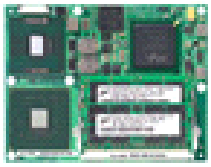
RadiSys

DATASHEET



FEATURE SUMMARY

- Core™ 2 Duo, Core Duo, and Celeron processor options
- Type 2 COM Express Pin-out
- Dual-channel DDR2, up to 4GB memory

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Procelerant CE945GME

Core™ 2 Duo Pentium M 945GME COM Express Module

Based on the open PICMG standard, the RadiSys Procelerant™ CE945GME COM Express basic size (95mm x 125mm) modules combine Intel® Core™2 Duo Pentium M and single core Celeron M performance with dual channel memory that's vital for today's embedded applications. Paired with a RadiSys Procelerant carrier board, RadiSys COM Express modules provide a ready-to-use development platform

PICMG STANDARD

COM Express is the PICMG standard for a Computer-On-Module (COM) based on high speed serial differential signaling technologies such as PCI Express, Serial ATA, USB 2.0, LVDS, and Serial DVO while retaining legacy PCI bus support to ease migration from existing modular designs. COM Express enables OEMs to reduce time to market by reducing the time spent on processor design and enabling focus on core competencies and product differentiation. Planned feature changes, demand fluctuations and performance upgrades can be handled without product re-designs. COM Express modules can reduce service repair inventories, and simplify upgrades, contributing to the success of the product over its lifetime.

APPLICATIONS

Core 2 Duo processing power combined with dual channel memory on a basic (95 x 125mm) size module brings unprecedented processing power to the mighty but small CE945GME computer-on-module. Dual channel memory via 2 SODIMM sockets provides up to 67% performance increase over single channel memory solutions, making the CE945GME an ideal choice for processing intensive applications such as medical and machine imaging. OEMs can build imaging systems with performance levels that span years into the future by using one or more CE945GMEs on their carrier and planning modular hardware and software upgrades in the future.

CARRIER DESIGNS SUPPORTED BY RADISYS

OEMs can depend on RadiSys to support their design at every stage, whether designing their own carrier board or utilizing RadiSys Design Services. Design tools such as the Carrier Design Guide, Thermal Design Guide, as well as schematics and Gerber files are available for customers committed to using RadiSys Procelerant CE processor modules. Ask your RadiSys Sales Manager for more information.

Procelerant CE945GME Specifications

FEATURE	FUNCTION	DESCRIPTION
PHYSICAL	Dimensions	95mm x 125mm – COM Express Basic Form Factor
	Compliance	PICMG COM Express R1.0 Basic Form Factor, Type 2
PROCESSOR	Options	Intel Core 2 Duo L7400 LV Intel Core Duo T2500 Intel Core Duo L2400 LV Intel Celeron-M 440
	Clock Speed/ FSB / Cache	L7400: 1.5GHz / 667MHz FSB / 4MB T2500: 2GHz / 667MHz FSB / 2MB L2400: 1.66GHz / 667MHz FSB / 2MB 440: 1.86GHz/533MHz/FSB/1MB
	Package	BGA
	Power (Processor TDP)	L7400-17W / T2500-31W / L2400 -15W / 440-27W
CHIPSET	Supplier	Intel 945GME and ICH7M Digital Home Controller Hub
	Features	Integrated video, PCI, IDE, PCI-Express, SATA, USB, LPC, GPIO
MEMORY	Type	Dual 200-pin SODIMM sockets, supports 533, and 667MHz Memory
	Capacity	Up to 2GB DDR2 per channel
BIOS	Type	1MB, Phoenix Technologies
AUDIO	Compliance	AC‘97 or Intel High Definition Audio via ICH7M Digital Home
VIDEO	Features	Dual SDVO, LVDS 18-bit dual channel, Analog VGA, TV Out
	External	PCI-Express x16 Graphics Port, Multi-plexed on SDVO interface pins
NETWORKING	Supplier/Type	Broadcom BCM5789, IEEE 802.3 10/100/1000BaseT Utilizes (1) PCI-Express x1 interface
I/O	USB	Eight USB 2.0 / 1.1 Ports
	SATA	Two SATA 150 Ports, Supports Raid 0 and Raid 1
	IDE	One Ultra ATA 100/66/33 Ports
	Other	LPC, Smbus/I2C Bus,

SUPER I/O	BIOS Support	National Semiconductor PC8374
EXPANSION	PCI Express	5*PCI-Express x1 or 1*PCI-Express x4 plus 1* x1 and 1*PCI-Express x16
	PCI	PCI 2.3 32-bit 33MHz, four logical devices
CONNECTORS	COM Express	(2) 220 pin COM Express standard connectors
POWER	Input	12V only -or- 12V and 5V Standby
	Dissipation	L7400-46W / T2500-63.5W / L2400 -43.5W / 440-58W

PHYSICAL SPECIFICATIONS

ENVIRONMENT	Temperature	Operating	0° – 60°C
		Non-Operating	-40° – 85°C
	Humidity	Operating	0%-95% RH non-condensing
		Non-Operating	0% - 90% RH non-condensing at 40C°
	Shock	Operating	20g, 11ms, half sine
		Non-Operating (unpackaged)	40g, 11ms, half sine
	Vibration	Operating	5-100Hz, 0.04 g2/Hz 100-350Hz 0.0002 g2/Hz 500Hz 0.00014 g2/Hz 3dB per octave slope between 350—500Hz
		Non-Operating (unpackaged)	5-100Hz, 0.04 g2/Hz 200-350Hz 0.0100 g2/Hz 500Hz 0.0007 g2/Hz 3dB per octave slope between 100-200 and 350—500Hz
REGULATORY	Safety	UL60950-1, EN60950-1, IEC60950-1	
	EMC	EN55022, EN55024, and FCC Part 15, Subpart B, Class B	
	ROHS	ROHS Compliant	
WARRANTY	Standard	Two years, parts only	

Ordering Information

Call for pricing and availability. Refer to the order codes below.

DESCRIPTION:

Module Order Codes:
CE945GM2B-L74-0: 1.5GHz Core 2 Duo LV L7400
CE945GM2B-T25-0: 2GHz Core Duo T2500
CE945GM2B-L24-0 1.66GHz Core Duo LV L2400
CE945GM2B-440-0 1.86GHz Celeron-M
Supporting Products:
CR100-2DVI- FlexATX Carrier with Dual DVI
CR100-PCIE16 - FlexATX Carrier with PCI Express x16
CE945GM2-HSP: Heatspreader
CE945GM2-PHS: Passive heat sink
CE945GM2-AHS12: 25mm active heatsink assembly
CE945GM2-AHSL: 26mm active heatsink assembly
CE-TIM: Thermal Interface Material
CE-DVI-VGA: DVI to VGA Cable