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Procelerant PICOZ500 Pico-ITX

Intel® Atom Z500 Series Embedded Single Board Computer

FEATURE SUMMARY

The Procelerant PICOZ500 Pico-ITX is a single board computer based on the Intel Atom™ Z510 processor. It is designed specifically for use in low-power or battery-powered applications such as patient monitors, test and measurement equipment, gaming, and infotainment systems. The PICOZ500 is also ideally suited to space-constrained applications with a need for passive cooling and low-power operation.

The PICOZ500 is available with 512MB DDR2-400 integrated memory and has a MicroSD socket for up to 2GB Flash memory. The PICOZ500 has an integrated video controller that can support a variety of touch-screen LVDS or TTL panels using a cable designed specifically for each panel.

A PCI Express Mini Card socket supports modules such as wireless LAN, and a 100-pin expansion connector enables the PICOZ500 to be interfaced to a custom expansion card with application specific I/O. The power source is a single input-voltage power rail that can support operation with two to four Li-Ion or Li-Polymer cells. Additional battery management or Smart Battery support can be provided using an optional battery controller module.

Proclerant PICOZ500 Pico-ITX Specifications

FEATURE	FUNCTION	SPECIFICATION
FORM FACTOR	Size	Pico-ITX, 100mm x 72mm, 3.9" x 2.8"
PROCESSOR	Type	Intel Atom™ Z510 Processor 1.1GHz, 512k L2 cache, 400MHz FSB – Check with your RadiSys representative for other processor/memory combinations
SYSTEM CONTROLLER	Type	Intel US15W
MEMORY	Type	Integrated 512MB DDR2-400 using 4 devices
VIDEO	Type	US15W integrated graphics with LVDS and SDVO interfaces
	LVDS	18-bit or 24-bit Supports resolutions up to 1368 x 768 at 85Hz Integrated backlight driver for panels with LED backlights
	SDVO	Supports resolutions up to 1280 x 1024 at 85Hz
NETWORK	Controller	Intel 82574L Gigabit Ethernet MAC/PHY with header connector and on-board magnetics
AUDIO	Type	Intel High Definition Audio
	Controller	IDT STAC9204 2-channel CODEC
	Output	Mono speaker output, 200mW
STORAGE	IDE	1.8" IDE header capable of supporting two Ultra ATA/100 devices
	SDIO	microSD socket (max 2GB flash memory)
USB		Six USB 2.0 ports via on-board headers (including one client port)
		Four USB 2.0 ports via expansion connector (two shared with on-board USB)
SERIAL PORTS	Controller	COM1 via on-board header, COM2 via expansion connector
TOUCH SCREEN	Type	Support for 4-wire resistive touch screen interface
EMBEDDED CONTROLLER		Supports SPI, Smart Battery (optional), Power on/off LED
BIOS	Type	General Software
	Flash	1MB SPI ROM
EXPANSION		Full size PCI Express Mini Card
		Socket for optional battery controller

Expansion connector for application specific expansion card

FRONT PANEL	Connector	Front panel I/O and mono speaker out
POWER MANAGEMENT	ACPI 3.0 with states S0, S3, S4, S5, G3 and C0, C1, C2, C3, C4/C4E, C6	
POWER CONSUMPTION	Designed for operation with a TDP less than 5W	
POWER INPUT	6 – 16.8V single voltage input	

FEATURE

SPECIFICATION

EXPANSION CONNECTOR	Signals	One x1 PCI Express lane (build option)
	HDA audio, SPI bus, LPC bus, SMBus, I2C bus, SDVO, eight GPIO	
	Four USB 2.0 (including one shared host and one shared client port)	
	+12V power rail validated over 6V to 16.8V	
OPERATING SYSTEMS	Windows XP Professional	
	Windows XP Embedded with SP2	
	Windows CE 6.0 R2	
	Red Hat Linux	

PHYSICAL SPECIFICATIONS

ENVIRONMENT	Cooling	Forced Air	Class EAC1 as defined in the ANSI/VITA 47-2005
		Conduction	Class ECC1 as defined in the ANSI/VITA 47-2005
	Temperature	Operating	0°C to 60°C
		Non-Operating	-40°C to 85°C
	Relative Humidity	Operating	5% - 95% non-condensing
		Non-Operating	5% - 95% non-condensing
	Shock	Operating	50g, half-sine shock pulse, 11ms duration, 3 times per face
		Packaged	50g, half-sine shock pulse, 17.4ms duration, 3 times per face
	Vibration	Operating	Random 5Hz to 2kHz, 12.07 grms, 1hr in each of 3 axes 5Hz – 40Hz: 0.04 g ² /Hz 40Hz – 100Hz: 0.04g ² /Hz ramping up to 0.1g ² /Hz (3dB/oct) 100Hz – 1kHz: 0.1 g ² /Hz 1kHz – 2kHz: 0.1g ² /Hz ramping down to 0.025g ² /Hz(6dB/oct)
		Packaged	As above 5 – 500Hz swept sine, 2.5g (0-p),

REGULATORY	Safety	UL60950-1, EN60950-1, IEC60950-1
	EMC	EN55022, EN55024 and FCC Part 15, Subpart B, Class B
	Material	RoHS compliant, China RoHS

Ordering Information

Order Codes

- PICOZ510–512: SBC with Z510 (1.1 GHz) processor and 512MB Memory.
- PICOZ500–IO: I/O board.
- PICOZ512–Kit: Starter kit. Includes PICOZ510–512, PICOZ500–IO, NEC touch screen display, power supply and all cables.



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