explora

SYSTEM ON MODULE

Processor	Freescale™ i.MX257
Core	ARM926EJ-S core running at 400MHz
RAM	128MB of DDR2 @ 266MHz
ROM	2GB eMMC on board or microSD socket for OS and User data
Power	Only 3.3 Volts
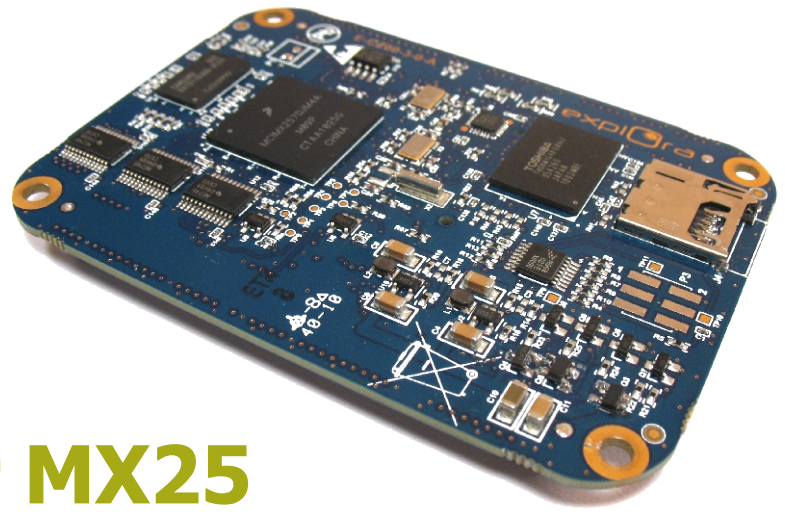
Avatar MX25

PRODUCT SUMMARY

The Avatar MX25 is a member of Explora's System on Module Series (i.MX25, i.MX51, and other processors).

The Avatar modules are complete computers, implemented on a small board and ready to be designed into your embedded system.

Avatar MX25 module includes a Freescale™ i.MX25 processor, USB PHY, DDR2 and eMMC or microSD socket. The integrated LCD controller allows direct connection to an LCD.

The Avatar MX25 is specifically targeted for embedded applications where size, performance, rugged solutions and cost are critical factors.

SPECIFICATIONS

- 10/100Mbps Ethernet
- High Speed (480 Mbps) USB 2.0 OTG
- Full Speed (12 Mbps) USB 2.0 Host
- Two Controller Area Network (CAN) interfaces
- LCD Controller: Connects directly to high-resolution LCD displays
- MicroSD Card interface
- Embedded RTC
- External 16 bits programmable expansion interface (WEIM)
- Multiple connectivity port:
  - I2C
  - PWM
  - One wire
  - SPI
  - UART
- Other peripheral interfaces:
  - Direct interface to matrix Keypad
  - Resistive Touch screen controller
  - Accessible User GPIO
  - Pulse Width Modulators (PWM)
  - Direct interface to audio CODEC
  - Integrated two channel 12 bits ADC
  - Some interfaces are multiplexed with other functions

KEY FEATURES

- Fast DDR2 memory system (faster than SDRAM).
- Production quality BSP and WinCE enhancements (possibility of dual WinCE image …).
- Onboard USB PHY allows direct connection to USB connector (OTG, Master).
- Onboard Ethernet PHY allows direct connection to Ethernet connector (magnetic & RJ-45).
- Two rugged Connectors allowing connection to baseboard.
- Dual contacts per pin requested for choc and vibration resistance
- High density .050 mil double row 100 pins connector
- Three board-to-board stack heights option:
  - 0.250mil [6.35mm]
  - 0.320mil [8.13mm]
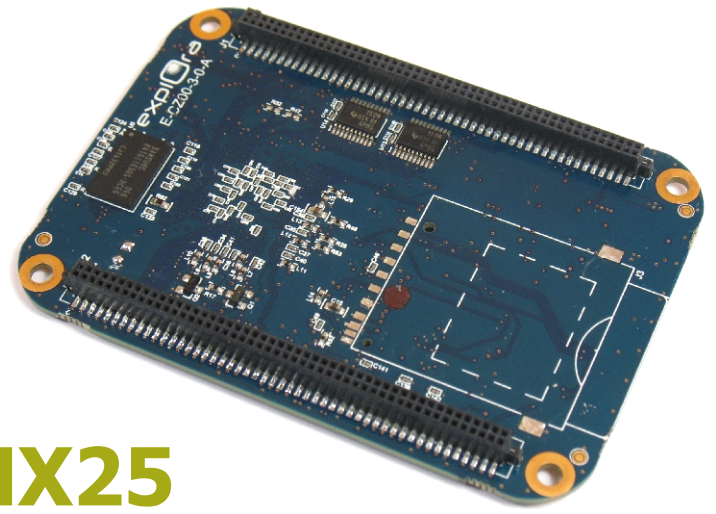 - 0.390mil [9.91mm]

OS SUPPORT & DRIVERS

- Windows Embedded CE
- WinCE Custom driver development
- WinCE technical support

freescale ™
semiconductor

Windows Embedded CE

SMALL WONDER

|	
Width	2.4 inches
	61 mm
Lenght	3.4 inches
	86.4 mm

Avatar MX25

PROCESSOR

The i.MX25 family of multimedia applications processors extends Freescale's ARM9™ portfolio and makes the industrial and general embedded market a key focus of i.MX with the integration of many new features.

Speed up to 400 MHz, low power consumption and multiple connectivity options support the growing needs of industrial and general embedded products, while allowing customers to reduce their overall system bill of materials cost.

![ARM POWERED logo]

STANDARD AVATAR SYSTEM ON MODULE SERIES PINOUT

- USB 2.0 OTG
- USB 2.0 Host
- UART (3x)
- LCD Controller
- Audio Interface
- User SD-Card interface
- Matrix Keypad (4x4)
- I2C (2x)
- One-wire
- SPI (8 chip select)
- Pulse Width Modulators (PWM)
- 10/100Mbps Ethernet port
- External 16 bits programmable expansion interface
- Resistive Touch screen interface
- User GPIO
- Backup cell for Real Time Clock
- ADC channel
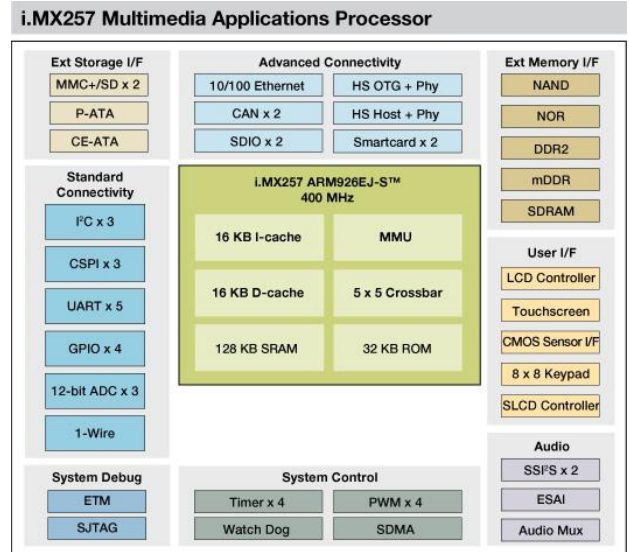
The standard Avatar System On Module pinout allows compatibility upgrade on all Avatar System On Module series (i.MX25, i.MX51 and other processors).

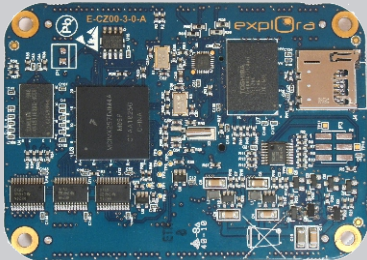## SPECIAL PERIPHERALS FOR THE AVATAR_MX25

Additional interface like Controller Area Network (CAN) interfaces and some GPIO are available on Avatar_MX25 specific pins.

Avatar MX25

## AVATAR SYSTEM ON MODULE ORDERING CODES

Z	CZ	C	60	257	400	2	2	I	01

Model
01

Operating Temperature
I = -20 to 85C
E = -40 to 85C

System Configuration
2 = eMMC base system
3 = microSD base system

RAM
2 = 128 Mbytes

Processor Speed
400 = 400 Mhz

Processor
257 = i.MX257, other processor model of i.MX25 series available on demand.

Version (WinCE)
60 = 6.0
N = No operating system

Operating System
C = WinCE
N = None

CZ

Z

AVATAR DEVELOPPMENT KIT
CZ000-25
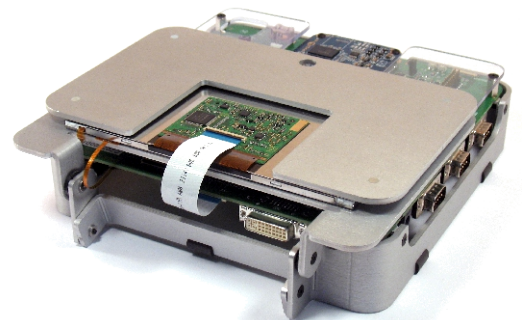
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