



PFU Systems™

a Fujitsu company

Plug-N-Run G5

Intel® Core™ 2 Duo Processor 2.2/1.6 GHz, 1.06GHz ULV or Celeron® M 2.0GHz

Embedded Computing



COM Express

High system performance, high-speed interface for high-speed graphics

Description:

The Plug-N-Run™ G5 module combines Intel® Core™ 2 Duo performance, superior I/O connectivity, and state-of-the-art graphics and memory support in a standard embedded form factor. PFU Systems' Plug-N-Run G5 is the next generation Computer-On-Module offering the latest combination of Intel technologies in the PICMG COM Express standard's Basic Type 2 form factor.

The G5 offers Core 2 Duo processors at 2.2 and 1.6GHz for superior performance, a Celeron® M Processor at 2.0GHz, or a Core 2 Duo ULV processor at 1.06GHz for the most demanding thermal environments. CPU performance is facilitated by the Intel GME965 graphics and memory controller and the ICH8M-DO I/O controller. These components provide 800 or 553MHz FSB, support for up to 4GB of PC2-5300 DDR2 memory, 1-x16 and 5-x1 lanes of PCI Express, and 3 Serial ATA channels. The GME965 includes the X3100 graphics accelerator making the G5 suitable for use with Windows® Vista™ Business. In addition to these major throughput features, the G5 includes Gigabit Ethernet, 8 USB ports, High Definition Audio, a CRT monitor port, and dual channel LVDS LCD support.

This superior collection of capabilities and power is packaged in the standard 125mm x 95mm (4.9in x 3.75in) COM Express Basic Type 2 form factor. The G5 is available with a selection of active or passive thermal solutions with module heights as low as 18mm. PFU Systems is one of the originators of the PICMG COM Express standard.

Superior Performance and Throughput

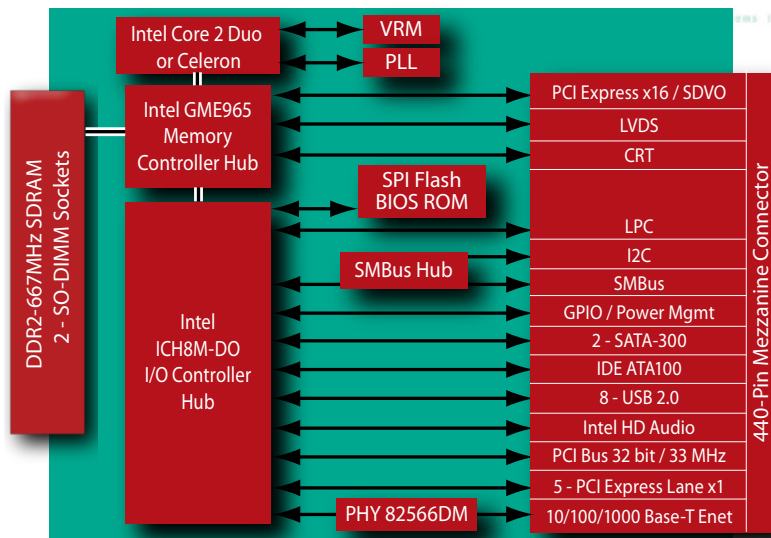
- The latest dual core processor Intel Core 2 Duo
- Two slot dual channel memory, 512MB, 1 or 2GB available (4GB max)
- Three channels of Serial ATA 300MB/s One PCI Express x 16 lane and five x 1 lanes
- Intel X3100 Graphics Media Accelerator
- Optional Celeron M and ULV processors for lower cost and thermal considerations

Extensive Connectivity for a Variety of Applications

- Eight USB 2.0 ports
- CRT, dual channel LVDS LCD
- Intel High Definition Audio
- Legacy interfaces like IDE and PCI
- Gigabit Ethernet

Compliant with COM Express Standard

- Compliant with PICMG COM Express Basic Type 2
- Shortens development time
- Decreases development cost
- Enhances product quality



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Inside Your Best Ideas



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Specifications Summary

Feature

Specifications

	CPU	Intel® Core™ 2 Duo Processor T7500 (2.2GHz)	Intel Core 2 Duo Processor L7500 (1.6GHz, low voltage)	Intel Celeron® M Processor Celeron 550 (2.0GHz)	Intel Core 2 Duo Processor Ultra Low Voltage U7500 (1.06GHz)
CPU AND CHIPSET	L2 Cache	4MB		1MB	2MB
	Chipset	Intel GME965 chipset, GME965, ICH8M-DO			
	FSB	800 MHz		533 MHz	
	DIMM	2 × 200-pin DDR2 registered Non-ECC DIMM Slots (512MB/1GB/2GB, PC2-5300)			
MEMORY	RTC	± 3 min/month			
	System ROM	1MB: System + Power Management + VGA BIOS + PXE			
	FLASH-ROM	SST SST25VF080B			
SYSTEM EXPANSION	PCI Express Graphics	One x16 Lane (SDVO or external graphic controller)			
	PCI Express	5 × x1 Lane or 1 × x4 and 1 × x1 Lane			
	PCI	32-bit/33MHz 3.3V PCI Rev. 2.3			
	LPC	LPC 1.0, 1 Master/DMA device			
	CRT	2048 × 1538 max, 16M colors			
I/O INTERFACES	LCD	Dual channel LVDS I/F, 24-bit, 1600 × 1200 max or Dual channel 1920 × 1200 max			
	TV Out	1920 x 1080 max, 16M colors			
	SDVO	2 ports (cannot be used simultaneously with PCI Express Graphics)			
	SATA	3 channels (SATA-300) with RAID 0/1 support			
	IDE	1 channel (ATA100)			
	USB	8 × USB 2.0			
	Ethernet	1 port (10/100/1000Base-T, PHY included)			
	Sound	Intel High Definition Audio, External Audio CODEC required			
	Speaker	1			
	SMBus 2.0	1			
SYSTEM MANAGEMENT	I2C	1			
	GPIO	4 x GPI, 4 x GPO			
	WatchDog Timer	Programmable			
	Dimensions	125 × 95 mm			
PHYSICAL	Weight	130 g Max			
	Ambient Temperature	0 – 60°C			
OPERATING ENVIRONMENT	Humidity	20 – 80% RH, no condensation			
	Storage Environment	-20 – 65°C & 0 – 90% RH, no condensation			
	MAX POWER CONSUMPTION	85.5W	67.3W	77.5W	60.5W
MEASURED MAX	68.7W	41.4W	48.2W	32.4W	
MEAN TIME BETWEEN FAILURES	300,000 hours (Ta=25°C), 50,000 hours (Ta=50°C)				

Ordering Information

Item

Part Number

MODULES

2.2GHz Plug-N-Run G5
 2.0GHz Plug-N-Run G5
 1.6GHz Plug-N-Run G5
 1.06GHz Plug-N-Run G5

PS5PR220B2
 PS5PRC200B2
 PS5PR160B2
 PS5PR106B2

CARRIER BOARDS

Plug-N-Run G5 Development Board

PS5PRDEVBDR

MEMORY

2 GB PC2-5300 DDR2 200P SODIMM
 1 GB PC2-5300 DDR2 200P SODIMM
 512 MB PC2-5300 DDR2 200P SODIMM

PSDN002G667
 PSDN001G667
 PSDN512G667

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