

Cool ExpressRunner-GS45

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



Features

Intel Core 2 Duo Processor, 2 GByte soldered DDR3-1066 RAM (max.)

SXGA: 2048 x 1536 pixel, Dual channel LVDS and CRT

Gigabit Ethernet, 8 x USB 2.0

2 x RS232, RS485

2x SATA

Opt. ext. temperature range @ 1.2 GHz

Specifications

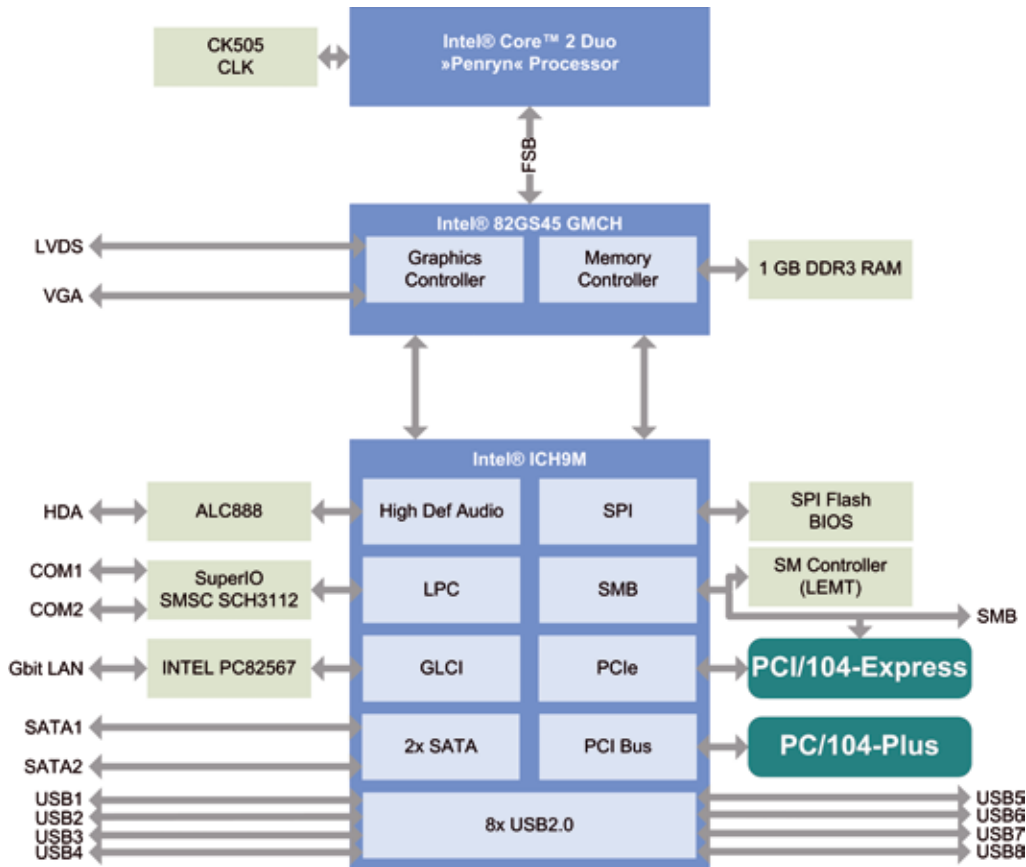
Board Format	PCI/104-Express, 115.6mm x 95.9mm
Processor	Intel Core 2 Duo SP9300, 6 MB cache Intel Celeron M 722, 1 MB cache
Speed	SP9300: 2.26 GHz M722: 1.2 GHz
FSB	1066 MHz
Core logic	Mobile Intel® GS45 Express Chipset
RAM	2 GB soldered DDR3 (max.)
RAM clock	1066 MHz
Graphics	up to 256 MB RAM, up to 2048 x 1536 pixel at 75 Hz, supports 3D, DirectX and OpenGL
CRT	Analog VGA
LVDS	Dual channel
USB	8 USB 2.0 host ports, with boot device support
Ethernet	1000 BaseT with i82567
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

Status LED	Power, Watchdog, Ethernet, IDE and life signalization
PCI Bus	5 V compliant.
PCI Express Bus	4 x1 lanes, configurable as x4 1 x16 lane, usable for graphics, also configurable as x8, x4, x2 lanes
Power Supply	+5 V only. All necessary voltages are generated on-board.
Power Consumption	maximum from 11W with Celeron M722 up to 33W with Core2Duo SP9300
Power Management	BIOS supports ACPI power saving modes
Operating temperature	0°C...+60°C (commercial, all versions) -20°C...+60°C (industrial, all versions) -40°C...+85°C (extended, optional)
MTBF	166 504 hours @ 25 °C
Cooling	The Cool XpressRunner-GS45 must always be operated with sufficient cooling measures. A heat spreader is delivered with the board. Warranty will be void if operated without cooling.
BIOS	Phoenix FirstBIOS BIOS parameters are also saved in FEPROM
LEMT	Yes
Supported OS	Windows, Linux

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Block Diagram



Ordering Information

Ordering Number	Description
712-0001-10	CPU module with Celeron M 722 processor, 1.2GHz and 1GB DDR3 RAM, including heat spreader, 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
812-0004-10	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 using suitable cooling measures. See www.lippertembedded.com/cooling

Other processor and memory configurations are available on request.