

Product Overview 2018

Embedded Modules



armStone™

100x72mm
 Single Voltage 5V, 12V optional
 RGB, LVDS, DVI
 Feature Connector 2,54mm
 PicoITX – Single Board Computer
 Cortex A5/ Cortex A9

efus™

47x62mm
 Single Voltage 5V
 RGB, LVDS, DVI
 MXM2 Goldfinger Connector
 230 Pins, 0,5mm
 Cortex-A9
 Camera, PCIe, SATA, WLAN/BT



Overview

Product	armStone™A9r2	armStone™MX8M	efus™A7UL	efus™A9	efus™A9X	efus™MX8X	efus™G1C
State	Mass Production	Q4/2018	Mass Production	Mass Production	Mass Production	Q4/2018	Q3/2018
Processing Power	++++	+++++	+	+++	++	++++	++
Windows CE	Compact 2013 / 7		Compact 2013	Compact 7/2013	Compact 7/ 2013		
Linux	Buildroot/ Yocto	Buildroot/ Yocto	Buildroot/Yocto	Buildroot/ Yocto	Buildroot/Yocto/FreeRT OS	Yocto	Yocto
Android					Lollipop 5.1.1		
CPU	NXP i.MX 6 Solo/DualLite	NXP i.MX 8M Dual/Quad	NXP i.MX 6 UltraLite/ ULL	NXP i.MX 6 Solo/DualLite/ (Quad)	NXP i.MX 6SoloX	NXP i.MX 8 Dual/QuadXPlus	Renesas RZ/G1C Dual
	Cortex-A9 – 1GHz	Cortex-A53 – 1,5GHz Cortex-M4	Cortex-A7 – 900MHz	Cortex-A9 – 1GHz	Cortex-A9 – 1GHz Cortex-M4 – 200MHz	Cortex-A35 – 1,2GHz	Cortex-A7 – 1GHz
Special	3D, 2D	Vulkan	NEON	2D, 3D	FPU, NEON	Integrated Security Engine (SEC)	
Flash (up to)	512MB SLC [32GB eMMC]	512MB SLC NAND 32GB eMMC	512MB SLC [32GB eMMC]	512MB SLC [32GB eMMC], [SPI NOR], [I2C EEPROM]	512MB SLC [32GB eMMC]	512MB SLC [32GB eMMC]	64MB QSPI NOR 32GB eMMC
RAM (up to)	4GB DDR3L	8GB LPDDR4	1GB	2GB	2GB	2GB	2GB
Ethernet	1 (1000Mbit)	1 (1000Mbit)	2	1 (1000Mbit)	2 (1000Mbit)	2 (1000Mbit)	1 (1000Mbit)
WLAN/BT	[x/x]	[x/x]	(x/x)	(x/x)	(x/x)		(x/x)
RS232/ Serial	5	3	6	4	4	4	4
USB Host	4	4 (2.0/ 3.1)	1	1	1	1 (USB 3.0)	1
USB Device	1	1 (3.1)	1	1	1	1	1
SD-Card	1	1**	2*	2*	2*	1*	1
SATA/mPCIe	[1]/1	-/1		1/1	-/1	-/1	
Audio	IN/ OUT/ MIC	IN/ OUT/ MIC	I2S*	I2S*	I2S*	x	
CAN	2	1	2	2	2	2	2
I ² C	1	4	4	2	2	2	2
SPI	2	2	4	2	2	2	2
Digital I/O	66**	32**	x	x	x	x	x
Analog In	4**	4**			x		
Matrix Tastatur	x				x	x	
Touch Panel	x*	x*	x*	x*	x*	x*	x*
LVDS	2x 18/24bit	2x 18/24bit	[18bit]	2x 24bit	24bit	2x 24bit	24bit
RGB			18bit [24bit]	18bit	18bit [24bit]		18/24bit
CRT/DVI/HDMI	DVI 1080p	DVI UHP		DVI 1080p			
Camera/Video-IN	MIPI-CSI	MIPI-CSI	Parallel 8bit	MIPI-CSI or Parallel 8bit	Parallel 8bit	MIPI-CSI	analog IN

x available [] optional * external ** with restrictions



Product Overview 2018

Embedded Modules



PicoCOM

40x50mm
Single Voltage 3,3V
ARM9 to Cortex-A9
Small, Compact
Robust Connector
80 Pins, 0,8 Pitch

PicoCore

35x40mm
Single Voltage 4.2/5V
2x 80 Pins Connector
WLAN/ BT



Qseven

70x70mm
Single Voltage 5V
LVDS-TFT, DVI-D
WLAN on Board
MXM2 Goldfinger Connector
230 Pins, 0,5mm
Qseven Standard

SMARC

82x50mm
Single Voltage 5V
WLAN on Board
MXM2 Goldfinger Connector
314 Pins, 0,5mm
SMARC Standard

Overview

Product	PicoCOMA5	PicoCOMA9X	PicoCore™MX7ULP	PicoCore™MX6SX	PicoCore™MX6UL	PicoCore™MX8MM	QBlissA9r2	SMARC
State	Mass Production	Mass Production	Samples	Q4/2018	Q4/2018	2019	Mass Production	2019
Processing Power	+	++	+	++	+	+++++	+++	+++++
Windows CE	CE 6.0/ Compact 2013	Compact 7/2013					Compact 7/2013	
Linux	Buildroot	Buildroot/Yocto/ FreeRTOS	Yocto	Buildroot/ Yocto	Buildroot/Yocto	Buildroot/Yocto	Buildroot/Yocto	Buildroot/ Yocto
Android								
CPU	NXP Vybrid	NXP i.MX 6 SoloX	NXP i.MX 7ULP	NXP i.MX 6 SoloX	NXP i.MX 6ULL	NXP i.MX 8M Mini	NXP i.MX 6 Solo/DualLite/QuadPlus	NXP i.MX 8M Dual/Quad
	Cortex-A5 – 500MHz Cortex-M4 – 167MHz	Cortex-A9 – 1GHz Cortex-M4 – 200MHz	Cortex-A7 – 720MHz Cortex-M4	Cortex-A9 – 1GHz Cortex-M4 – 200MHz	Cortex-A7 – 900MHz	Cortex-A53 – 1,8GHz Cortex-M4 – 400MHz	Cortex-A9 – 1GHz	Cortex-A53 – 1,5GHz Cortex-M4
Special	FPU, NEON	FPU, NEON	2D, 3D, NEON	FPU, NEON, 2D	NEON	2D, 3D, NEON, FPU	2D, 3D	Vulkan
Flash (up to)	512MB SLC	512MB SLC [32GB eMMC], [SPI NOR]	64MB QSPI 32GB eMMC	512MB SLC or 32GB eMMC	512MB SLC or 32GB eMMC	512MB SLC NAND [32GB eMMC]	1GB SLC [32GB eMMC]	512MB SLC NAND [32GB eMMC]
RAM (up to)	512MB	512MB	4GB LPDDR3	1GB	1GB DDR3L	8Gb DDR4	4GB DDR3L	8GB LPDDR4
Ethernet	1 (2)	1[2]		1 (1000Mbit)	2	1 (1000Mbit)	1 (1000Mbit)	1 (1000Mbit)
WLAN/BT			[x/x]			x/ x		[x/x]
RS232/Serial	3	3	6	2	8**	4	1	3
USB Host	1	1		1	1	1	4	4 (2.0/ 3.1)
USB Device	1	1	1 OTG	1	1	1	1	1 (3.1)
SD-Card	1*	1*	[1]	1	2**	1	1+1*	1**
SATA/mPCIe							1/1	-/1
Audio	IN/OUT	IN/OUT	IN/OUT/MIC/HEADPHON E	IN/OUT	IN/OUT/MIC/HP SPDIF** 3x SA1**	IN/ OUT/ MIC/ HP/ I2S	AC97/I2S	I2S
CAN	1[2]	1[2]		1	2**		1	1
I ² C	1[2]	1	4	1	4**	3	2	4
SPI	1	1	1	1	2**	1	1	1
Digital I/O	x	x	33	x		x	x	x
Matrix Keyboard								
Touch Panel	x*	x*	x*	x*		x*		x*
LVDS							x*	2x 18/24bit
RGB	16bit	18bit	x*	24bit	24bit		2x 24bit	
CRT/DVI/HDMI			MIPI-DSI			MIPI-DSI	DVI	DVI UHP
Camera/Video-IN					Parallel CSI	MIPI-CSI	2x MIPI-CSI	3x MIPI-CSI

x available [] optional * external ** with restrictions

