FEATURES

- TI AM62x Application Processor
  - Up to Quad Arm Cortex-A53 MPU at up to 1.4 GHz
  - 32 KB L1 Program Cache per Core
  - 32 KB L1 Data Cache per Core
  - 512 KB Shared L2 Cache
  - Advanced SIMD and floating-point extension (Arm Neon)
  - JTAG Emulation/Debug
  - High Security Field Securable Option
- Single Core Arm Cortex-M4F MCU at up to 400 MHz with 256 KB SRAM
- Dual Core Programmable Real Time Unit (PRU) at up to 333 MHz
- 3D Graphics Processing Unit supporting OpenGL ES 3.x - Processor Dependent
- AM62x Processor Choices
  - AM6254 (Quad Core, 3D)
  - AM6252 (Dual Core, 3D)
  - AM6251 (Single Core, 3D)
  - AM6234 (Quad Core)
  - AM6232 (Dual Core)
  - AM6231 (Single Core)
- Up To 4 GB DDR4 CPU RAM
  - 16 bits wide, 3.2 GB/sec transfer rate
- Up to 128 GB eMMC FLASH
  - 8 bits wide, HS200 speed
- Up to 256 MB Octal/Quad SPI NOR FLASH
- Arm Cortex-R5F processor for boot, resource, and power management.
- Watchdog Timer
- Real-time clock
- Secure Boot
- Crypto Hardware Accelerators (AES, SHA, DRBG, PKA)



STANDARD DDR4 SO-DIMM-260 INTERFACE

- 2 10/100/1000 Mbps EMACs
- 1 MIPI CSI 1.3 Camera Input, 4 lanes up to 2.5 Gbps
- Dual Display Support
  - Up to 1080p for each display
  - 1 24-bit RGB output
  - 2x4 lanes OLDI/LVDS
- 3 CAN ports
- 7 UARTs
- 2 USB 2.0 Dual Role Device Ports
- 3 multi-Channel MCASPs
- 2 4 lane MMC/SD/SDIO
- 3 SPI, 3 I2C, GPIO
- eHRPWM, eQEP
- Single 3.3V Input Power Supply

APPLICATIONS

- Embedded Instrumentation
- Industrial Automation
- Industrial Instrumentation
- Medical Instrumentation
- Human Machine Interfaces (HMI)
- Closed Loop Motor Control

BENEFITS

- Rapid Development / Deployment
- Multiple Connectivity / Interface Options
- Rich User Interfaces
- High System Integration
- High Level OS Support
  - Linux Kernel
  - Android

DESCRIPTION

The MitySOM-AM62 series of highly configurable, small form-factor processor cards features one of Texas Instruments Sitara AM62x Processors. The module includes (optional) eMMC FLASH, (optional) Octal or Quad SPI NOR FLASH, and DDR4 RAM memory subsystems. A MitySOM-AM62 provides a complete and flexible CPU infrastructure for highly integrated embedded systems.

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The onboard AM62x processor provides up to a Quad Core Cortex-A53 64-bit RISC processor with a NEON SIMD coprocessor. This microprocessor unit (MPU) can run a rich set of real-time operating systems containing software applications programming interfaces (APIs) expected by modern system designers. The ARM architecture supports several operating systems, including Linux and Android.

In addition to the Cortex-A53, the AM62x family also offers a Single Core Arm Cortex-M4F MCU at up to 400 MHz as well as a dual core 32-bit Programmable Real-Time Units (PRUs) that may be clocked at up to 333 MHz. The Cortex-M4F and the PRUs are RISC processors that run independently of the main Cortex-A53 MPU complex and have access to all the on-chip peripherals as well as all external memory. These can be used for any purpose. Typical applications for the M4F might include managing an EtherCAT master interface, providing safety critical software operation or real-time handling of attached peripherals, etc. Applications for the PRUs include the implementation of custom industrial protocols including ModBus.

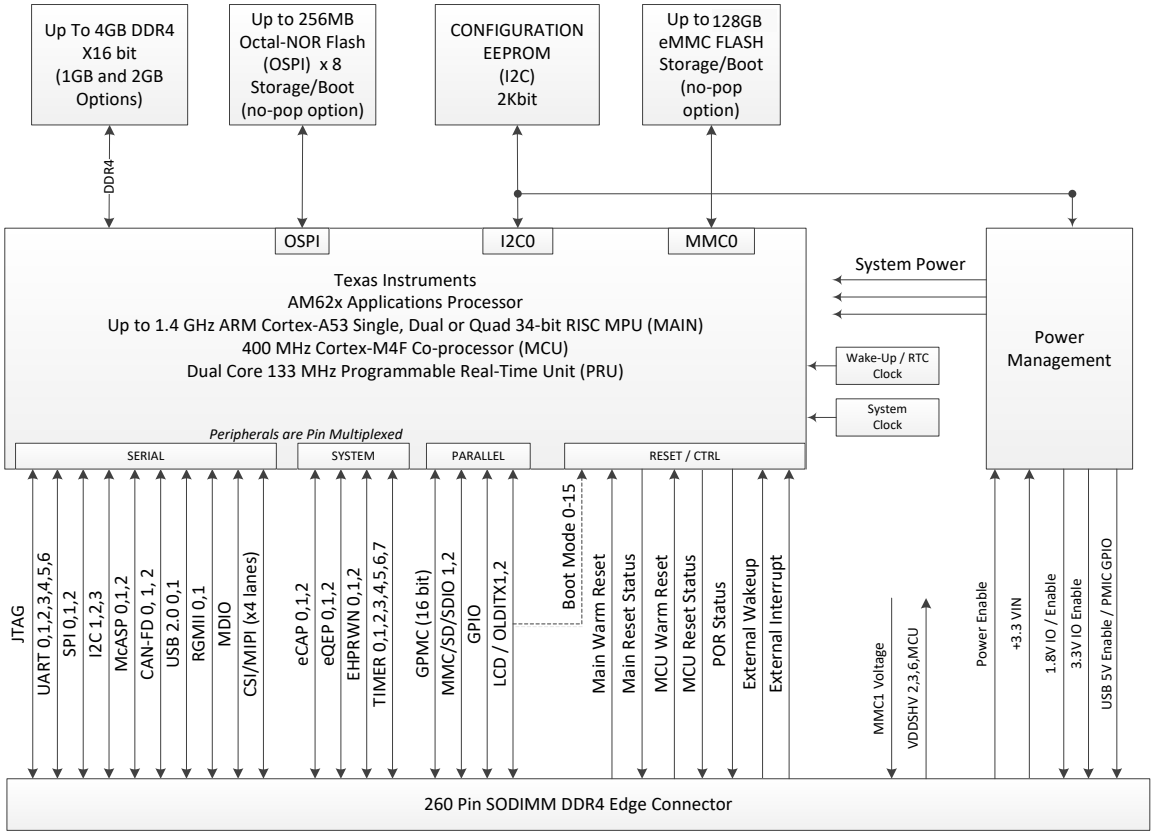


Figure 1 MitySOM-AM62 Block Diagram

Figure 1 provides a top level block diagram of the MitySOM-AM62 processor card. As shown in the figure, the primary interface to the MitySOM-AM62 is through a standard DDR4 SO-DIMM-260 card edge interface. The interface provides power, synchronous serial connectivity, and many other interfaces provided by the Sitara processor. Details of the SO-DIMM-260 connector interface are included in the SO-DIMM-260 Interface Description, below.

MitySOM-AM62 Onboard DDR Memory Options

The AM62x processor includes one dedicated 16-bit DDR4 SDRAM memory interface. The MitySOM-AM62 includes up to 4 GB of DDR4 RAM integrated on board the module. The memory bus interface is capable of burst transfer rates of 3200 MB / second.

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MitySOM-AM62 Onboard Storage Memory

eMMC FLASH (Optional)

Up to 128GB of on-board eMMC FLASH memory is connected to the AM62x processor using the MMC0 interface peripheral. The eMMC FLASH memory is typically used to store the following types of data:

- Bootloaders
- ARM Linux / Android embedded root file-system
- runtime ARM software
- runtime application data (non-volatile storage)

NOR FLASH (Optional)

Up to 256 MB of on-board Octal or Quad SPI NOR FLASH memory is connected to the AM62x using the OSPI/QSPI peripheral interface. The AM62x provides additional SPI interfaces with both interfaces available on the SO-DIMM connector. This memory may be desirable for applications requiring more reliable/tolerant storage or faster access times.

Configuration EEPROM

The MitySOM-AM62 contains a (minimum) 256 x 8-bit EEPROM that is used to hold configuration data for the module. The EEPROM is connected to the AM62x using the I2C0 interface at address 1010XXXb (0x50 to 0x57). This EEPROM is not available for customer use.

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External Interfaces

The AM62x makes extensive use of functional pin multiplexing to provide a highly configurable device that can be tailored to a multitude of applications. A list of the interfaces/functions that are available to the user via the edge connector interface is provided below.

- 2 Universal Serial Bus (USB) 2.0 High-Speed port supporting host/peripheral/dual role mode
- 3 Controller-Area Network (CAN) ports with Can-FD support
- 3 Multichannel Audio Serial Ports (McASP)
- 2 Industrial Gigabit Ethernet MAC's (10/100/1000 Mbps)
- 2 SD/SDIO 4-bit ports supporting UHS-I
- 2 OLDI/LVDS display drivers
- 1 24 bit RGB display driver
- 1 MIPI Camera Serial Interface (CSI-Rx), 4 Lane with DPHY.
- 3 Enhanced Capture (eCAP) Modules
- 3 Enhanced PWM (ePWM) modules
- 3 32-bit Enhanced Quadrature Pulse Encoder (eQPE) modules
- 4 Timers
- 3 Serial Peripheral (SPI) ports
- 7 Universal Asynchronous Receive/Transmit (UART) ports
- 3 Inter-Integrated Circuit (I2C) ports (I2C1, I2C2, & I2C3)
- General Purpose Memory Controller (GPMC) interface
- JTAG/Debugger port

Additionally, most of the pin multiplexed signals can be configured as general purpose I/O signals with interrupt capability.

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Software and Application Development Support

Users of the AM62x are encouraged to develop applications using the MitySOM-AM62 software development kit provided by Critical Link LLC. The SDK is an expansion of the TI platform support package for the AM62x and includes a Linux root filesystem/distribution and compatible gcc compiler tool-chain with debugger.

Growth Options

The AM62x has been designed to support several upgrade options. These options include various speed grades, memory configurations, and operating temperature specifications including commercial and industrial temperature ranges. The available options are listed in the section below containing ordering information. For additional ordering information and details regarding these options, or to inquire about a particular configuration not listed below, please contact a Critical Link sales representative.

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ABSOLUTE MAXIMUM RATINGS

If Military/Aerospace specified cards are required, please contact the Critical Link Sales Office or unit Distributors for availability and specifications.

Parameter	Value
Maximum Supply Voltage, Vcc	3.5V
Minimum Supply Voltage, Vcc	-0.1V
Storage Temperature Range	-65°C to 80°C
Operating Commercial Temperature Range[1]	0°C to 70°C
Operating Industrial Temperature Range[1]	-40°C to 85°C

1 – Specified commercial or industrial devices have been designed with components that will operate at or beyond the specified temperature range. Due to the smaller size of the device, the ability to dissipate heat while stressing the CPU will be a function of the available ambient airflow. In extreme situations, the use of a heat sink, fan, or custom thermal solution may be necessary. Critical Link recommends keeping the CPU die temperature below 95C and that customers consider enabling DDR4 ECC if operating at high temperatures for extended periods of time. Customers are strongly encouraged to quality their final designs.

SO-DIMM-260 Interface Description

The primary interface connector for the MitySOM-AM62 is the DDR4 SO-DIMM card edge interface which contains 5 types of signals:

- Power input (P)
- Power Output (PO)
- Dedicated signals mapped to the on-board Power Management device (PM)
- Dedicated signals mapped to the AM62x device (I/O)
- Multi-function signals mapped to the AM62x device (I/O/IO)

Table 1contains a summary of the MitySOM-AM62 pin mapping.

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Table 1 SO-DIMM Pin-Out

Pin	Type	Signal (Option 0)	Notes	AM62x Pin	Power / Domain	Signal Option 1	Signal Option 2	Signal Option 3	Signal Option 4	Signal Option 5	Signal Option 6	Signal Option 7	Signal Option 8	Signal Option 9
1	P	+3.3V VIN	2	-	-	-	-	-	-	-	-	-	-	-
2	P	LED_RTN	7	-	-	-	-	-	-	-	-	-	-	-
3	P	+3.3V VIN	2	-	-	-	-	-	-	-	-	-	-	-
4	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
5	P	+3.3V VIN	2	-	-	-	-	-	-	-	-	-	-	-
6	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
7	P	+3.3V VIN	2	-	-	-	-	-	-	-	-	-	-	-
8	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
9	P	+3.3V VIN	2	-	-	-	-	-	-	-	-	-	-	-
10	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
11	P	+3.3V VIN	2	-	-	-	-	-	-	-	-	-	-	-
12	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
13	P	+3.3V VIN	2	-	-	-	-	-	-	-	-	-	-	-
14	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
15	P	+3.3V VIN	2	-	-	-	-	-	-	-	-	-	-	-
16	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
17	P	+3.3V VIN	2	-	-	-	-	-	-	-	-	-	-	-
18	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
19	P	+3.3V VIN	2	-	-	-	-	-	-	-	-	-	-	-
20	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
21	O	VDD_3V3_ENABLE	2,8	-	+3.3V VIN	-	-	-	-	-	-	-	-	-
22	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
23	PO	VDD_1V8	2	-	-	-	-	-	-	-	-	-	-	-
24	P	GND	-	-	-	-	-	-	-	-	-	-	-	-

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Pin	Type	Signal (Option 0)	Notes	AM62x Pin	Power / Domain	Signal Option 1	Signal Option 2	Signal Option 3	Signal Option 4	Signal Option 5	Signal Option 6	Signal Option 7	Signal Option 8	Signal Option 9
25	PO	VDD_1V8	2	-	-	-	-	-	-	-	-	-	-	-
26	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
27	PO	VDD_1V8	2	-	-	-	-	-	-	-	-	-	-	-
28	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
29	PO	VDD_1V8	2	-	-	-	-	-	-	-	-	-	-	-
30	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
31	P	VDDSHV2	-	-	VDDSHV2	-	-	-	-	-	-	-	-	-
32	A	VMON_VSYS	5	H10	+1V Max	-	-	-	-	-	-	-	-	-
33	P	VDDSHV2	-	-	VDDSHV2	-	-	-	-	-	-	-	-	-
34	P	VDDSHV_MCU	-	-	VDDSHV_MCU	-	-	-	-	-	-	-	-	-
35	P	VDDSHV3	-	-	VDDSHV3	-	-	-	-	-	-	-	-	-
36	P	VDDSHV_MCU	-	-	VDDSHV_MCU	-	-	-	-	-	-	-	-	-
37	P	VDDSHV3	-	-	VDDSHV3	-	-	-	-	-	-	-	-	-
38	P	VDDSHV6	-	-	VDDSHV6	-	-	-	-	-	-	-	-	-
39	P	VDDSHV3	-	-	VDDSHV3	-	-	-	-	-	-	-	-	-
40	I	PMIC_PBn	3	-	-	-	-	-	-	-	-	-	-	-
41	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
42	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
43	O	OLDI0_CLK1N	-	AE4	LVDS	-	-	-	-	-	-	-	-	-
44	O	OLDI0_CLK0P	-	AE3	LVDS	-	-	-	-	-	-	-	-	-
45	O	OLDI0_CLK1P	-	AD5	LVDS	-	-	-	-	-	-	-	-	-
46	O	OLDI0_CLK0N	-	AD4	LVDS	-	-	-	-	-	-	-	-	-
47	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
48	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
49	O	OLDI0_A5N	-	AE5	LVDS	-	-	-	-	-	-	-	-	-
50	O	OLDI0_A1N	-	AD3	LVDS	-	-	-	-	-	-	-	-	-

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Pin	Type	Signal (Option 0)	Notes	AM62x Pin	Power / Domain	Signal Option 1	Signal Option 2	Signal Option 3	Signal Option 4	Signal Option 5	Signal Option 6	Signal Option 7	Signal Option 8	Signal Option 9
51	O	OLDI0_A5P	-	AD6	LVDS	-	-	-	-	-	-	-	-	-
52	O	OLDI0_A1P	-	AB4	LVDS	-	-	-	-	-	-	-	-	-
53	O	OLDI0_A6N	-	AE6	LVDS	-	-	-	-	-	-	-	-	-
54	O	OLDI0_A0N	-	AA5	LVDS	-	-	-	-	-	-	-	-	-
55	O	OLDI0_A6P	-	AD7	LVDS	-	-	-	-	-	-	-	-	-
56	O	OLDI0_A0P	-	Y6	LVDS	-	-	-	-	-	-	-	-	-
57	O	OLDI0_A7P	-	AE7	LVDS	-	-	-	-	-	-	-	-	-
58	O	OLDI0_A3N	-	AB6	LVDS	-	-	-	-	-	-	-	-	-
59	O	OLDI0_A7N	-	AD8	LVDS	-	-	-	-	-	-	-	-	-
60	O	OLDI0_A3P	-	AA7	LVDS	-	-	-	-	-	-	-	-	-
61	O	OLDI0_A4P	-	AC5	LVDS	-	-	-	-	-	-	-	-	-
62	O	OLDI0_A2P	-	AA8	LVDS	-	-	-	-	-	-	-	-	-
63	O	OLDI0_A4N	-	AC6	LVDS	-	-	-	-	-	-	-	-	-
64	O	OLDI0_A2N	-	Y8	LVDS	-	-	-	-	-	-	-	-	-
65	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
66	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
67	I	CSI0_RXN3	-	AB12	D-PHY	-	-	-	-	-	-	-	-	-
68	O	VCC_5V0_EN	8,9	-	-	-	-	-	-	-	-	-	-	-
69	I	CSI0_RXP3	-	AC13	D-PHY	-	-	-	-	-	-	-	-	-
70	O	USB1_DRVVBUS	-	F18	+3.3VIO	-	-	-	-	-	-	GPIO1_51	-	-
71	I	CSI0_RXN2	-	AD13	D-PHY	-	-	-	-	-	-	-	-	-
72	IO	USB1_DP	-	AE9	USB-PHY	-	-	-	-	-	-	-	-	-
73	I	CSI0_RXP2	-	AE13	D-PHY	-	-	-	-	-	-	-	-	-
74	IO	USB1_DM	-	AD10	USB-PHY	-	-	-	-	-	-	-	-	-
75	I	CSI0_RXP1	-	AE14	D-PHY	-	-	-	-	-	-	-	-	-
76	I	USB1_VBUS_DETECT	4	AB10	+3.3VIO	-	-	-	-	-	-	-	-	-

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Pin	Type	Signal (Option 0)	Notes	AM62x Pin	Power / Domain	Signal Option 1	Signal Option 2	Signal Option 3	Signal Option 4	Signal Option 5	Signal Option 6	Signal Option 7	Signal Option 8	Signal Option 9
77	I	CSI0_RXN1	-	AD14	D-PHY	-	-	-	-	-	-	-	-	-
78	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
79	I	CSI0_RXP0	-	AC15	D-PHY	-	-	-	-	-	-	-	-	-
80	O	USB0_DRVVBUS	-	C20	+3.3VIO	-	-	-	-	-	-	-	-	-
81	I	CSI0_RXN0	-	AB14	D-PHY	-	-	-	-	-	-	-	-	-
82	IO	USB0_DM	-	AE11	USB-PHY	-	-	-	-	-	-	-	-	-
83	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
84	IO	USB0_DP	-	AD11	USB-PHY	-	-	-	-	-	-	-	-	-
85	I	CSI0_RXCLKP	-	AE15	D-PHY	-	-	-	-	-	-	-	-	-
86	I	USB0_VBUS_DETECT	4	AC11	+3.3VIO	-	-	-	-	-	-	-	-	-
87	I	CSI0_RXCLKN	-	AD15	D-PHY	-	-	-	-	-	-	-	-	-
88	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
89	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
90	IO	RGMII1_RD3	-	AA15	VDDSHV2	-	-	-	-	-	-	GPIO0_84	-	-
91	IO	RGMII2_TD1	-	AA18	VDDSHV2	RMII2_TXD1	MCASP2_ACLKR	PR0_PRU1_GPO3	PR0_PRU1_GPI3	MCASP2_AXR8	-	GPIO0_90	-	-
92	IO	RGMII1_RD2	-	AB16	VDDSHV2	PR0_UART0_RTSn	-	-	-	-	-	GPIO0_83	-	-
93	IO	RGMII2_TD0	-	Y18	VDDSHV2	RMII2_TXD0	MCASP2_AXR6	PR0_PRU1_GPO2	PR0_PRU1_GPI2	-	-	GPIO0_89	-	-
94	IO	RGMII1_RD0	-	AB17	VDDSHV2	RMII1_RXD0	-	-	-	-	-	GPIO0_81	-	-
95	IO	RGMII2_TX_CTL	-	AA19	VDDSHV2	RMII2_TX_EN	MCASP2_AXR4	PR0_PRU1_GPO0	PR0_PRU1_GPI0	-	-	GPIO0_87	-	-
96	IO	RGMII1_RD1	-	AC17	VDDSHV2	RMII1_RXD1	-	-	-	-	-	GPIO0_82	-	-
97	IO	RGMII2_TD3	-	AC20	VDDSHV2	-	MCASP2_ACLKX	PR0_PRU1_GPO16	PR0_PRU1_GPI16	PR0_ECAP0_SYNC_OUT	PR0_UART0_CTSn	GPIO1_0	EQEP2_S	-
98	IO	RGMII1_RX_CTL	-	AE17	VDDSHV2	RMII1_RX_ER	-	-	-	-	-	GPIO0_79	-	-
99	IO	RGMII2_TXC	-	AE21	VDDSHV2	RMII2_CRS_DV	MCASP2_AXR5	PR0_PRU1_GPO1	PR0_PRU1_GPI1	-	-	GPIO0_88	-	-
100	IO	RGMII1_RXC	-	AD17	VDDSHV2	RMII1_REF_CLK	PR0_UART0_CTSn	-	-	-	-	GPIO0_80	-	-
101	IO	RGMII2_TD2	-	AD21	VDDSHV2	-	MCASP2_AFSX	PR0_PRU1_GPO4	PR0_PRU1_GPI4	PR0_ECAP0_IN_APWM_OUT	-	GPIO0_91	EQEP2_I	-

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Pin	Type	Signal (Option 0)	Notes	AM62x Pin	Power / Domain	Signal Option 1	Signal Option 2	Signal Option 3	Signal Option 4	Signal Option 5	Signal Option 6	Signal Option 7	Signal Option 8	Signal Option 9
102	IO	RGMII1_TD2	-	AE18	VDDSHV2	PR0_UART0_RXD	-	-	-	-	-	GPIO0_77	-	-
103	IO	RGMII2_RD2	-	AC21	VDDSHV2	-	MCASP2_AXR0	PR0_PRU0_GPO4	PR0_PRU0_GPI4	PR0_UART0_RXD	-	GPIO1_5	EQEP2_A	-
104	IO	RGMII1_TD3	-	AD18	VDDSHV2	PR0_UART0_TXD	-	-	-	-	-	GPIO0_78	-	-
105	IO	RGMII2_RD1	-	AB20	VDDSHV2	RMII2_RXD1	MCASP2_AFSR	PR0_PRU0_GPO3	PR0_PRU0_GPI3	MCASP2_AXR7	-	GPIO1_4	-	-
106	IO	RGMII1_TXC	-	AE19	VDDSHV2	RMII1_CRS_DV	-	-	-	-	-	GPIO0_74	-	-
107	IO	RGMII2_RD3	-	AE22	VDDSHV2	-	AUDIO_EXT_REFCLK0	PR0_PRU0_GPO16	PR0_PRU0_GPI16	PR0_UART0_TXD	-	GPIO1_6	EQEP2_B	-
108	IO	RGMII1_TX_CTL	-	AD19	VDDSHV2	RMII1_TX_EN	-	-	-	-	-	GPIO0_73	-	-
109	IO	RGMII2_RX_CTL	-	AD22	VDDSHV2	RMII2_RX_ER	MCASP2_AXR3	PR0_PRU0_GPO0	PR0_PRU0_GPI0	-	-	GPIO1_1	-	-
110	IO	RGMII1_TD0	-	AE20	VDDSHV2	RMII1_TXD0	-	-	-	-	-	GPIO0_75	-	-
111	IO	RGMII2_RD0	-	AE23	VDDSHV2	RMII2_RXD0	MCASP2_AXR2	PR0_PRU0_GPO2	PR0_PRU0_GPI2	-	PR0_UART0_RTSn	GPIO1_3	-	-
112	IO	RGMII1_TD1	-	AD20	VDDSHV2	RMII1_TXD1	-	-	-	-	-	GPIO0_76	-	-
113	IO	RGMII2_RXC	-	AD23	VDDSHV2	RMII2_REF_CLK	MCASP2_AXR1	PR0_PRU0_GPO1	PR0_PRU0_GPI1	PR0_ECAP0_SYNC_IN	-	GPIO1_2	-	-
114	IO	MDIO0_MDC	-	AD24	VDDSHV2	-	-	-	-	-	-	GPIO0_86	-	-
115	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
116	IO	MDIO0_MDIO	-	AB22	VDDSHV2	-	-	-	-	-	-	GPIO0_85	-	-
117	IO	VOUT0_PCLK	-	AC24	VDDSHV3	GPMC0_A19	PR0_PRU1_GPO19	PR0_PRU1_GPI19	UART2_CTSn	PR0_PRU0_GPO19	PR0_PRU0_GPI19	GPIO0_64	PR0_ECAP0_IN_APWM_OUT	-
118	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
119	IO	VOUT0_VSYNC	-	AC25	VDDSHV3	GPMC0_A18	PR0_PRU1_GPO18	PR0_PRU1_GPI18	UART2_RTSn	PR0_PRU0_GPO18	PR0_PRU0_GPI18	GPIO0_63	-	-
120	IO	VOUT0_DATA15	-	AA21	VDDSHV3	GPMC0_A15	PR0_PRU1_GPO14	PR0_PRU1_GPI14	UART4_CTSn	PR0_PRU0_GPO5	PR0_PRU0_GPI5	GPIO0_60	-	-
121	IO	VOUT0_HSYNC	-	AB24	VDDSHV3	GPMC0_A16	PR0_PRU1_GPO15	PR0_PRU1_GPI15	UART3_RTSn	PR0_PRU0_GPO6	PR0_PRU0_GPI6	GPIO0_61	-	-
122	IO	VOUT0_DATA11	-	AA23	VDDSHV3	GPMC0_A11	PR0_PRU1_GPO10	PR0_PRU1_GPI10	UART6_CTSn	PR0_PRU0_GPO1	PR0_PRU0_GPI1	GPIO0_56	-	-
123	IO	VOUT0_DE	-	Y20	VDDSHV3	GPMC0_A17	PR0_PRU1_GPO17	PR0_PRU1_GPI17	UART3_CTSn	PR0_PRU0_GPO7	PR0_PRU0_GPI7	GPIO0_62	-	-
124	IO	VOUT0_DATA14	-	Y22	VDDSHV3	GPMC0_A14	PR0_PRU1_GPO13	PR0_PRU1_GPI13	UART4_RTSn	PR0_PRU0_GPO4	PR0_PRU0_GPI4	GPIO0_59	-	-
125	IO	VOUT0_DATA7	-	AA25	VDDSHV3	GPMC0_A7	PR0_PRU1_GPO7	PR0_PRU1_GPI7	UART5_TXD	PR0_PRU0_GPO15	PR0_PRU0_GPI15	GPIO0_52	-	-
126	IO	VOUT0_DATA13	-	AA24	VDDSHV3	GPMC0_A13	PR0_PRU1_GPO12	PR0_PRU1_GPI12	UART5_CTSn	PR0_PRU0_GPO3	PR0_PRU0_GPI3	GPIO0_58	-	-

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127	IO	VOUT0_DATA6	-	Y23	VDDSHV3	GPMC0_A6	PR0_PRU1_GPO6	PR0_PRU1_GPI6	UART5_RXD	PR0_PRU0_GPO14	PR0_PRU0_GPI14	GPIO0_51	-	-
128	IO	VOUT0_DATA9	-	W21	VDDSHV3	GPMC0_A9	PR0_PRU1_GPO8	PR0_PRU1_GPI8	UART6_TXD	PR0_PRU0_GPO16	PR0_PRU0_GPI16	GPIO0_54	-	-
129	IO	VOUT0_DATA5	-	Y24	VDDSHV3	GPMC0_A5	PR0_PRU1_GPO5	PR0_PRU1_GPI5	UART4_TXD	PR0_PRU0_GPO13	PR0_PRU0_GPI13	GPIO0_50	-	-
130	IO	VOUT0_DATA12	-	AB25	VDDSHV3	GPMC0_A12	PR0_PRU1_GPO11	PR0_PRU1_GPI11	UART5_RTSn	PR0_PRU0_GPO2	PR0_PRU0_GPI2	GPIO0_57	-	-
131	IO	VOUT0_DATA4	-	Y25	VDDSHV3	GPMC0_A4	PR0_PRU1_GPO4	PR0_PRU1_GPI4	UART4_RXD	PR0_PRU0_GPO12	PR0_PRU0_GPI12	GPIO0_49	-	-
132	IO	VOUT0_DATA8	-	V21	VDDSHV3	GPMC0_A8	PR0_PRU1_GPO16	PR0_PRU1_GPI16	UART6_RXD	PR0_PRU0_GPO17	PR0_PRU0_GPI17	GPIO0_53	-	-
133	IO	VOUT0_DATA3	-	W24	VDDSHV3	GPMC0_A3	PR0_PRU1_GPO3	PR0_PRU1_GPI3	UART3_TXD	PR0_PRU0_GPO11	PR0_PRU0_GPI11	GPIO0_48	-	-
134	IO	VOUT0_DATA10	-	V20	VDDSHV3	GPMC0_A10	PR0_PRU1_GPO9	PR0_PRU1_GPI9	UART6_RTSn	PR0_PRU0_GPO0	PR0_PRU0_GPI0	GPIO0_55	-	-
135	IO	VOUT0_DATA2	-	W25	VDDSHV3	GPMC0_A2	PR0_PRU1_GPO2	PR0_PRU1_GPI2	UART3_RXD	PR0_PRU0_GPO10	PR0_PRU0_GPI10	GPIO0_47	-	-
136	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
137	IO	VOUT0_DATA1	-	V24	VDDSHV3	GPMC0_A1	PR0_PRU1_GPO1	PR0_PRU1_GPI1	UART2_TXD	PR0_PRU0_GPO9	PR0_PRU0_GPI9	GPIO0_46	-	-
138	IO	GPMC0_WAIT1	-	V25	VDDSHV3	VOUT0_EXTPCLK	GPMC0_A21	UART6_RXD	-	-	-	GPIO0_38	EQEP2_I	-
139	IO	VOUT0_DATA0	-	U22	VDDSHV3	GPMC0_A0	PR0_PRU1_GPO0	PR0_PRU1_GPI0	UART2_RXD	PR0_PRU0_GPO8	PR0_PRU0_GPI8	GPIO0_45	-	-
140	IO	GPMC0_WAIT0	-	U23	VDDSHV3	-	MCASP1_AFSX	-	PR0_PRU0_GPO14	PR0_PRU0_GPI14	TRC_DATA12	GPIO0_37	-	-
141	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
142	IO	GPMC0_AD7	1	R23	VDDSHV3	R0_PRU1_GPO15	R0_PRU1_GPI15	MCASP2_AXR11	R0_PRU0_GPO7	R0_PRU0_GPI7	RC_DATA5	GPIO0_22	-	-
143	IO	GPMC0_AD15	1	U24	VDDSHV3	VOUT0_DATA23	UART5_TXD	MCASP2_ACLKR	PR0_PRU0_GPO3	PR0_PRU0_GPI3	TRC_DATA19	GPIO0_30	UART2_RTSn	-
144	IO	GPMC0_AD5	1	P22	VDDSHV3	PR0_PRU1_GPO13	PR0_PRU1_GPI13	MCASP2_AXR9	PR0_PRU0_GPO5	PR0_PRU0_GPI5	TRC_DATA3	GPIO0_20	-	-
145	IO	GPMC0_AD14	1	U25	VDDSHV3	VOUT0_DATA22	UART5_RXD	MCASP2_AFSR	PR0_PRU0_GPO2	PR0_PRU0_GPI2	TRC_DATA20	GPIO0_29	UART2_CTSn	-
146	IO	GPMC0_AD6	1	P21	VDDSHV3	PR0_PRU1_GPO14	PR0_PRU1_GPI14	MCASP2_AXR10	PR0_PRU0_GPO6	PR0_PRU0_GPI6	TRC_DATA4	GPIO0_21	-	-
147	IO	GPMC0_AD13	1	T24	VDDSHV3	VOUT0_DATA21	UART4_TXD	MCASP2_ACLKX	PR0_PRU0_GPO1	PR0_PRU0_GPI1	TRC_DATA21	GPIO0_28	-	-
148	IO	GPMC0_AD1	1	N23	VDDSHV3	PR0_PRU1_GPO	PR0_PRU1_GPI9	MCASP2_AXR5	PR0_PRU0_GPO	PR0_PRU0_GPI1	TRC_CTL	GPIO0_16	-	-
149	IO	GPMC0_AD11	1	R21	VDDSHV3	VOUT0_DATA19	UART3_TXD	MCASP2_AXR3	PR0_PRU1_GPO3	PR0_PRU1_GPI3	TRC_DATA23	GPIO0_26	-	-
150	IO	GPMC0_AD2	1	N24	VDDSHV3	PR0_PRU1_GPO10	PR0_PRU1_GPI10	MCASP2_AXR6	PR0_PRU0_GPO2	PR0_PRU0_GPI2	TRC_DATA0	GPIO0_17	-	-

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151	IO	GPMC0_AD12	1	T22	VDDSHV3	VOUT0_DATA20	UART4_RXD	MCASP2_AFSX	PR0_PRU0_GPO0	PR0_PRU0_GPI0	TRC_DATA22	GPIO0_27	-	-
152	IO	GPMC0_AD3	1	N25	VDDSHV3	PR0_PRU1_GPO11	PR0_PRU1_GPI11	MCASP2_AXR7	PR0_PRU0_GPO3	PR0_PRU0_GPI3	TRC_DATA1	GPIO0_18	-	-
153	IO	GPMC0_AD10	1	T25	VDDSHV3	VOUT0_DATA18	UART3_RXD	MCASP2_AXR2	PR0_PRU1_GPO2	PR0_PRU1_GPI2	-	GPIO0_25	OBSCLK0	-
154	IO	GPMC0_AD0	1	M25	VDDSHV3	PR0_PRU1_GPO8	PR0_PRU1_GPI8	MCASP2_AXR4	PR0_PRU0_GPO0	PR0_PRU0_GPI0	TRC_CLK	GPIO0_15	-	-
155	IO	GPMC0_AD8	1	R24	VDDSHV3	VOUT0_DATA16	UART2_RXD	MCASP2_AXR0	PR0_PRU1_GPO0	PR0_PRU1_GPI0	-	GPIO0_23	-	-
156	IO	GPMC0_AD4	1	P24	VDDSHV3	PR0_PRU1_GPO12	PR0_PRU1_GPI12	MCASP2_AXR8	PR0_PRU0_GPO4	PR0_PRU0_GPI4	TRC_DATA2	GPIO0_19	-	-
157	IO	GPMC0_AD9	1	R25	VDDSHV3	VOUT0_DATA17	UART2_TXD	MCASP2_AXR1	PR0_PRU1_GPO1	PR0_PRU1_GPI1	-	GPIO0_24	-	-
158	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
159	IO	GPMC0_BE1n	-	N20	VDDSHV3	-	-	MCASP2_AXR12	PR0_PRU0_GPO13	PR0_PRU0_GPI13	TRC_DATA11	GPIO0_36	-	-
160	IO	GPMC0_CSn0	-	M21	VDDSHV3	-	-	MCASP2_AXR14	PR0_PRU0_GPO17	PR0_PRU0_GPI17	TRC_DATA15	GPIO0_41	-	-
161	IO	GPMC0_BE0n_CLE	-	M24	VDDSHV3	-	MCASP1_ACLKX	-	PR0_PRU0_GPO12	PR0_PRU0_GPI12	TRC_DATA10	GPIO0_35	-	-
162	IO	GPMC0_DIR	-	M22	VDDSHV3	PR0_ECAP0_IN_APWM_OUT	-	MCASP2_AXR13	PR0_PRU0_GPO16	PR0_PRU0_GPI16	TRC_DATA14	-	EQEP2_S	-
163	IO	GPMC0_OEn_REn	-	L24	VDDSHV3	-	MCASP1_AXR1	-	PR0_PRU0_GPO10	PR0_PRU0_GPI10	TRC_DATA8	GPIO0_33	-	-
164	IO	GPMC0_ADVn_ALE	-	L23	VDDSHV3	-	MCASP1_AXR2	-	PR0_PRU0_GPO9	PR0_PRU0_GPI9	TRC_DATA7	GPIO0_32	-	-
165	IO	GPMC0_WEn	-	L25	VDDSHV3	-	MCASP1_AXR0	-	PR0_PRU0_GPO11	PR0_PRU0_GPI11	TRC_DATA9	GPIO0_34	-	-
166	IO	GPMC0_CSn1	-	L21	VDDSHV3	PR0_PRU1_GPO16	PR0_PRU1_GPI16	MCASP2_AXR15	PR0_PRU0_GPO18	PR0_PRU0_GPI18	TRC_DATA16	GPIO0_42	-	-
167	IO	GPMC0_CSn3	-	K24	VDDSHV3	I2C2_SDA	GPMC0_A20	UART4_TXD	MCASP1_AXR5	-	TRC_DATA18	GPIO0_44	MCASP1_ACLKR	-
168	IO	GPMC0_CSn2	-	K22	VDDSHV3	I2C2_SCL	MCASP1_AXR4	UART4_RXD	PR0_PRU0_GPO19	PR0_PRU0_GPI19	TRC_DATA17	GPIO0_43	MCASP1_AFSR	-
169	IO	GPMC0_WPn	-	K25	VDDSHV3	AUDIO_EXT_REFCLK1	GPMC0_A22	UART6_TXD	PR0_PRU0_GPO15	PR0_PRU0_GPI15	TRC_DATA13	GPIO0_39	-	-
170	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
171	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
172	PO	VDDSHV_SDIO	-	-	-	-	-	-	-	-	-	-	-	-
173	IO	MMC2_CLK	-	D25	VDDSHV6	MCASP1_ACLKR	MCASP1_AXR5	UART6_RXD	-	-	-	GPIO0_69	-	-
174	IO	GPMC0_CLK	-	P25	VDDSHV3	-	MCASP1_AXR3	GPMC0_FCLK_MUX	PR0_PRU0_GPO8	PR0_PRU0_GPI8	TRC_DATA6	GPIO0_31	-	-
175	IO	MMC2_DAT2	-	E23	VDDSHV6	MCASP1_AXR2	-	UART5_TXD	-	-	-	GPIO0_66	-	-

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176	I	VSEL_SD	8,13	-	-	-	-	-	-	-	-	-	-	-
177	IO	MMC2_DAT3	-	D24	VDDSHV6	MCASP1_AXR3	-	UART5_RXD	-	-	-	GPIO0_65	-	-
178	IO	MMC1_CLK	-	B22	VDDSHV_SDIO	-	TIMER_IO4	UART3_RXD	-	-	-	GPIO1_46	-	-
179	IO	MMC2_CMD	-	C24	VDDSHV6	MCASP1_AFSR	MCASP1_AXR4	UART6_TXD	-	-	-	GPIO0_70	-	-
180	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
181	IO	MMC2_DAT1	-	C25	VDDSHV6	MCASP1_AXR1	-	-	-	-	-	GPIO0_67	-	-
182	IO	MMC1_DAT3	-	D22	VDDSHV_SDIO	CP_GEMAC_CPTS0_TS_COMP	TIMER_IO0	UART2_RXD	-	-	-	GPIO1_42	-	-
183	IO	MMC2_DAT0	-	B24	VDDSHV6	MCASP1_AXR0	-	-	-	-	-	GPIO0_68	-	-
184	IO	MMC1_DAT2	-	C21	VDDSHV_SDIO	CP_GEMAC_CPTS0_TS_SYNC	TIMER_IO1	UART2_TXD	-	-	-	GPIO1_43	-	-
185	IO	MMC2_SDWP	-	B23	VDDSHV6	MCASP1_AFSX	-	UART4_TXD	-	-	-	GPIO0_72	-	-
186	IO	MMC1_DAT0	-	A22	VDDSHV_SDIO	CP_GEMAC_CPTS0_HW2TSPUSH	TIMER_IO3	UART2_CTSn	ECAP2_IN_APWM_OUT	-	-	GPIO1_45	-	-
187	IO	MMC2_SDCD	-	A23	VDDSHV6	MCASP1_ACLKX	-	UART4_RXD	-	-	-	GPIO0_71	-	-
188	IO	MMC1_CMD	-	A21	VDDSHV_SDIO	-	TIMER_IO5	UART3_TXD	-	-	-	GPIO1_47	-	-
189	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
190	IO	MMC1_DAT1	-	B21	VDDSHV_SDIO	CP_GEMAC_CPTS0_HW1TSPUSH	TIMER_IO2	UART2_RTSn	ECAP1_IN_APWM_OUT	-	-	GPIO1_44	-	-
191	IO	MCASP0_ACLKX	-	B20	+3.3VIO	SPI2_CS1	ECAP2_IN_APWM_OU	-	-	-	-	GPIO1_11	EQEP1_A	-
192	IO	MMC1_SDCD	-	D17	+3.3VIO	UART6_RXD	TIMER_IO6	UART3_RTSn	-	-	-	GPIO1_48	-	-
193	IO	MCASP0_ACLKR	-	A20	+3.3VIO	SPI2_CLK	UART1_TXD	-	-	-	EHRPWM0_B	GPIO1_14	EQEP1_I	-
194	IO	MMC1_SDWP	-	C17	+3.3VIO	UART6_TXD	TIMER_IO7	UART3_CTSn	-	-	-	GPIO1_49	-	-
195	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
196	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
197	IO	MCASP0_AXR3	-	B19	+3.3VIO	SPI2_D0	UART1_CTSn	UART6_RXD	PR0_IEP0_EDIO_DATA_IN_OUT28	ECAP1_IN_APWM_OUT	PR0_UART0_RXD	GPIO1_7	EQEP0_A	-
198	IO	MCASP0_AFSX	-	D20	+3.3VIO	SPI2_CS3	AUDIO_EXT_REFCLK	-	-	-	-	GPIO1_12	EQEP1_B	-
199	IO	MCASP0_AXR2	-	A19	+3.3VIO	SPI2_D1	UART1_RTSn	UART6_TXD	PR0_IEP0_EDIO_DATA_IN_OU	ECAP2_IN_APWM_OUT	PR0_UART0_TXD	GPIO1_8	EQEP0_B	-

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200	IO	MCASP0_AFSR	-	E19	+3.3VIO	SPI2_CS0	UART1_RXD	EHRPWM0_A	-	-	-	GPIO1_13	EQEP1_S	-
201	IO	MCASP0_AXR1	-	B18	+3.3VIO	SPI2_CS2	ECAP1_IN_APWM_O	-	-	PR0_UART0_RXD	EHRPWM1_A	GPIO1_9	EQEP0_S	-
202	IO	EXT_REFCLK1	-	A18	+3.3VIO	SYNC1_OUT	SPI2_CS3	SYSCLKOUT0	TIMER_IO4	CLKOUT0	CP_GEMAC_CPTS0_RFT_CLK	GPIO1_30	ECAP0_IN_APWM_OUT	-
203	IO	MCASP0_AXR0	-	E18	+3.3VIO	PR0_ECAP0_IN_APWM_OUT	AUDIO_EXT_REFCLK0	-	-	PR0_UART0_TXD	EHRPWM1_B	GPIO1_10	EQEP0_I	-
204	I	EXTINTn	-	D16	+3.3VIO	-	-	-	-	-	-	GPIO1_31	-	-
205	IO	I2C1_SCL	-	B17	+3.3VIO	UART1_RXD	TIMER_IO0	SPI2_CS1	EHRPWM0_SYNCI	-	-	GPIO1_28	EHRPWM2_A	MMC2_SDCD
206	IO	MCAN0_RX	-	E15	+3.3VIO	UART5_TXD	TIMER_IO3	SYNC3_OUT	UART1_RIn	EQEP2_S	PR0_UART0_TXD	GPIO1_25	MCASP2_AXR1	EHRPWM_TZn_IN4
207	IO	I2C1_SDA	-	A17	+3.3VIO	UART1_TXD	TIMER_IO1	SPI2_CLK	EHRPWM0_SYNCO	-	-	GPIO1_29	EHRPWM2_B	MMC2_SDWP
208	IO	MCAN0_TX	-	C15	+3.3VIO	UART5_RXD	TIMER_IO2	SYNC2_OUT	UART1_DTRn	EQEP2_I	PR0_UART0_RXD	GPIO1_24	MCASP2_AXR0	EHRPWM_TZn_IN3
209	IO	SPI0_D1	-	B14	+3.3VIO	CP_GEMAC_CPTS0_HW2TSPUSH	EHRPWM_TZn_IN0	-	-	-	-	GPIO1_19	-	-
210	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
211	IO	SPI0_D0	-	B13	+3.3VIO	CP_GEMAC_CPTS0_HW1TSPUSH	EHRPWM1_B	-	-	-	-	GPIO1_18	-	-
212	IO	UART0_RTSn	-	B15	+3.3VIO	SPI0_CS3	I2C3_SDA	UART2_TXD	TIMER_IO7	AUDIO_EXT_REFCLK1	PR0_ECAP0_IN_APWM_OUT	GPIO1_23	MCASP2_ACLKX	MMC2_SDWP
213	IO	SPI0_CS1	-	C13	+3.3VIO	CP_GEMAC_CPTS0_TS_COMP	EHRPWM0_B	ECAP0_IN_APWM_OUT	-	-	-	GPIO1_16	-	EHRPWM_TZn_IN5
214	IO	UART0_RXD	-	D14	+3.3VIO	ECAP1_IN_APWM_OUT	SPI2_D0	EHRPWM2_A	-	-	-	GPIO1_20	-	-
215	IO	SPI0_CS0	-	A13	+3.3VIO	-	EHRPWM0_A	-	-	-	PR0_ECAP0_SYNC_IN	GPIO1_15	-	-
216	IO	UART0_TXD	-	E14	+3.3VIO	ECAP2_IN_APWM_OUT	SPI2_D1	EHRPWM2_B	-	-	-	GPIO1_21	-	-
217	IO	SPI0_CLK	-	A14	+3.3VIO	CP_GEMAC_CPTS0_TS_SYNC	EHRPWM1_A	-	-	-	-	GPIO1_17	-	-
218	IO	UART0_CTSn	-	A15	+3.3VIO	SPI0_CS2	I2C3_SCL	UART2_RXD	TIMER_IO6	AUDIO_EXT_REFCLK0	PR0_ECAP0_SYNC_OUT	GPIO1_22	MCASP2_AFSX	MMC2_SDCD
219	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
220	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
221	IO	MCU_RESETSTATz	-	B12	VDDSHV_MCU	-	-	-	-	-	-	MCU_GPIO0_21	-	-
222	IO	EMU0	10	E12	VDDSHV_MCU	-	-	-	-	-	-	-	-	-
223	I	MCU_RESETz	12	E11	VDDSHV_MCU	-	-	-	-	-	-	-	-	-

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224	O	TDO	-	D12	VDDSHV_MCU	-	-	-	-	-	-	-	-	-
225	O	RESETSTATz	-	F22	+3.3VIO	-	-	-	-	-	-	-	-	-
226	I	EMU_RSTn	-	-	-	-	-	-	-	-	-	-	-	-
227	I	RESET_REQz	12	F20	+3.3VIO	-	-	-	-	-	-	-	-	-
228	IO	EMU1	10	C11	VDDSHV_MCU	-	-	-	-	-	-	-	-	-
229	O	PORz_OUT	-	E21	+3.3VIO	-	-	-	-	-	-	-	-	-
230	I	TMS	10	B11	VDDSHV_MCU	-	-	-	-	-	-	-	-	-
231	IO	MCU_I2C0_SDA	-	D10	VDDSHV_MCU	-	-	-	-	-	-	MCU_GPIO0_18	-	-
232	I	TDI	10	A11	VDDSHV_MCU	-	-	-	-	-	-	-	-	-
233	IO	MCU_I2C0_SCL	-	A8	VDDSHV_MCU	-	-	-	-	-	-	MCU_GPIO0_17	-	-
234	I	TRSTn	11	B10	VDDSHV_MCU	-	-	-	-	-	-	-	-	-
235	IO	MCU_SPI0_D1	-	C9	VDDSHV_MCU	-	-	-	-	-	-	MCU_GPIO0_4	-	-
236	I	TCK	10	A10	VDDSHV_MCU	-	-	-	-	-	-	-	-	-
237	IO	MCU_SPI0_D0	-	D9	VDDSHV_MCU	-	-	-	-	-	-	MCU_GPIO0_3	-	-
238	P	VPP	6	-	-	-	-	-	-	-	-	-	-	-
239	IO	MCU_SPI0_CS0	-	E8	VDDSHV_MCU	-	-	-	WKUP_TIMER_IO1	-	-	MCU_GPIO0_0	-	-
240	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
241	IO	MCU_SPI0_CS1	-	B8	VDDSHV_MCU	MCU_OBSCLK0	MCU_SYSCLKOUT0	MCU_EXT_REFCLK0	MCU_TIMER_IO1	-	-	MCU_GPIO0_1	-	-
242	IO	MCU_UART0_RTSn	-	B6	+3.3VIO	MCU_TIMER_IO1	-	MCU_SPI1_D1	-	-	-	MCU_GPIO0_8	-	-
243	IO	MCU_SPI0_CLK	-	A7	VDDSHV_MCU	-	-	-	-	-	-	MCU_GPIO0_2	-	-
244	IO	MCU_UART0_CTSn	-	A6	+3.3VIO	MCU_TIMER_IO0	-	MCU_SPI1_D0	-	-	-	MCU_GPIO0_7	-	-
245	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
246	IO	MCU_UART0_RXD	-	B5	+3.3VIO	-	-	-	-	-	-	MCU_GPIO0_5	-	-
247	IO	WKUP_I2C0_SCL	-	B9	VDDSHV_MCU	-	-	-	-	-	-	MCU_GPIO0_19	-	-
248	IO	MCU_UART0_TXD	-	A5	+3.3VIO	-	-	-	-	-	-	MCU_GPIO0_6	-	-

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Pin	Type	Signal (Option 0)	Notes	AM62x Pin	Power / Domain	Signal Option 1	Signal Option 2	Signal Option 3	Signal Option 4	Signal Option 5	Signal Option 6	Signal Option 7	Signal Option 8	Signal Option 9
249	IO	WKUP_I2C0_SDA	-	A9	VDDSHV_MCU	-	-	-	-	-	-	MCU_GPIO0_20	-	-
250	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
251	IO	WKUP_UART0_RXD	-	B4	+3.3VIO	-	MCU_SPI0_CS2	-	-	-	-	MCU_GPIO0_9	-	-
252	IO	MCU_MCAN1_TX	-	E5	+3.3VIO	MCU_TIMER_IO2	-	MCU_SPI1_CS1	MCU_EXT_REFCLK0	-	-	MCU_GPIO0_15	-	-
253	IO	WKUP_UART0_TXD	-	C5	+3.3VIO	-	MCU_SPI1_CS2	-	-	-	-	MCU_GPIO0_10	-	-
254	IO	MCU_MCAN1_RX	-	D4	+3.3VIO	MCU_TIMER_IO3	MCU_SPI0_CS2	MCU_SPI1_CS2	MCU_SPI1_CLK	-	-	MCU_GPIO0_16	-	-
255	IO	WKUP_UART0_CTSn	-	C6	+3.3VIO	WKUP_TIMER_IO0	-	MCU_SPI1_CS0	-	-	-	MCU_GPIO0_11	-	-
256	IO	MCU_MCAN0_RX	-	B3	+3.3VIO	MCU_TIMER_IO0	MCU_SPI1_CS3	-	-	-	-	MCU_GPIO0_14	-	-
257	IO	WKUP_UART0_RTSn	-	A4	+3.3VIO	WKUP_TIMER_IO1	-	MCU_SPI1_CLK	-	-	-	MCU_GPIO0_12	-	-
258	IO	MCU_MCAN0_TX	-	D6	+3.3VIO	WKUP_TIMER_IO0	MCU_SPI0_CS3	-	-	-	-	MCU_GPIO0_13	-	-
259	P	GND	-	-	-	-	-	-	-	-	-	-	-	-
260	P	GND	-	-	-	-	-	-	-	-	-	-	-	-

Note 1: GPMC_AD[0..15] are strapped during power on reset as the BOOTMODE[0..15] pins. GPMC_AD[3..15] must be pulled up or pulled down while the PORz_OUT signal is asserted to VDDSHV3 or GND in order to select the proper boot device and configuration. See the AM62x Technical Reference Manual for more information. GPMC_AD0, GPMCA_AD1, and GPMC_AD2 are set to logic 1, 1, 0 (respectively) on the SOM using 10K pullup/pulldown resistors to select a 25 MHz input clock frequency.

Note 2: Please reference Table 2 for information on the maximum current supply of these voltage outputs.

Note 3: PMIC_PBn is tied to pin 25 of the TPS65219 PMIC. It must be pulled to VIN to power on the SOM.

Note 4: USB0_VBUS_DETECT and USB1_VBUS_DETECT are not 5V compliant and should not be connected directly to the VBUS signal of a USB circuit. The voltage must be reduced to be compliant with a 3.3V IO input. See the AM62x Technical Reference Manual for more information.

Note 5: VMON_VSYS may be used for an external power supply monitor. It has a valid range of 0 to 1V and the threshold is 0.45V. If it is not used, it should be tied to GND.

Note 6 : VPP should be 1.8V, used for programming AM62x Crypto Keys. VPP should only be powered after VDD_1V8 is available and immediately prior to attempts to program the keys using AM62x software. Otherwise, tie to GND.

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Note 7: LED_RTN should normally be connected to ground and serves as the current return path for the SOM Power Good LED. For power sensitive applications, it should be disconnected to reduce current consumption when the SOM is powered off or sleeping.

Note 8: VSEL_SD, VDD_3V3_ENABLE, and VCC_5V0_EN include 4.7K pullup resistors to +3.3V on the module

Note 9: The VCC_5V0_EN pin is connected to PMIC GPO1 as an open drain output (tied to +3.3V) and may be used as a general purpose 3.3V output pin.

Note 10: TCK, TDI, TMS, EMU0, and EMU1 include 4.7K pullup resistors to VDDSHV_MCU on the module

Note 11: TRSTn include 4.7K pulldown to ground on the module

Note 12: MCU_RESETz and RESET_REQz do not have pullups on the modules and need to pulled up on the baseboard to 3.3V

Note 13: VSEL_SD controls the voltage of VDDSHV_SDIO (high = 3.3V and low = 1.8V)

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ELECTRICAL CHARACTERISTICS

Table 2: Electrical Characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Units
VIN	Voltage supply, volt input.		3.2	3.3	3.5	Volts
I_{VIO_1P8}	Max current draw[2]	1.8 volt IO output			1500	mA
$I_{3.3}$	Quiescent Current draw[1]	3.3 volt input	-	360	-	mA
$I_{3.3\text{-}max}$	Max current draw[1]	3.3 volt input	-	670	1000	mA
FCPU	CPU internal clock Frequency (PLL output)		200	1250	1400	MHz
FEMIF	GPMC bus frequency		-	133	-	MHz

1. Power utilization of the MitySOM-AM62 is heavily dependent on end-user application. Major factors include: ARM CPU PLL configuration, CPU Utilization, and external DDR4 RAM utilization.
2. The MitySOM-AM62 module provides both 1.8V output supplies from the module. These outputs are sequenced from the PMIC and the maximum power output specified should not be exceeded as these supplies also power the module itself.

ORDERING INFORMATION

The following table lists the standard module configurations. For shipping status, availability, and lead time of these or other configurations please contact Critical Link at info@criticallink.com.

Table 3: Standard Model Numbers

Model	A53 Cores	GPU	PRU	Max Cortex-A53 Speed	NOR Flash	eMMC	DDR 4 RAM	Operating Temp
6231-HX-XXA-RC	1	N	N	800 MHz	N/A	N/A	1GB	0C to 70C
6231-IX-XXA-RI	1	N	N	1000 MHz	N/A	N/A	1GB	-40C to 85C
6252-TX-XXD-RC	2	Y	Y	1400 MHz[2]	N/A	N/A	2GB	0C to 70C
6252-TX-XXD-RI	2	Y	Y	1400 MHz[2]	N/A	N/A	2GB	-40C to 85C
6252-TX-X8D-RC	2	Y	Y	1400 MHz[2]	N/A	16GB	2GB	0C to 70C
6252-TX-X8D-RI	2	Y	Y	1400 MHz[2]	N/A	16GB	2GB	-40C to 85C
6254-TX-XXD-RC	4	Y	Y	1400 MHz[2]	N/A	N/A	2GB	0C to 70C
6254-TX-XXD-RI	4	Y	Y	1400 MHz[2]	N/A	N/A	2GB	-40C to 85C
6254-TX-XAE-RC	4	Y	Y	1400 MHz[2]	N/A	64GB	4GB	0C to 70C
6254-TX-2AD-RI	4	Y	Y	1400 MHz[2]	16MB	64GB	2GB	-40C to 85C
6254-TX-XXD-RI-GP[1]	4	Y	Y	1400 MHz[2]	N/A	N/A	2GB	-40C to 85C

[1] The 6254-TX-XXD-RI-GP includes the general purpose processor option (as opposed to the High Security Field Securable option) and is only available in MitySOM-AM62x development kits.
[2] Initial versions of SOMs using the "T" speed grade processor may be limited to 1250 MHz, for details see the MitySOM-AM62 System on Module (SOM) Revision history and Errata on the Critical Link support site.

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MECHANICAL INTERFACE

A mechanical outline of the MitySOM-AM62 is illustrated in Figure 2, below. Provisions for an M2 screw have been included for the side of the board away from the DDR4 SO-DIMM edge connector if heavy vibration environments are expected. A full STEP model of the SOM may be downloaded from the Critical Link support site.

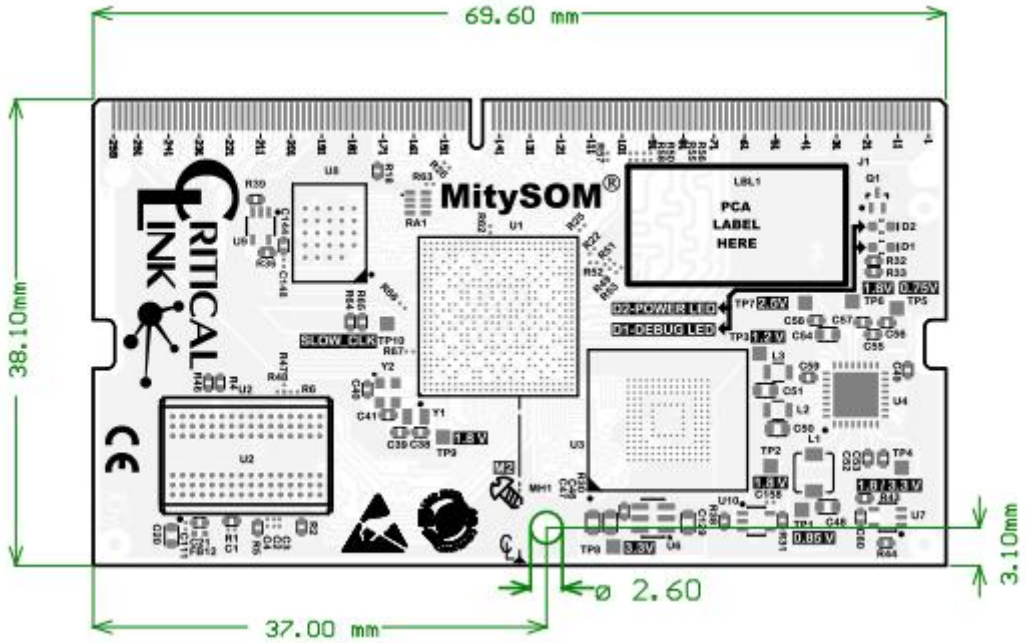


Figure 2 MitySOM-AM62 Mechanical Outline

REVISION HISTORY

Date	Rev	Change Description
15-SEPT-2022	1A	Draft Spec
16-NOV-2022	1B	Updated standard parts list in Table 3 and maximum eMMC available.
06-FEB-2023	1C	Updated Pin 21 in Table 1 to be 3.3V enable signal and no longer 3.3V power supply. Removed 3.3V entry from Table 2 and references to it. Added notes 8 and 9 to Table 1. Clarified PRU capabilities and availability.
31-MAY-2023	1D	Added clarification that production SOMs will only include processors with the High Security Field Securable (HS-FS) option. Added notes for pullup/pulldown requirements for control pins
26-MAR-2024	1E	Revisions to Table 3, Standard Model Numbers. Updated Table 1 – SoDIMM connector, pins 99, 101 and 103 were swapped
10-OCT-2024	1F	Added note about T speed grade limitations on initial modules under Table 3.
19-MAR-2025	1G	Added note 1 in maximum operating conditions regarding high temperature operation.
10-JUNE-2025	1H	Remove 32 GB eMMC variants. Add 64 GB eMMC variants.

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