

Cool XpressRunner-GS45

PCI/104-Express Single Board Computer
Intel® Core™ 2 Duo Processor

Features

Intel Core 2 Duo Processor

1 GByte soldered DDR3-1066 RAM

SXGA: 2048 x 1536 pixel

Dual channel LVDS and CRT

Gigabit Ethernet

8 x USB 2.0

2 x RS232, RS485

High definition audio

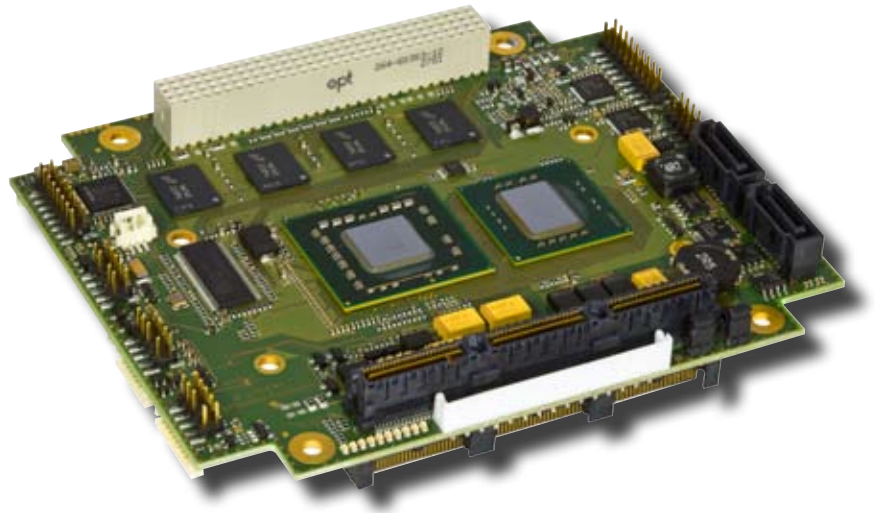
2 x SATA

Passive cooling possible

Opt. ext. temperature range @ 1.2GHz

More Features

- LEMT
- Watchdog
- Flash BIOS



The Cool XpressRunner-GS45 is the fastest PCI/104-Express processor module available. It brings the power of the Intel Core 2 Duo processor and the mobile GS45 chipset on a small 3.55" by 4.55" PCI/104-Express board. The CPU speed of 2.26GHz for the CPU and 1066MHz for the front side bus deliver unprecedented performance. The board is equipped with one Gigabyte soldered DDR3-1066 RAM.

The chipset features an integrated GMA4500 graphics processor. Displays are connected using either VGA or dual channel LVDS interfaces.

High definition audio with analog as well as digital inputs and outputs is available, too.

There is a Gigabit LAN port, 8 USB 2.0 host port and two serial interfaces capable of RS232 and RS485. Two SATA ports round the board's hardware features off.

The Cool XpressRunner-GS45 uses the LiPPERT Enhanced Management Technology, (LEMT) based on an integrated system management controller. It handles the boards housekeeping tasks like power sequencing and watchdog, and provides useful utility functions for the application. Among them is a secure, write and clear protected Flash area that can be used for security keys.

All models of the Cool XpressRunner-GS45 are designed for an ambient temperature range of -20°C...+60°C. The 1.2GHz model is optionally available for operation in the full extended temperature range of -40°C...+85°C.

The Cool XpressRunner is intended for applications requiring high performance mobile computing. The optionally available extended temperature range makes it the ideal candidate for outdoor usage.

LiPPERT is an independent design house and manufacturer that develops and builds special customer specific solutions. Please ask for a specific quotation.

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Intel® Core™ 2 Duo Processor

Technical Specifications

Board Format	PCI/104-Express, 115.6mm x 95.9mm	Status LED	Power, Watchdog, Ethernet, IDE and life signalization
Processor	Intel Core 2 Duo SP9300 Intel Celeron M 722	PCI Bus	5 V compliant.
Speed	SP9300: 2.26 GHz M722: 1.2 GHz	PCI Express Bus	4 x1 lanes 1 x16 lane, usable for graphics and peripherals
FSB	1066 MHz	Power Supply	+5 V only. All necessary voltages are generated on-board.
Core logic	Mobile Intel® GS45 Express Chipset	Power Consumption	typical 11 watts maximum 40 watts
RAM	1 GB soldered DDR3	Power Management	BIOS supports ACPI power saving modes
RAM clock	533 MHz	Operating temperature	0°C...+60°C (commercial, all versions) -20°C...+60°C (industrial, all versions) -40°C...+85°C (extended, optional)
Graphics	up to 64 MB RAM, up to 2048 x 1536 pixel at 75 Hz	MTBF	166.504 hours @ 25°C
CRT	Analog VGA	Cooling	The Cool XpressRunner-GS45 must always be operated with sufficient cooling measures. Warranty will be void if operated without cooling.
LVDS	Dual channel	BIOS	Phoenix FirstBIOS BIOS parameters are also saved in FEPROM
USB	8 USB 2.0 host ports	LEMT	Yes
Ethernet	1000 BaseT with i82567	Supported OS	Windows, Linux
Serial	2 RS232 or RS485 ports, selectable in BIOS		
SATA	2 SATA ports		
Sound	High definition audio, 5+1 Input, output, mic.		
RTC Backup	Battery		
Watchdog	Yes		

Ordering Information

Ordering Number	Description
712-0001-10	CPU module with Celeron M 722 processor, 1.2GHz and 1GB DDR3 RAM, -0°C...+60°C
712-0002-10	Like 712-0001-10 but with Core 2 Duo SU9300, 1.2 GHz, -0°C...+60°C
712-0003-10	Like 712-0001-10 but with Core 2 Duo SL9400, 1.86 GHz, -0°C...+60°C
712-0004-10	Like 712-0001-10 but with Core 2 Duo SP9300, 2.26 GHz, -0°C...+60°C
812-0001-10	CPU Module with Celeron M722, 1.2 GHz, -20°C...+60°C
812-0002-10	Like 812-0001-10 but with Core 2 Duo SU9300, 1.2 GHz, -20°C...+60°C
812-0003-10	Like 812-0001-10 but with Core 2 Duo SL9400, 1.86 GHz, -20°C...+60°C
812-0004-10	Like 812-0001-10 but with Core 2 Duo SP9300, 2.26 GHz, -20°C...+60°C
912-0001-10	CPU Module with Celeron M722, 1.2 GHz, -40°C...+85°C
912-0002-10	Like 912-0001-10 but with Core 2 Duo SU9300, 1.2 GHz, -40°C...+85°C

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