7-BT/BW

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