

MSC CXC-PV525

Intel® Atom™ Dual Core






Description

The design of the MSC CXC-PV525 module is based on Intel's second generation Atom™ CPU technology offering dual core computing performance at low power consumption for demanding applications.

Different Atom processors with integrated graphics paired with the ICH8M bridge in a 2-chip design offer high graphics performance and many I/O interfaces.

As an option the MSC CXC-PV525 offers hardware and BIOS based security compliant to the requirements of the TCG (Trusted Computing Group).

The widely adopted "Compact" form factor together with the two-chip core design and two DDR3 SO-DIMM sockets allow small and powerful system designs at reasonable costs.

95x95 
8 / 15 W 
Medium 

Highlights

- Intel® Atom™ D525 (1.8GHz, dual core), Intel® Atom™ N455 (1.66GHz, single core)
- Integrated Intel® GMA 3150
- Intel® ICH8M I/O controller hub
- Up to 4 GB DDR3 SDRAM
- Three SATA-300, one PATA mass storage interfaces
- LVDS interface (18 bit, single channel) up to 1366 x 768
- CRT interface up to 2048 x 1536
- Dual Independent Display supported
- Five PCI Express™ x1 lanes
- Eight USB 2.0 interfaces

Technical Data – MSC CXC-PV525

Module Standard

PICMG COM Express™ Standard COM.0

Type 2 compliant interface, “compact” form factor

Core Logic, Memory

CPU

Intel® Atom™ D525 (1.8GHz, dual core, 1MB L2 cache, 13W TDP),
Intel® Atom™ N455 (1.66GHz, 512kB L2 cache, 6.5W TDP)

Intel® Technologies: Intel® 64,
Intel® Hyper-Threading Technology, Execute Disable Bit,
Enhanced Intel® Speedstep Technology*

Chipset

Intel® ICH8M

Memory

2x 204-pin SO-DIMM socket for up to 4GB DDR3 SDRAM
(DDR3-800/PC3-6400 or faster); single channel operation **

Storage Interfaces

SATA

3x SATA channels (up to 300MB/s)

PATA

1x Enhanced IDE port (ATA/UDMA100)

Silicon Disk

1x 4GB NAND Flash SSD on SATA interface (option, on request)***

Bus Interfaces

USB

8 x USB 2.0

PCI Express™

Six channels PCI Express x1 (one channel reserved for Gbit Ethernet)

PCI Bus

32 Bit, 33MHz standard interface (PCI 2.3), 4 slots supported

LPC

Low Pin Count bus for legacy interfaces

Display Interfaces

Graphics Controller

Built-in Graphics Accelerator Gen. 3.5 (400MHz)****
DirectX 9 supported

Video Memory

UMA, dynamic allocation
(Intel® Dynamic Video Memory Technology)

LCD Interface

LVDS 18 Bit, single channel

CRT Interface

Resolution up to 2048 x 1536

Miscellaneous

Watchdog Timer

Initiates system reset, (programmable, 0.4s ... 10min)

Fan Supply

3-pin header (12V), fan speed control

Real-Time Clock

Part of ICH8M, battery external

System Monitoring

Voltage, temperature, CPU fan

Network Interface

Ethernet

10/100/1000Base-TX (integrated inprocessor)

Audio Interface

Security Device

HD Audio (in ICH8M)

Infineon Trusted Platform Module (option)

Firmware, Software

Boot Options

Quick Boot, MultiBoot XP (HD, CD, LAN, USB), Boot without keyboard, LAN Boot via PXE (RPL optional), Wake on LAN supported

Security

TPM 1.2 support

Power Management

ACPI (S3, S4, S5 supported), CPU fan control

USB

USB legacy support (keyboard, mouse, storage)

Video

Video BIOS with flat panel extensions (EPI)

Setup

CMOS configuration, backup stored in EEPROM

HW Programming I/F

UspEpc (Universal board support package for embedded PCs)

Board Support Package (BSP)

Microsoft Windows® CE, Linux (on request)

Power Supply

Power Supply Voltage

Wide range power supply +5V to +18V , 5V Stdby optional

Power Consumption

8W (typ.) to 15 W (typ.)

Environment

Ambient Temperature

0° ... 60° C (operating)

-25° ... 85° C (storage)

Humidity

5 ... 95% (operating, non-condensing)

5 ... 95% (storage, non-condensing)

Mechanical

Dimensions

95mm x 95mm x13mm

* Speedstep on N455 model only

** N455 supports 2GB of memory

*** leaves 2x SATA for use on base board

**** Graphics engine in N455 runs at 200MHz)

Order Reference – MSC CXC-PV525

Order Number	Description	Reference
37329	Intel® Atom™ D525 Dual Core, ICH8M, 10/100/1000Base-TX	MSC CXC-PV525-001
37335	Intel® Atom™ N455, ICH8M, 10/100/1000Base-TX	MSC CXC-PV525-004

Accessories

Order Number	Description	Reference
	Cooling	
38044	Heat spreader for CXC-PV525 (all models) consisting of a specially formed aluminum plate w/ pressed in space bolts with 2.7mm inner diameter; thermo pads for the thermal contact to CPU and chipset.	MSC CXC-PV525-01HSP-001
38045	Passive heat sink for CXC-PV525 (all models) with spring mounted self aligning cooler element connecting the processor die. Extruded aluminum plate with fins; distance sleeves (2.7mm inner diameter); screws and thermopad for ICH8M. Height: 25mm incl. bolts.	MSC CXC-PV525-01 HSI-001
40670	Passive heatsink solution for CXC-PV525, consisting of a single-piece aluminum profile with fins, pressed in standoffs without thread (3.2mm inner diameter), screws and thermo pads for the thermal contact to CPU and chipset. No fan, no SO-DIMM cutout. Height: 25mm incl. bolts.	MSC CXC-PV525-02 HSI-001
40672	Passive heatsink solution for CXC-PV525, consisting of a single-piece aluminum profile with fins, M2.5 distance holders, screws and thermo pad for the thermal contact to CPU and chipset. No fan, no SO-DIMM cutout. Height: 25mm incl. bolts.	MSC CXC-PV525-03 HSI-001
36057	Fan kit suitable for Heat sink MSC CXC-GS45-01 HSI-* and MSC CXC-PV525-0x HSI-00x only! The kit consists of a 70x70mm fan, spacers and screws.	MSC CXC-GS45-01 FKT-001
	Carrier Boards	
32367	COM Express Industrial Platform with PCI and PCI Express x1; Dual LAN,VGA/DVI, Quad USB, COM1/2, HD-Audio; MiniPCI, SATA, CF onboard,170x170mm (mini-ITX)	MSC CX-MB-IP1 PCBFTX
	Memory Modules*	
1091458	DDR3 SODIMM, 1GB, 128Mx64, PC1333	M471B2873GB0-CH9
1087921	DDR3 SODIMM, 2GB/1333, 256Mx64,CL9, 256Mx8 based, 1rank, 1.5V	HMT325S6CFR8C-H9N0
1081140	DDR3 SODIMM, 2GB, 256Mx64, PC1333	M471B5773DH0-CH9
1087922	DDR3 SODIMM 4GB PC1333, 512Mx64, based on 256Mx8, 2rank, 1,5V	HMT351S6CFR8C-H9N0
*	Pre-qualified memory modules for the CPU product above	

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