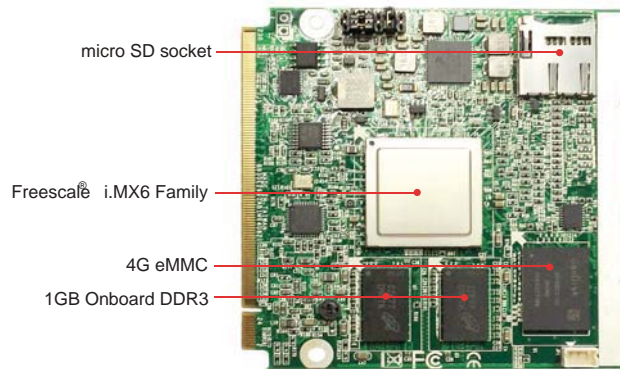


PQ7-M640F

Qseven module based on Freescale™ Si.MX6 Processor



Qseven module based on Freescale™ i.MX6 family, ARM™ Cortex-A9, Solo / Dual / Quad core processor with onboard 1GB DDR3 (up to 2GB), PCIe 1-lane interface, VGA, HDMI, single LVDS 1-ch or dual LVDS (18/24-bit) 2-ch and CAN Bus.

Portwell PQ7-M640F (6Q, 6D, 6S) is design as CPU module with series of Qseven® form factor. It is based on embedded Freescale™ i.MX6 processor, an ARM® Cortex® -A9 processor, Single-, Dual- and Quad-Core. In connection with external standard IO device, a 80-pin Carrier board PQ7-C100ARM is suggested for the following expansion purpose: 3x UART, 2x I2C, 1x Keypad, 1x CAN bus, interfaces of 1x RGB parallel LCD, 1x MIPI-DSI, 2x MIPI-CSI for camera, 1x SPDIF, 1x ESAI audio and 4x PWM.

FEATURES

- Ultra low power consumption: 2W (Single core) ~ 6W (Quad core)
- Longevity support more than 10 years
- Support Q7+ function (3x UART, CAN, MIPI interface, 2nd LCD interface, GPIO)
- Built-in H/W Graphics accelerators, Open GL ES2.0, Open VG1.1 supported
- 4x independent displays supported. Multi-format of encode & decode.

ORDERING GUIDE

AB1-3A50Z	PQ7-M640F, CPU Module board
AB9-3243Z	PQ7-C100ARM, I/O carrier board
AB1-XXXXZ	PQ7-M620F, CPU Module board
AB1-XXXXZ	PQ7-M610F, CPU Module board

GENERAL

Processor	- Freescale™ i.MX6 Family, single-, dual- and quad-core processors (ARM Cortex™-A9), up to 1.2GHz Atom
PMIC	Freescale PF0100
Memory	up to 2GB DDR3 onboard
Storage	- 1x micro SD socket - 1x on Board 4G eMMC
USB	- 1 x USB OTG - 4 x USB 2.0 - 1 x four port USB hub "USB 2514Bi" on module
Watchdog Timer	- Programmable via S/W from 1sec to 255min
Ethernet	1 x Gigabit Ethernet signal to golden finger
Audio	I2S Interface
Expansion Interface	- 1 x PCIe (1 lane interface) - 1 x I2C interface - 1 x JTAG onboard pin header (optional) - 3 x UART - 2 x I2C - 1 x Keypad - 1 x CAN BUS - 1 x 24bb RGB parallel LCD interface - 1 x MIPI-DSI interface - 1 x MIPI-CSI for camera - 1 x SPDIF interface - 1 x ESAI audio interface - 1 x PWM interface - 1 x GPIO
UART	- 1 x UART on board pin header for debug port - 1 x UART signal to golden finger
CAN BUS	1 x CAN BUS signal to golden finger
Power Requirement	+5VDC +5%
Dimension	70mm(L) x 70mm(W), 2.7"(L) x 2.7"(W)
Environment	- Operation Temperature: 0~55 °C, R.H 5%-95% - Storage Temperature: -20~60 °C, R.H 5%-95%

DISPLAY

Graphic Controller	Freescale i.MX 6 Family intergrated
Display Interface	- 1 x TTL signal to golden finger - 1 x HDMI signal to golden finger - LVDS signal to golden finger 1 x LVDS Dual Channel or 2 x LVDS Single Channel 18 / 24 bit interface (resolution up to 1920x1200)