



mITX-945S-ED

Low Power Embedded Mini-ITX Board with PCI Express and PCI Expansion

Features

- Mini-ITX form factor with PCI Express and PCI expansion slots
- Processor
 - Intel® ATOM™ N270, 1.6 GHz
- 945GSE/ICH7M chipset combination
- Up to 2 GBytes DDR2 SDRAM, 240-pin DIMM
- Graphics
 - Up to SXGA+
- PCI Express and PCI expansion slots
- Two Gigabit Ethernet ports
- Four USB 2.0 ports on rear panel
 - Additional two connectors for four ports onboard
- One COM port
- Two SATA ports
- Up to two IDE devices
- Audio
- Temperature, voltages and fan alarms
- Energy Efficiency
 - Wake-On events
 - Supports ACPI specification 2.0/1.0
 - AC power failure recovery
- RoHS compliance

The mITX-945S-ED, a Mini-ITX single board computer featuring the Intel ATOM processor, delivers improvements in performance-per-watt and provides an excellent choice for system integrators for high performance requirements. The combination of Intel's ATOM processor and chipset limit power dissipation while providing high performance.

The maximum achievable memory size is 2 GBytes DDR2. Using one DIMM socket gives the user the freedom to adopt the size of the memory for the application on demand.

Two Gigabit Ethernet ports, routed to the rear panel, support transmissions of 10 and 100 Mbit/s.

In addition to the four USB ports on the rear panel, there are up to two USB connectors on the board providing a total of up to four (4) additional ports.

The mITX-945S-ED supports various mass storage devices. The user has the choice between two SATA channels and/or up to two IDE devices.

The mITX-945S-ED features an integrated analog CRT that supports up to SXGA+. Together with the audio port, a wide range of multimedia implementations can be realized.

The mITX-945S-ED is powered via a 12 VDC Jack and is RoHS compliant.

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Specifications

Processor

- Intel® ATOM™ N270 processor, soldered
 - 1.6 GHz core frequency
 - 2.5 W thermal design power
 - 512 KByte on die second level cache
 - 533-MT/s FSB
- 22x22 mm 1.0 mm Ball pitch FCBGA

Chipset – Intel

- Intel 945GSE graphics memory controller hub (GMCH)
- Intel 82801GBM I/O Controller Hub (ICH7M)

Memory

- One 240-pin DIMM socket
- Up to 2 GBytes of DDR2 SDRAM
- Supports 400 MHz and 533 MHz DDR2 SDRAM

Graphics Features

- 133/166 MHz internal graphics core frequency
- One SDVO Port (Port B)
- Supports 18-bit dual channel LVDS
- Supports CRT resolutions up to SXGA+

Audio

- Realtek ALC262 2 channel high definition audio
- Two 24-bit stereo DAC#s and three 20-bit stereo ADC's
- S/PIDF input/output interface

LAN

- Two Realtek RTL8111C PCI Express Gigabit controllers
- Supports 10 Mbps, 100 Mbps and 1 Gbps
- IEEE 802.3 and IEEE 802.3ab compliant

Expansion

- 1x PCI Express x1 slot
- 1x PCI slot

Serial ATA Interface

- Two serial ATA ports with independent DMA
- SATA and PATA can be used in a combined function mode (When SATA is used in combination with PATA; AHCI mode is not supported)

IDE Interface

- Bus master IDE (PATA) controller
- Supports up to two IDE devices
- Supports up to Ultra ATA 100/66/33

Rear Panel I/O Ports

- Mini-DIN-6 PS/2 keyboard port
- Mini-DIN-6 PS/2 mouse port
- 1x 1-pin 12V DC jack
- 1x 4-pin 12V DC jack
- 1x DB-9 serial port
- 1x DB-15 VGA port
- 2x RJ-45 LAN ports
- 4x USB 2.0/1.1 ports
- Mic-In, Line-In, Line-Out

I/O Connectors

- 2x connectors for four additional USB 2.0 ports
- 1x speaker out connector with amplifying feature
- 1x LVDS LCD panel connector
- 1x SDVO connector for DVI and LVDS outputs
- 1x front audio (Line-Out, Mic-In)
- 1x LCD/inverter power connector
- 1x LCD AUX power connector
- 1x DIO connector
- 1x CD-In internal audio
- 1x S/PDIF
- 2x SATA
- 1x 44-pin IDE
- 1x 4-pin power connector for the SATA Drive
- 1x front panel
- 1x chassis open
- 1x fan control

BIOS

- SPI interface BIOS (8 Mbit)
- Award BIOS

Monitoring

- Temperature, voltages, fans, failures and overheat alarm
- System fan speed and failure alarm
- Read back capability

Energy Efficient Design

- Supports ACPI Specification 2.0/1.0
- Supports ACPI STR (Suspend to RAM) function
- Wake on events include:
 - Wake on keyboard/mouse
 - Wake up by PCI Card
 - PCI Express PME
 - USB/KB/Mouse wake up from S3
 - Wake on ring
 - RTC timer to power on the system
- Enhanced Intel Speedstep Technology
- AC Power Failure recovery

Temperature

- Operating: 0° C to +60° C
- Storage: -40° C to +85° C

Humidity

- Operating: 10% to 90%
- Non-condensing

PCB

- Dimensions
 - Mini-ITX form factor
 - 170 mm x 170 mm (6.7" x 6.7")

Ordering Information

MI945SN0E22D1 Mini-ITX embedded motherboard with Intel ATOM processor

About GE Fanuc Intelligent Platforms

GE Fanuc Intelligent Platforms, a joint venture between General Electric Company (NYSE: GE) and FANUC LTD of Japan, is an experienced high-performance technology company and a global provider of hard-ware, software, services, and expertise in automation and embedded computing. We offer a unique foundation of agile, advanced and ultra-reliable technology that provides customers a sustainable advantage in the industries they serve, including energy, water, consumer packaged goods, government and defense, and telecommunications. GE Fanuc Intelligent Platforms is a worldwide company headquartered in Charlottesville, VA and is part of GE Enterprise Solutions. For more information, visit www.gefanuc.com.

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Additional Resources

For more information, please visit the GE Fanuc Intelligent Platforms web site at:

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