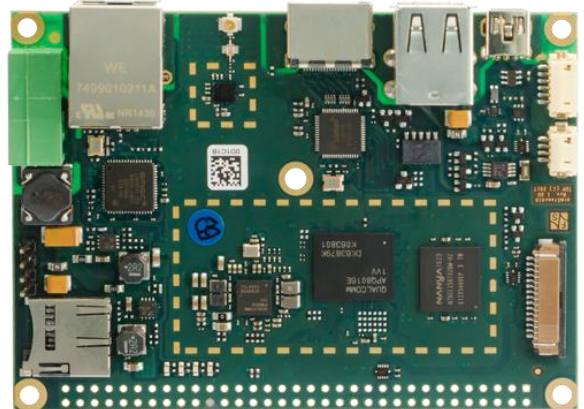


armStone™ A53SD

Single Board Computer with Qualcomm Snapdragon 410E

Characteristics

- Cortex®-A53 – 1.2GHz (Quad)
- up to 8GB LPDDR3 RAM, 32GB eMMC
- TFT via 24Bit LVDS, DVI 720p
- 1x Ethernet 10/ 100 MBit
- 1x USB 2.0 Device, 3x USB 2.0 Host
- 1x CAN 2.0, 2x I²C, 1x SPI
- 2x Serial, 1x micro-SD Card
- WLAN, BT (2.1+EDR, 4.1 LE)
- MIPI-CSI Camera
- Audio Line IN/ OUT/ MIC
- Linux/ Windows 10 IoT
- 5V Low Power Design (ca. 4W typ.)



Description

armStone™ A53SD is based on a Qualcomm Snapdragon 410E Quad ARM Cortex-A53 processor (Quad-Core) and is the latest member of our armStone™ product family.

This powerful module in PicoITX form factor is perfectly suited for complex multimedia tasks in industrial and medical technology.

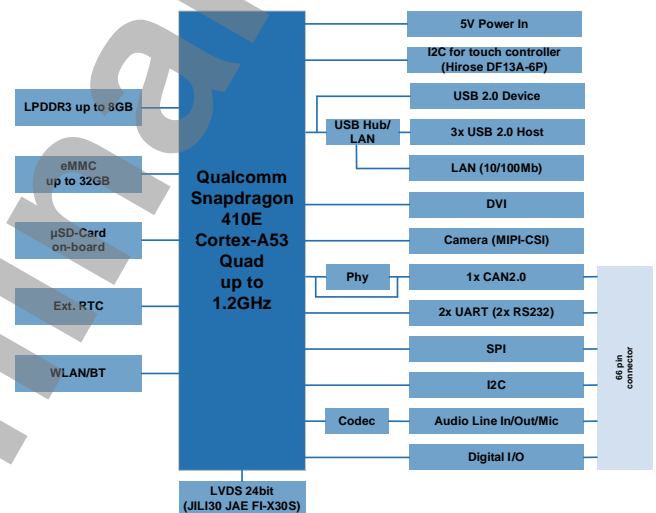
armStone™ A53SD comes with up to 8GB LPDDR3 and up to 32GB eMMC.

Further interfaces are WLAN, BT (2.1+EDR, 4.1 LE) with antenna socket, Ethernet, uSD-Card, 3x USB Host, USB Device, CAN, 2x I²C, SPI, Audio, 2x serial interfaces and MIPI-CSI camera.

Displays can be connected via LVDS (24bit) and DVI.

Available operating systems are Windows 10 IoT and Linux.

Block Diagram



On-Board Operating System



The customized Windows 10 IoT (Bootloader, Kernel, interface drivers, Silverlight, Mediaplayer, IE) is an efficient real-time operating system.

Together with Framework 3.5 it is ideal for software development.



The F&S Linux BSP (4.1, uboot, Buildroot, QT, GStreamer) contains the customized kernel and all interface drivers including source.

A Cross Compiler Toolchain is offered for the development of own software. A pre-configured Ubuntu Root Filesystem is offered as well.

Starterkit

The armStone™ A53SD-SKIT is available with Linux or Windows 10 IoT.

It consists of an armStone™ A53SD board, a set of cables and the access data for the download area. In the download area the current software and documentation can be downloaded and installed. A forum with 3000+ registered customers offers example programs and free support for customers. A workshop and other accessories pave the way for an easy start of development.

Pin Assignment

J1 – Feature Connector											
1	VCC3.3 (J5 pin 26)	12	XGPIO8/SPI_CLK	23	XGPIO15/ROW5	34	VCFL_ON	45	LINEOUT_R	56	RTS0 (RS232)
2	VCC5	13	TX1/GPIO0	24	XGPIO16/ROW6	35	ADC_IN3	46	GND	57	TX0 (RS232)
3	XGPIO0/COL0	14	XGPIO9/SPI_CS _n	25	XGPIO17/ROW7	36	RXD2 (RS232)	47	GND	58	CTS0 (RS232)
4	XGPIO1/COL1	15	RX1/GPIO1	26	XGPIO18	37	GND	48	LINEIN_L	59	nc
5	XGPIO2/COL2	16	I2CLK/SPI_MOSI	27	GND	38	TXD2 (RS232)	49	LINEOUT_L	60	nc
6	XGPIO3/COL3	17	I2DAT/SPI_MISO	28	PWMOUT0	39	VCC3.3	50	GND	61	GND
7	XGPIO4/COL4	18	XGPIO10/ROW0	29	ADC_IN0	40	VCC5	51	RESETBTN	62	VCC5 (COM keypin)
8	XGPIO5/COL5	19	XGPIO11/ROW1	30	PWMOUT1	41	MIC1 (Audio pin 1)	52	VCC3.3	63	CANRX/CANL
9	XGPIO6/COL6	20	XGPIO12/ROW2	31	ADC_IN1	42	GND	53	nc (COM pin1)	64	CANTX/CANH
10	XGPIO7/COL7	21	XGPIO13/ROW3	32	PWMOUT2	43	nc	54	nc	65	BOOTSEL
11	GND	22	XGPIO14/ROW4	33	ADC_IN2	44	LINEIN_R	55	RX0 (RS232)	66	VCC3.3

Accessories

TFT & capacitive Touch

SKU: SINTF-LVDSTOUCH2

7" WVGA Display with LVDS interface and fitting connection cable (JAE FI-X30 connector), furthermore, the display has a capacitive touch panel.

Displaykit LVDS

SKU: SINTF-LVDS2

7" WVGA Display with LVDS interface and fitting connection cable (JAE FI-X30 connector)

armStone Extension

SKU: aStone-ADP-UNI1

Routes interfaces of the 66pin feature connector to standard connectors.

Failsafe Flash Filesystem (F3S)

SKU: WCE-F3S

The Failsafe Flash Filesystem „F3S“ offers transaction safety on file level and therefore guarantees the consistency of the data, even in case of a blackout or other interferences while writing.

UpDate Software

SKU: WCE-UPDATE

This program package allows a safe and easy update of the application program and the operating system via USB Stick or SD Card. Blackouts and other interferences during the update are considered.

Detailed information on our accessories is available on our homepage.

Technical Data

Power Supply:

+5V_{DC} ± 5%

Power Consumption:

4W typ.

Digital I/O:

max. 66 I-/ O ports

Interfaces:

1x Ethernet

2x Serial

3x USB 2.0 Host

1x USB 2.0 Device

2x I²C

1x SPI

1x CAN 2.0

1x micro-SD Card

1x Audio (IN/ OUT/ MIC)

1x WLAN

1x BT (2.1+EDR, 4.1 LE)

1x MIPI-CSI Camera

TFT up to WUXGA via LVDS

TFT-LCD Interface:

Screen:

DVI up to FullHD

RAM:

8GB LPDDR3

Program Memory:

32GB eMMC

Prozessor:

Qualcomm Snapdragon 410E Quad ARM Cortex-A53

Betriebstemperatur:

0°C - +70°C (opt. -20°C - +85°C I-Temp. Version)

Abmessungen:

100mm x 72mm x 15mm (l x b x h)

Gewicht:

ca. 40g

Standard Versions/ Order Notations

TBD

Standard Versions/ Order Notations

TBD

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