

Specifications:

- a. Texas Instruments® Sitara™ AM3358 Processor (Integrated in the OSD3358-SM):
 - i. 1GHz ARM® Cortex-A8 with NEON floating-point accelerator
 - ii. SGX530 graphics accelerator
 - iii. 2x programmable real-time unit (PRU) 32-bit 200MHz microcontrollers with single-cycle I/O latency
 - iv. ARM® Cortex-M3 for power and security management functions
- b. Memory:
 - i. 512MB DDR3 800MHZ RAM (Integrated in the OSD3358-SM)
 - ii. 4kB I2C EEPROM (Integrated in the OSD3358-SM)
 - iii. SD/MMC Connector for microSD
- c. Software Compatibility
 - i. Debian GNU/Linux images customized for BeagleBone
 - ii. Cloud9 IDE on Node.js w/ BoneScript library
 - iii. Any BeagleBone Black software not needing access to unavailable expansion pins
- d. Connectivity
 - i. High speed USB 2.0 OTG (host/client) micro-B connector (USB0)
 - ii. Bootable microSD card slot (MMC0)
- e. Expansion header
 - i. High speed USB 2.0 OTG (host/client) control signals (USB1)
 - ii. 8 analog inputs with 6 at 1.8V and 2 at 3.3V along with 1.8V voltage references
 - iii. 44 digital GPIOs accessible with 18 enabled by default including 2 shared with the 3.3V analog input pins
 - iv. 3 UARTs accessible with 2 enabled by default (UART0, UART4)
 - v. 2 I2C busses enabled by default (I2C1, I2C2)
 - vi. 2 SPI busses with single chip selects enabled by default (SPI0, SPI1)
 - vii. 4 PWM outputs accessible with 2 enabled by default (PWM0A, PWM1A)
 - viii. 2 quadrature encoder inputs accessible
 - ix. 2 CAN bus controllers accessible
 - x. 23 programmable real-time unit (PRU) 32-bit microcontroller I/O pins including options for the PRU UART and eCAP accessible with 7 I/O pins enabled by default for PRU0 and 1 enabled by default for PRU1

- xi. 3 voltage inputs with 1 for battery, 1 shared with the USB connector and 1 for power-line input and a battery temperature sense input
 - xii. 2 voltage outputs, 1 with a 3.3V LDO and 1 with switch from voltage input
 - xiii. Power and reset button I/Os
- f. Power management:
 - i. TPS65217C PMIC is used along with a separate LDO to provide power to the system (Integrated in the OSD3358) with integrated 1-cell LiPo battery support
- g. Debug Support:
 - i. JTAG test points
 - ii. gdb and other monitor-mode debug possible
- h. Power Source
 - i. microUSB connector
 - ii. expansion header (3 options: battery, VIN or USB-VIN)
- i. User Input / Output
 - i. Power Button with press detection interrupt via TPS65217C PMIC (hold for 10s to initiate hardware power cycle)

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