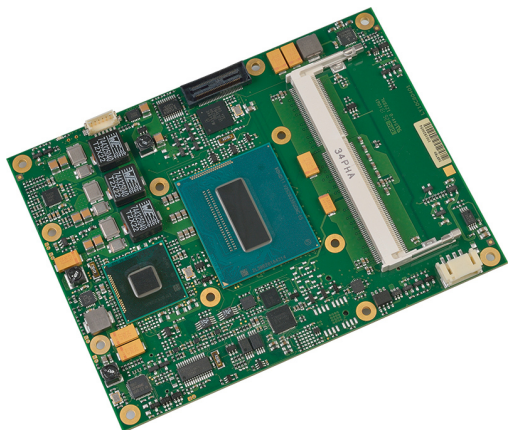


MSC C6B-8S

Intel® Core™ - 4th Generation



125 x 95



35 / 55W



0 +60



IoT Solutions
Alliance

COM  **Express**

Description

The MSC C6B-8S module is based on Intel's 4th generation of Core™ processors supporting triple independent displays, DirectX 11.1, fast low-power DDR3-1600 memory and USB 3.0 on a COM Express module. This product family brings a significant gain in computing and graphics performance compared to its predecessor.

Various Core i3, i5, i7 and Celeron processors are supported by this design. Besides an extensive set of interfaces and features, the MSC C6B-8S offers turbo boost capabilities for CPU and graphics controller, accelerated video encoding / decoding and hardware based security compliant to the requirements of TCG (Trusted Computing Group). The Type 6 pin-out allows direct access to the latest digital display interfaces like DisplayPort, HDMI and DVI. USB 3.0 interfaces support the fastest peripheral devices currently available.

Highlights

- Intel® Core™ i7-4700EQ (quad-core, 2.4/3.4GHz),
- Intel® Core™ i5-4400E (dual-core, 2.7/3.3GHz),
- Intel® Core™ i5-4402E (dual-core, 1.6/2.7GHz),
- Intel® Core™ i3-4100E (dual-core, 2.4GHz),
- Intel® Core™ i3-4102E (dual-core, 1.6GHz),
- Intel® Celeron® 2000E (dual-core, 2.2GHz),
- Intel® Celeron® 2002E (dual-core, 1.5GHz)
- Intel® HD Graphics 4600 (GT2)
- Intel® HD Graphics (GT1) with Celerons
- Intel® 8-Series chipset
- Up to 16GB DDR3L-1600 SDRAM, dual channel
- Four SATA mass storage interfaces (up to 6Gb/s)
- Three DisplayPort/HDMI/DVI interfaces
- Two Embedded DisplayPort interfaces
- LVDS (24 Bit, dual channel) and CRT interface
- Triple independent display support
- DirectX 11.1, OpenGL 3.2, OpenCL 1.2
- Resolution up to 3800 x 2400
- Seven PCI Express™ x1 lanes
- Four USB 3.0 and four USB 2.0 interfaces
- UEFI Firmware
- Intel® Intelligent Systems Framework Ready

Technical Data - MSC C6B-8S

Technology	x86
Formfactor	COM Express Basic
CPU	Intel® Core™ i7-4700EQ (quad-core, 2.4/3.4GHz), Intel® Core™ i5-4400E (dual-core, 2.7/3.3GHz), Intel® Core™ i5-4402E (dual-core, 1.6/2.7GHz), Intel® Core™ i3-4100E (dual-core, 2.4GHz), Intel® Core™ i3-4102E (dual-core, 1.6GHz), Intel® Celeron® 2000E (dual-core, 2.2GHz), Intel® Celeron® 2002E (dual-core, 1.5GHz)
Chipset	Intel® 8-Series Platform Controller Hub (PCH) QM87 (i5 and i7) or HM86 (i3 and Celeron)
RAM	up to 16GB DDR3L (1333/1600), 2x 204 pin SO-DIMM, dual-channel
Storage Interfaces	4x SATA up to 6Gb/s
USB	4 x USB 3.0, 4 x USB 2.0
Bus Interfaces	7x PCI Express x1, 1x PCI Express Graphics (PEG) x16, LPC bus (Low Pin Count bus)
Display Controller	Intel HD Graphics 4600 (GT2); on processor die with i3, i5, i7 processors (supporting Graphics Turbo Boost and Accelerated Encode/Decode Intel® HD Graphics (GT1) with Celeron® processors DirectX 11.1, OpenGL 3.2 and OpenCL 1.2 supported Triple independant display support
Display Memory	UMA
Display Interfaces	3x Display Port 1.2, two also usable as HDMI/DVI, up to 3800x2400, 2x Embedded DisplayPort, Analog interface, up to 1920 x 2000, LVDS 18/24 bit, dual channel; shared with one Embedded DisplayPort
Network Interface	10/100/1000Base-TX
Audio Interface	High Definition Audio
Security Device	TPM 1.2
Miscellaneous	Watchdog Timer: Initiates system reset, programmable Fan Supply: 4-pin header (12V), PWM speed control, RTC battery: external System Monitoring: voltage, temperature, CPU fan

Feature Highlights	Type 6 pin-out
Firmware	AMI Aptio UEFI
OS Support	Windows 8 Windows 7 (embedded) BSP for Linux on request EAPI (HW Programming Interface)
Power Requirement	+12V+/-10%, 5V Stby optional, 35 W (typ.) up to 55 W (typ.)
Environment	Ambient Temperature; 0° ... 60°C (operating), -25° ... 85°C (storage) Humidity: 5 ... 95% (operating, non-condensing), 5 ... 95% (storage, non-condensing)
Dimensions	125mm x 95mm
Certificates	UL / CE

Order Reference - MSC C6B-8S

Order Number	Description	Reference	Cat
45220	COM Express Type 6 Basic module (125mm x 95mm); CPU: dual-core Intel Celeron 2000E at 2.2GHz, 2MB L3, 37W TDP; Chipset: HM86 PCH; Graphics: integrated GT1; various display interfaces; Ethernet: Intel i217 Gbit; Infineon TPM; HD audio; seven PCIe x1, PCIe x16 PEG; 2x socket for DDR3 SO-DIMM.	MSC C6B-8S-001 PCBFTX	OR
45222	COM Express Type 6 Basic module (125mm x 95mm); CPU: dual-core Intel Celeron 2002E at 1.5GHz, 2MB L3, 25W TDP; Chipset: HM86 PCH; Graphics: integrated GT1; various display interfaces; Ethernet: Intel i217 Gbit; Infineon TPM; HD audio; seven PCIe x1, PCIe x16 PEG; 2x socket for DDR3 SO-DIMM.	MSC C6B-8S-002 PCBFTX	OR
45224	COM Express Type 6 Basic module (125mm x 95mm); CPU: dual-core Intel Core i3-4102E at 1.6GHz, 3MB L3, 25W TDP; Chipset: HM86 PCH; Graphics: integrated GT2; various display interfaces; Ethernet: Intel i217 Gbit; Infineon TPM; HD audio; seven PCIe x1, PCIe x16 PEG; 2x socket for DDR3 SO-DIMM.	MSC C6B-8S-003 PCBFTX	OR
45226	COM Express Type 6 Basic module (125mm x 95mm); CPU: dual-core Intel Core i3-4100E at 2.4GHz, 3MB L3, 37W TDP; Chipset: HM86 PCH; Graphics: integrated GT2; various display interfaces; Ethernet: Intel i217 Gbit; Infineon TPM; HD audio; seven PCIe x1, PCIe x16 PEG; 2x socket for DDR3 SO-DIMM.	MSC C6B-8S-004 PCBFTX	PV
45228	COM Express Type 6 Basic module (125mm x 95mm); CPU: dual-core Intel Core i5-4400E at 2.7/3.3GHz, 3MB L3, 37W TDP; Chipset: QM87 PCH; Graphics: integrated GT2; various display interfaces; Ethernet: Intel i217 Gbit; Infineon TPM; HD audio; seven PCIe x1, PCIe x16 PEG; 2x socket for DDR3 SO-DIMM.	MSC C6B-8S-005 PCBFTX	PV
45230	COM Express Type 6 Basic module (125mm x 95mm); CPU: quad-core Intel Core i7-4700EQ at 2.4/3.4GHz, 6MB L3, 47/37W TDP; Chipset: QM87 PCH; Graphics: integrated GT2; various display interfaces; Ethernet: Intel i217 Gbit; Infineon TPM; HD audio; seven PCIe x1, PCIe x16 PEG; 2x socket for DDR3 SO-DIMM.	MSC C6B-8S-008 PCBFTX	PV

Order Reference - MSC C6B-8S

Order Number	Description	Reference	Cat
45232	COM Express Type 6 Basic module (125mm x 95mm); CPU: dual-core Intel Core i5-4402E at 1.6/2.7GHz, 3MB L3, 25W TDP; Chipset: QM87 PCH; Graphics: integrated GT2; various display interfaces; Ethernet: Intel i217 Gbit; Infineon TPM; HD audio; seven PCIe x1, PCIe x16 PEG; 2x socket for DDR3 SO-DIMM.	MSC C6B-8S-012 PCBFTX	OR

Accessories

Order Number	Description	Reference
Carrier Options		
41886	COM Express Type 6 Small Test and Evaluation Board with one PCI Express socket, USB 3.0, GbE, SATA, DisplayPort, HDMI, VGA and HD audio interfaces	MSC C6-AD-T6T2 PCBFTX
67295	COM Express Type 6 Evaluation Carrier Board with PCI Express x4/x16 slot, USB 3.0/2.0, GbE, SATA, DisplayPort, eDP/LVDS, VGA 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 C6-MB-EV-001 PCBFTX
41857	COM Express Type 6 Evaluation Carrier Board with various PCI Express x1, x4 and x16 slots, USB 3.0/2.0, GbE, SATA, DisplayPort, HDMI, LVDS, eDP, VGA, HD audio interfaces; mSATA and Mini PCI Express sockets, POST code display, ATX power connector. Dimensions: 305 x 244 mm (ATX form factor)	MSC C6-MB-EVA PCBFTX
Cooling Options		
1111682	Active Heatsink for C6B-8S, C6B-8SB and CXB-8S, consisting of a single-piece aluminum profile with fins, pressed in standoffs without thread (2.7mm inner diameter), screws and thermopads for the thermal contact to CPU and chipset. PWM fan 80x80x15mm.	MSC C6B-8S-01 HSF-001
1110030	Passive Heatsink for C6B-8S, C6B-8SB and CXB-8S, consisting of a single-piece aluminum profile with fins, pressed in standoffs without thread (2.7mm inner diameter), screws and thermopads for the thermal contact to CPU and chipset.	MSC C6B-8S-01 HSI-001
1120478	Heatspreader for C6B-8S, C6B-8SB and CXB-8S. Single-piece aluminum profile, pressed in standoffs without thread (2.7mm inner diameter), screws and thermopads for the thermal contact to CPU and chipset. No fan, no SO-DIMM cutout.	MSC C6B-8S-01 HSP-001
1124456	Active Heatsink for C6B-8S, C6B-8SB and CXB-8S consisting of a single-piece aluminum profile with fins, pressed in standoffs without thread (2.7mm inner diameter), screws and thermopads for the thermal contact to CPU and chipset. PWM fan 80x80x15mm. No memory cutout.	MSC C6B-8S-02 HSF-001
1121199	Passive Heatsink for C6B-8S, C6B-8SB and CXB-8S consisting of a single-piece aluminum profile with fins, pressed in threaded standoffs (M2.5), screws and thermopads for the thermal contact to CPU and chipset.	MSC C6B-8S-02 HSI-001
1120479	Heatspreader for C6B-8S, C6B-8SB and CXB-8S. Single-piece aluminum profile, pressed in standoffs with M2.5 thread, screws and thermopads for the thermal contact to CPU and chipset. No fan, no SO-DIMM cutout.	MSC C6B-8S-02 HSP-001

Accessories

Order Number	Description	Reference
1123276	Passive Heatsink for C6B-8S, C6B-8SB and CXB-8S consisting of a single-piece aluminum profile with fins, pressed in threaded standoffs without thread (2.7mm inner diameter), screws and thermopads for the thermal contact to CPU and chipset. No memory cutout.	MSC C6B-8S-03 HSI-001
Memory Options		
1102661	DDR3 SODIMM 4GB PC1600, 512Mx64, based on 512Mx8, single rank, 1, 35V	HMT451S6AFR8A-PBN0
1124891	DDR3L SODIMM, 2GB, PC1600, 1.35V	MSC3S2G1600B2LSQSC
1128243	4GB DDR3-1600 SoDimm, 512Mx8 based, 1.35V	MSC3S4G1600B2LSESC
Starter Kits		
46417	COM-Express Type 6 Starterkit for Intel fourth generation core processors consisting of a Type 6 baseboard, the active heatsink with fan for the C6B-8S Type 6 module, and two DDR3L SO-DIMM memory modules. Please order separately the COM-Express C6B-8S module of your choice.	MSC C6-SK-8S-T6T2-KIT001

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