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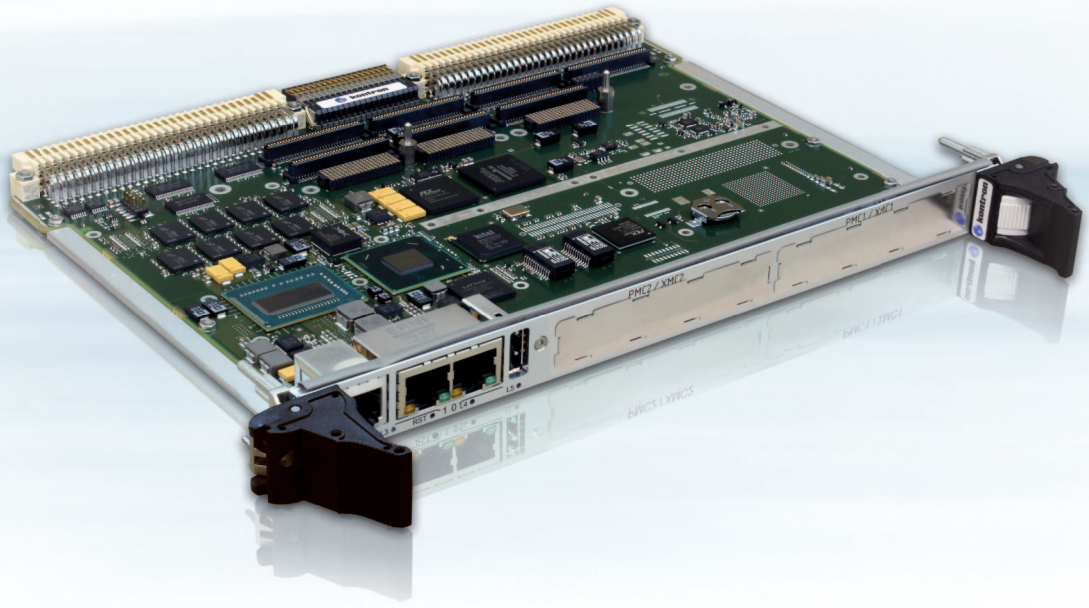
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Find the *Kontron VM6052* at our website: *Click HERE*

VM6052



6U VME SINGLE BOARD COMPUTER

- Intel® Dual-Core™ 3rd Generation Intel® Core™ i7, up to 16 GB SDRAM with ECC
- Intel® HD Graphics 4000, multiple Graphic Heads
- Comprehensive I/O Capabilities: 4 Ethernet 1000BASE-T, USB, Serial, SATA, Personality Module, PMC/XMC, Flexible I/O
- Long Term Supply
- Commercial and Rugged Versions

POSSIBILITIES START HERE kontron

6U VME HIGH PERFORMANCE 3rd GENERATION INTEL® CORE™ I7 COMPUTER

The VM6052 6U VME 2eSST Single Board Computer is built around Intel®'s state-of-the-art 3rd Generation Core™ i7 dual-core processor. The VM6052 provides exceptional I/O capabilities onboard and outstanding flexibility by providing support for PMC, XMC and storage mezzanines, personality modules. Accessory cards such as VME 6U dual PMC carrier and rear transition module complete the ecosystem. Existing users of PENTXM2, PENTXM4 and VM6050 will find with VM6052 the perfect replacement with the same front and rear interface making investment preservation with Kontron products an actual experience already spanning a decade.

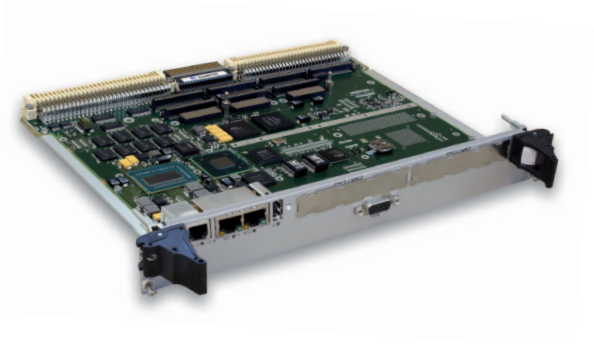
EXTENSIVE I/O SUPPORT

The VM6052 base version provides four Gigabit Ethernet interfaces, two serial lines, up to 8 GPIOs, three USB links, two SATA interfaces, one 4x PCI-Express link and two onboard Mezzanine Sites, supporting PMC/XMC. An extended I/O selection is available by adding a flexible multi-purpose XMC I/O card from Kontron. More I/O cards can be seated on the V2PMC2, a Kontron 6U VME PCI-X/PMC carrier card that holds up to two single-width or one double-width PCI-X/PMC module.

HIGH VERSATILITY AND CUSTOMIZATION

The VM6052 offers many options to fulfill a large range of application requirements: onboard HDD and SSD, Flash Disk Module (FDM). Specific personality module interface available on top and bottom offers additional and customizable features like Digital Graphics, VGA, GPIOs, USB, High Definition Audio and more.

Example: VM6052 with personality module offering one VGA and 2 PMC/XMC.



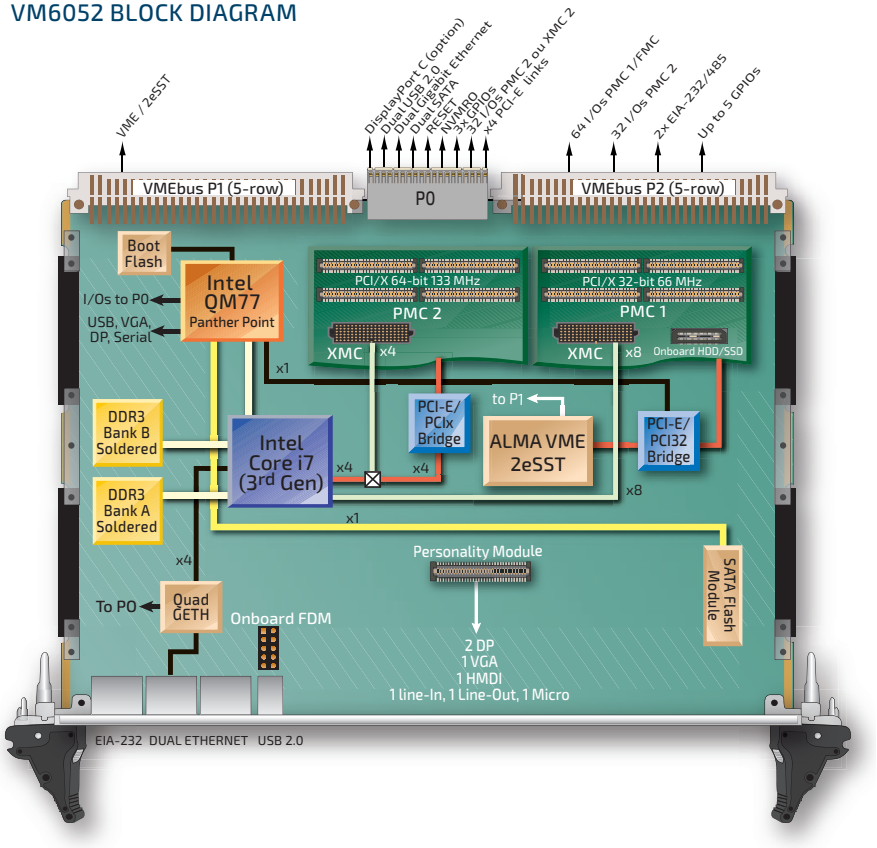
LONG TERM SUPPLY AND SUPPORT

The VM6052 is part of the Kontron Extended Life Cycle product family which offers a 15-year life cycle organization on top of Intel® embedded product line silicon life cycle. And extended long term support achievement is render simple choosing among a set of catalog support packages.

LEGACY COMPATIBILITY

The VM6052 is front and rear I/O compatible with Kontron's line of x86 and PowerPC VME SBCs, supporting the same peripherals, Rear Transition Module and PMCs Carrier. The net effect of this fit form function compatibility is to allow our customers a simple line replacement policy of the SBC in deployed systems.

▶ VM6052 BLOCK DIAGRAM



ASSOCIATED PRODUCTS

EVALUATION SYSTEM



EZ1-VM6052

REAR TRANSITION MODULE



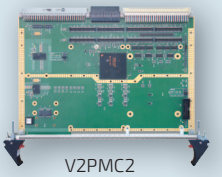
PBV36-P0-VM6-00

FLASH DISK MODULE



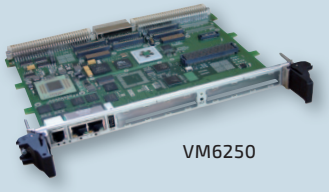
FDM-SATA

PMCs CARRIER



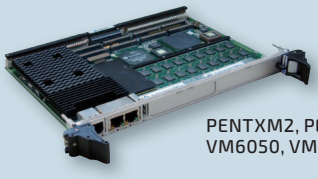
V2PMC2

PowerPC



VM6250

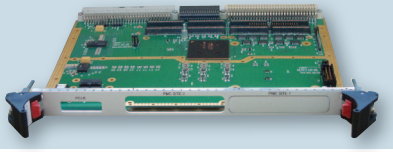
X86



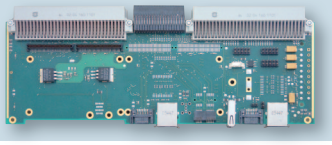
PENTXM2, PENTXM4
VM6050, VM6052, VM6054

PINOUT COMPATIBILITY ACROSS PROCESSOR FAMILIES

MEZZANINE CARRIER



REAR TRANSITION MODULE



FRONT PANEL I/OS



FULL COMPATIBILITY WITH LEGACY PRODUCTS

▶ TECHNICAL INFORMATION

PROCESSOR		3rd Generation Intel® Core™ i7 processor (22 nm manufacturing process, code name Ivy Bridge) ▶ Dual Core 3517UE – Utra Low Voltage – 4 MB smart cache ▶ Dual Core with hyperthreading (4 thread total) ▶ User configurable 0.8 GHz/14W, 1.7 GHz /17W , 2.2 GHz/25W
MEMORY	System Memory	Up to 16 GB dual channel DDR3 SDRAM, with ECC, soldered, running at 1333 MHz
	Nand Flash	SATA NAND Flash Disk Modules (typically 16, 32 GB), soldered or on mezzanine socket (FDM-SATA option)
	EEPROM	One serial 256 Kbit EEPROM dedicated to system data One serial 256 Kbit EEPROM dedicated to application data
	Flash BIOS	FLASH BIOS, with recovery image and uEFI BIOS settings
ONBOARD CONTROLLER & MONITORING	Platform Controller Hub	Hub Mobile Intel® QM77 Express Chipset
	Real Time Clock	Integrated in QM77 with 256 Byte CMOS RAM
	Watchdog	Software configurable dual-stage Watchdog timer with programmable timeout from 125 ms to 256s
	VME, VME 2eSST	Kontron ALMA PCI VME Bridge
	Health Management	Power On Built In Test, temperature and voltage sensors
FRONT INTERFACES	Base version	1 or 2 x RS232/422/485, 2 x 1000BASE-T, 1 x USB 2.0, LEDS, 2 x PMC/XMC slots
ONBOARD INTERFACES	VITA Mezzanines	PMC: one 64-bit 66 MHz / PCI-X 133 MHz , one 32-bit 66 MHz, VIO=3,3V XMC: one PCIe x8, one PCIe x4
	Storage	One port for mounting an optional 2.5" media device like HDD and SSD (in lieu of one PMC/XMC) One port for Flash Disk Module
	Personality Module	One port for mounting an optional Personality Module top or bottom
BASELINE I/OS		*Front (Air-Cooled Version)* / *Rear* / *Onboard*
	USB 2.0	1 / 2 (P0) /
	PMC/XMC	- / - / 2
	Serial 232/422/485 selectable	1 or 2 (RJ-12) / 2 (P2) /
	SATA	- / 2 (P0) / 1 for HDD/SSD option 1 for Flash module option
	Ethernet	2x 10/100/1000BASE-T (RJ-45) / 2x 10/100/1000BASE-T (P0) / -
	GPIO	- / up to 8 /
	LED	4 / - / -
	Reset	one reset button / one pin (P0) / -
OPTIONAL I/OS	Personality Module	Personality modules offer additional I/O services. One personality module may be mounted on SBC: ▶ Top mounting for one VME slot occupancy and 1 PMC/XMC slot available ▶ Bottom mounting for two VME slots occupancy and 2 PMC/XMC available
LEGACY I/O CONFIGURATION		PENTXM2, PENTXM4, VM6050 I/O configuration may be identically reproduced allowing "Fit Form Function" board replacement effectiveness. VM6052 accepts same RTM and PMC/XMC Carrier board already used with PENTXM2, PENTXM4, VM6050.
DIMENSIONS	(BASELINE)	VME 1 slot, 6U, 4HP, 0.8" slot pitch, P1 P2 P0 equipped, 5-row backplane connector

▶ TECHNICAL INFORMATION

WEIGHT (BASELINE)		Standard Air Cooled Version: 480g approx. / Conduction Cooled Version: 800g approx.
SOFTWARE SUPPORT		AMI BIOS Aptio 0.27.023 / Linux Operating System Fedora 16 Board Support Package
POWER	Standard 5V only option	3.3V, 5V (+12/-12V if required for mezzanine) VME64 compatible version: 3.3V not required No P0 connector fitted
COMPLIANCY		Designed to meet or exceed: ▶ Safety: UL94-V ▶ EN55082, EN55022 class A ▶ VITA 47 ▶ MIL-STD-810F ▶ RoHS, Reach

▶ ENVIRONMENTAL SPECIFICATION

	SA - STANDARD COMMERCIAL	WA - EXTENDED TEMPERATURE	RC - RUGGED CONDUCTION-COOLED
CONFORMAL COATING	Optional	Standard	Standard
AIRFLOW	1.5 m/s to 3.5 m/s	2.5 m/s to 3.5 m/s	NA
TEMPERATURE	VITA 47-Class AC1 (design to meet)	VITA 47-Class AC1 (design to meet)	VITA 47-Class CC4 (design to meet)
Cooling Method	Convection	Convection	Conduction
Operating	0° to +55°C	-20° to +65°C	-40° to +85°C
Storage	-40° to +85°C	-45° to +100°C	-50° to +100°C
VIBRATION SINE (OPERATING)	20-500 Hz - 2g	20-500 Hz - 2g	22-2,000 Hz - 5g
RANDOM	VITA 47-Class V1 (design to meet)	VITA 47-Class V1 (design to meet)	VITA 47-Class V3
SHOCK (OPERATING)	20g/11 ms Half Sine	20g/11 ms Half Sine	40g/20 ms Half Sine
ALTITUDE (OPERATING)	-1,500 to 60,000 ft	-1,500 to 60,000 ft	-1,500 to 60,000 ft
RELATIVE HUMIDITY	90% without condensation	95% without condensation	95% without condensation

PRELIMINARY

▶ ORDERING INFORMATION

ARTICLE	ORDER CODE	DESCRIPTION
VM6052	VM6052-SA28-00110000	6U single slot 4 HP (0,8") VME SBC 1.4 to 2.2 GHz user configurable Intel® dual-core Core i7 3517UE processor, 8 GB dual bank DDR3-SDRAM with ECC/ no soldered flash, two PMC/XMC slots, Air-Cooled VITA 47 Class AC1 (0°C to +55°C)
VM6052	VM6052-SA28-02110000	6U single slot 4 HP (0,8") VME SBC 1.4 to 2.2 GHz user configurable Intel® dual-core Core i7 3517UE processor, 8 GB dual bank DDR3-SDRAM with ECC/ no soldered flash, one PMC/XMC slot + personality module providing 2 DP + 1 VGA on front , Air-Cooled VITA 47 Class AC1 (0°C to +55°C)
VM6052	VM6052-RC28-20110000	6U single slot 4 HP (0,8") VME SBC 1.4 to 2.2 GHz user configurable Intel® dual-core Core i7 3517UE processor, 8 GB dual bank DDR3-SDRAM with ECC/ 16 GB soldered flash,, two PMC/XMC slots. Conduction Cooled VITA 47 Class CC4 (-40°C to +85°C).
ASSOCIATED PRODUCTS:		
REAR TRANSITION MODULES	PBV36-P0-VM6-00 PBV36-P0-VM6-00V	2x 10/100/1000BASE-T Ethernet, 1x USB, 1x SMB, 2x serial lines , 3x GPIOs, 2x SATA, 1x PCI Express 2x 10/100/1000BASE-T Ethernet, 1x USB, 1x SMB, 2x serial lines , 3x GPIOs, 2x SATA, 1x PCI Express with conformal coating
TURNKEY SYSTEM	EZ1-VM6052-00-L	Turnkey evaluation and development platform (Plug& Play), 1U 19" Chassis, power input 110/230VAC, air cooled, 2-slot 6U VME backplane, VM6052-SA28-301100 Single Board Computer, PBV36-P0-VM6-00, I/O cables kit Operating Software: Linux Fedora, Benchmark suite (CPU, memory, network...)
FLASH DISK MODULE	FDM-SATA-xGB-xxx	SATA Flash Module (various sizes available in respect with SA and RC environmental class)
MEDIA MOUNTING KIT	KIT-DISK25-SATA	2.5" SATA HDD/SSD onboard mounting kit (within 4 HP)
PMC CARRIER	V2PMC2-xx-xxx	6U VME PMC Carrier (various option available for air cooled and conduction cooled environment)

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