

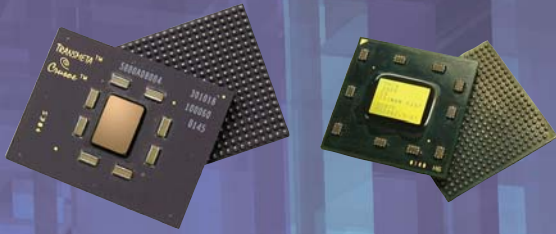
Single Board Computer Solutions Guide

the leader in efficient computing

Transmeta
CORPORATION



Crusoe™
P R O C E S S O R



Transmeta, the leader in efficient computing, markets a line of energy efficient, high-performance processors designed to meet the unique requirements of embedded applications.

Transmeta Efficeon™ and Crusoe™ microprocessors are built upon innovative technologies that provide embedded devices full x86 compatibility within a performance per watt ratio that is unmatched by any other x86-based processor in its class. Both processors combine the processor and Northbridge functionality into a single integrated circuit, creating a single package that reduces board space by eliminating the need for a dedicated Northbridge chip. New versions of the processors further increase board space by reducing the 29mm x 29mm and 32.5mm x 25mm package sizes to a much smaller 21mm x 21mm package size — a savings of up to 48 percent!

Available in a variety of low power ratings, Transmeta Efficeon & Crusoe processors are ideal for applications requiring high performance processing within small and thermally constrained environment without the need for active cooling fans. Integrated LongRun™ power management technology further enhances efficiency by dynamically scaling both processor frequency and voltage according to the instantaneous demands of the computer system.



efficeon™
P R O C E S S O R



Transmeta Crusoe Processor

4 Instruction Issue, 128-Bit VLIW Engine

- Fully Pentium 4-ISA compatible
- Up to four instructions issued per clock cycle
- MMX multimedia extensions
- 512 MB L2 cache

Advanced Code Morphing Software™ (CMS)

- Unique software-based architecture is key to reducing power consumption and enabling future scalability and flexibility

Integrated Northbridge Core Logic

- On-chip SDR and DDR-266 memory interfaces
- On-chip 32-bit, 33 MHz PCI bus controller

LongRun™ Dynamic Power Management

- Enables low power operation by dynamically adjusting operating frequency and voltage to match the performance requirements of application workloads
- Provides higher performance within smaller, thermally constrained environments
- Enables fanless designs for quieter and more reliable systems

Transmeta Efficeon Processor

8 Instruction Issue, 256-Bit VLIW Engine

- Fully Pentium 4-ISA compatible
- Up to eight instructions issued per clock cycle
- MMX, SSE and SSE2 multimedia extensions
- Large 1 MB L2 cache

Advanced Code Morphing Software (CMS)

- Unique software-based architecture reduces power consumption and enables scalability and flexibility

Fully Integrated Northbridge Core Logic

- On-chip DDR-266/333 memory interface
- Integrated AGP 4X graphics interface
- On-chip 400 MHz HyperTransport™ 8-bit interface with 12x the I/O throughput compared to 32-bit, 33 MHz PCI
- Full support for ECC in L2 cache and memory controller

Enhanced LongRun™ Dynamic Power Management

- Further enables low power operation by dynamically adjusting operating frequency and voltage to match the performance requirements of application workloads
- Provides higher performance within smaller, thermally constrained environments
- Enables fanless designs for quieter and more reliable systems

Transmeta



Efficeon TM8620 System Development Kit

Form Factor / Dimensions:	Mini-ITX / 170mm x 170mm
Transmeta Processor / Speed:	1GHz Efficeon TM8620 processor
System Memory / Graphics:	256MB - 1GB / XGI XP5 M32 8MB with VGA
Network / Featured I/O:	10/100 Ethernet / 1x PCI, 4x USB 2.0, 1x RS-232
www.transmeta.com	devkitsales@transmeta.com

Transmeta



Crusoe TM5800 System Development Kit

Form Factor / Dimensions:	Micro-ATX / 243mm x 243mm
Transmeta Processor / Speed:	1GHz Crusoe TM5800 processor
System Memory / Graphics:	256MB - 1GB / ATI M6 8MB with VGA
Network / Featured I/O:	10/100 Ethernet / 3x PCI, 1x mini-PCI, 2x USB 1.1
www.transmeta.com	devkitsales@transmeta.com

Transmeta



Crusoe TM5900 System Development Kit

Form Factor / Dimensions:	Mini-ITX / 170mm x 170mm
Transmeta Processor / Speed:	1GHz Crusoe TM5900 processor
System Memory / Graphics:	256MB - 1GB / SiS 315T 8MB with VGA
Network / Featured I/O:	10/100 Ethernet / 1x PCI, 2x USB 2.0, 1x RS-232
www.transmeta.com	devkitsales@transmeta.com

Transmeta offers system development kits that allow designers to quickly develop software and hardware for customized embedded products. These kits include everything designers require including full schematics and debug information to help save time, reduce costs and minimize risk.



MOPSIcdTM



Form Factor / Dimensions:	PC/104-Plus / 90mm x 95mm
Transmeta Processor / Speed:	800MHz Crusoe processor
System Memory / Graphics:	128MB - 1GB / LynxEM+ with 2MB VRAM
Network / Featured I/O:	10/100 Ethernet / 2x USB 1.1, 2x RS232
www.kontron.com	martin.bodenschatz@kontron.com

Transmeta Efficeon & Crusoe processor-based embedded system boards are available in many industry standard sizes. Form factors including 3.5" Miniboards, ETX CPU Modules, Eurocards, Mini-ITX, PC/104-Plus and other industry and custom sizes are readily available from a number of manufacturers worldwide.



MB860



ET700



IB760



IB104+

Form Factor / Dimensions:	Mini-ITX / 170mm x 170mm	ETX CPU Module / 114mm x 95mm	5.25" Miniboard / 203mm x 146mm	PC/104-Plus / 90mm x 95mm
Transmeta Processor / Speed:	1GHz Efficeon processor	800MHz Crusoe processor	Up to 800MHz Crusoe processor	800MHz Crusoe processor
System Memory / Graphics:	256MB - 1GB / ATI M7CSP-16	64MB - 256MB / SMI SM722 8MB	64MB - 128MB / SMI 722 8MB	64MB - 256MB / C&T 69000 VGA
Network / Featured I/O:	10/100/1000 Ethernet / 1x PCI	10/100 Ethernet / 4x USB	10/100 Ethernet / 2x EIDE	10/100 Ethernet / USB, 2x RS-232



LPCI-766VE



IB755



IB770



IB750



IB7553L

CPU Card / 169mm x 64mm	5.25" Miniboard / 203mm x 146mm	Half-Size PCI / 185mm x 122mm	5.25" Miniboard / 203mm x 146mm	5.25" Miniboard / 203mm x 146mm
1GHz Crusoe processor	800MHz Crusoe processor	800MHz Crusoe processor	533MHz Crusoe processor	533MHz Crusoe processor
128MB - 512MB / C&T 69000 VGA	64MB - 128MB / SMI 721 4MB	64MB - 256MB / SMI 721 VGA	256MB / SMI 721 8MB	128MB / None
10/100 Ethernet / 2x USB	2x 10/100 Ethernet / 2x EIDE	10/100 Ethernet / PC/104, 1x EIDE	2x 10/100 Ethernet / PC/104	3x 10/100 Ethernet / PC/104

ADVANTECH



SOM-2367



SOM-2366



SOM-2365

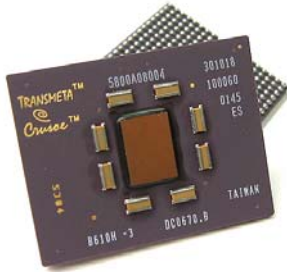


PCM-9370

Form Factor / Dimensions:	SOM-144 / 68mm x 100mm	SOM-144 / 68mm x 100mm	SOM-144 / 68mm x 100mm	3.5" Miniboard / 145mm x 102mm
Transmeta Processor / Speed:	800MHz Crusoe processor	800MHz Crusoe processor	500MHz Crusoe processor	500MHz Crusoe processor
System Memory / Graphics:	Up to 512MB / None	128MB / None	64MB - 128MB / None	64MB - 320MB / SMI 721 VGA
Network / Featured I/O:	10/100 Ethernet / EIDE, 2x USB	10/100 Ethernet / EIDE, 2x USB	10/100 Ethernet / EIDE, 2x USB	10/100 Ethernet / PC/104

www.advantech.com.tw

info@advantech.com.tw



Crusoe TM5800 Processor



WAFER-6820-733



ETX-5800-733

Form Factor / Dimensions:	3.5" Miniboard / 146mm x 102mm	ETX CPU Module / 114mm x 95mm
Transmeta Processor / Speed:	733MHz Crusoe processor	733MHz Crusoe processor
System Memory / Graphics:	128MB-256MB / C&T 69000 2MB VGA	128MB - 512MB / C&T 69030 with 4MB
Network / Featured I/O:	10/100 Ethernet / 2x USB, 2x RS-232	None / 4x USB 1.1, 2x RS-232

www.ieiworld.com

sales@iei.com.tw



Efficeon TM8600 Processor



Micro886ULP



Tiny886ULP

Form Factor / Dimensions:	PC/104-Plus / 90mm x 95mm	PC/104-Plus / 90mm x 95mm
Transmeta Processor / Speed:	1GHz Crusoe processor	700MHz Crusoe processor
System Memory / Graphics:	128MB-512MB / None	64MB - 512MB / None
Network / Featured I/O:	10/100 Ethernet / USB, EIDE	10/100 Ethernet / USB, EIDE

www.ampltd.com

sales@ampltd.com

ARBOR



EmETX-t603



Em104P-t6033



EmCORE-t6032



EmCORE-t6031

Form Factor / Dimensions:	ETX CPU Module / 114mm x 95mm	PC/104-Plus / 96mm x 90mm	3.5" Miniboard / 145mm x 102mm	3.5" Miniboard / 145mm x 102mm
Transmeta Processor / Speed:	1GHz Crusoe processor	800MHz Crusoe processor	800MHz Crusoe processor	800MHz Crusoe processor
System Memory / Graphics:	128MB - 512MB / SMI722G8 3D	128MB - 512MB / SMI722G8 3D	128MB - 512MB / SMI722G8 3D	128MB - 512MB / SMI722G8 3D
Network / Featured I/O:	10/100 Ethernet / 2x EIDE, 4x USB	10/100 Ethernet / EIDE	10/100 Ethernet / EIDE, PCMCIA	10/100 Ethernet / EIDE, CF Slot

www.arbor.com.tw

info@arbor.com.tw



ESM-2615



ESM-2645



ECM-3615

Form Factor / Dimensions:	SOM-144 Module / 100mm x 68mm	ETX CPU Module / 114mm x 95mm	3.5" Miniboard / 146mm x 101mm
Transmeta Processor / Speed:	600MHz Crusoe processor	800MHz Crusoe processor	500MHz Crusoe processor
System Memory / Graphics:	128MB - 512MB / None	128MB - 512MB / SMI 722 with 4MB SGRAM	128MB - 256MB / SMI 721 4MB VGA
Network / Featured I/O:	None / 2x USB, 2x RS-232, EIDE	10/100 Ethernet / 4x USB, 2x RS-232	10/100 Ethernet / 2x USB, 2x RS-232

www.evalue-tech.com.tw

sales@evalue-tech.com.tw



GENE-6330



Form Factor / Dimensions:	3.5" Miniboard / 146mm x 101mm
Transmeta Processor / Speed:	733MHz Crusoe processor
System Memory / Graphics:	64MB - 512MB / SMI 712 with VGA
Network / Featured I/O:	10/100 Ethernet / 4x USB 1.1, CF Slot
www.aaeon.com.tw sales@aaeon.com.tw	



TMZ104



Form Factor / Dimensions:	PC/104-Plus / 90mm x 95mm
Transmeta Processor / Speed:	500MHz Crusoe processor
System Memory / Graphics:	64MB - 256MB / None
Network / Featured I/O:	None / 2x EIDE, 1x Floppy, 1x USB 1.1
www.tri-m.com eleong@tri-m.com	



EC86S



Form Factor / Dimensions:	Custom Board / 260mm x 110mm
Transmeta Processor / Speed:	1.1GHz Efficeon processor
System Memory / Graphics:	256MB-1GB / NVIDIA AGP 4x
Network / Featured I/O:	10/100 Ethernet / SATA, USB 2.0
www.jmnet.co.jp info-brade@jmnet.jp	



PCISYS-59



Form Factor / Dimensions:	3U Eurocard / 160mm x 100mm
Transmeta Processor / Speed:	800Hz Crusoe processor
System Memory / Graphics:	128MB-384MB / Asilant M69030 PCI SVGA
Network / Featured I/O:	10/100 Ethernet / EIDE, IEEE 1394, 2x USB 1.1
www.gespac.com info@gespac.fr	



HS-2602



Form Factor / Dimensions:	Single Board / 113mm x 102mm
Transmeta Processor / Speed:	800MHz Crusoe processor
System Memory / Graphics:	64MB - 256MB / SMI 721 with 8MB
Network / Featured I/O:	10/100 Ethernet / 2x EIDE, 2x USB, CF Slot
www.boser.com.tw sales@boser.com.tw	



CompactMAX CPU 1.2



Form Factor / Dimensions:	CompactPCI / 100mm x 160mm
Transmeta Processor / Speed:	933MHz Crusoe processor
System Memory / Graphics:	256MB-512MB / SMI LynxEM+ with VGA & DVI
Network / Featured I/O:	2x 10/100 Ethernet / USB 1.1
www.sma.de info@sma.de	



PC104+



Form Factor / Dimensions:	PC/104-Plus / 90mm x 95mm
Transmeta Processor / Speed:	1GHz Crusoe processor
System Memory / Graphics:	64MB - 512MB / SMI722 with VGA & TFT LVDS
Network / Featured I/O:	10/100 Ethernet / EIDE, 2x USB 1.1, RS-232
www.erim.fr erim@erim.fr	



EM05



Form Factor / Dimensions:	Embedded System Module / 149mm x 71mm
Transmeta Processor / Speed:	800MHz Crusoe processor
System Memory / Graphics:	128MB - 512MB / Optional via FPGA
Network / Featured I/O:	2x 10/100 Ethernet / ATA-100, 2x RS-232
www.men.de info@men.de	



IPC60 Card



Form Factor / Dimensions:	Custom Board / 100mm x 160mm
Transmeta Processor / Speed:	1GHz Efficeon processor
System Memory / Graphics:	128MB - 2GB / Embedded AGP 4x with 8MB VRAM
Network / Featured I/O:	2x Gbe, 1x 10/100 Ethernet / 2x SATA, 4x USB 2.0
itpro@sales.fujitsu.com	



DPX-114



Form Factor / Dimensions:	Custom Board / 195mm x 148mm
Transmeta Processor / Speed:	1GHz Crusoe processor
System Memory / Graphics:	512MB / ATI Mobility Radeon 3D
Network / Featured I/O:	10/100 Ethernet / 2x ATA-100, 4 x USB 1.1, 2 x RS232
www.densitron.com craigs@densitron.com	



Located in Santa Clara, California, Transmeta Corporation designs, develops and sells highly efficient x86-compatible software-based microprocessors that deliver a compelling balance of low power consumption, high performance and small size. Transmeta's Efficeon™ and Crusoe™ processors are valuable for diverse computing platforms demanding energy efficiency, low heat and x86 software compatibility. Transmeta also leverages this expertise to innovate in advanced power management technologies for controlling leakage and increasing power efficiency in semiconductor and computing devices.

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