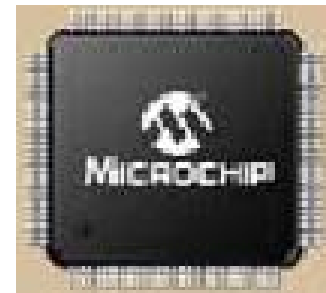**MICROCHIP**

PIC32MX575FXXXX USB, CAN and Ethernet 32-bit Flash Microcontroller
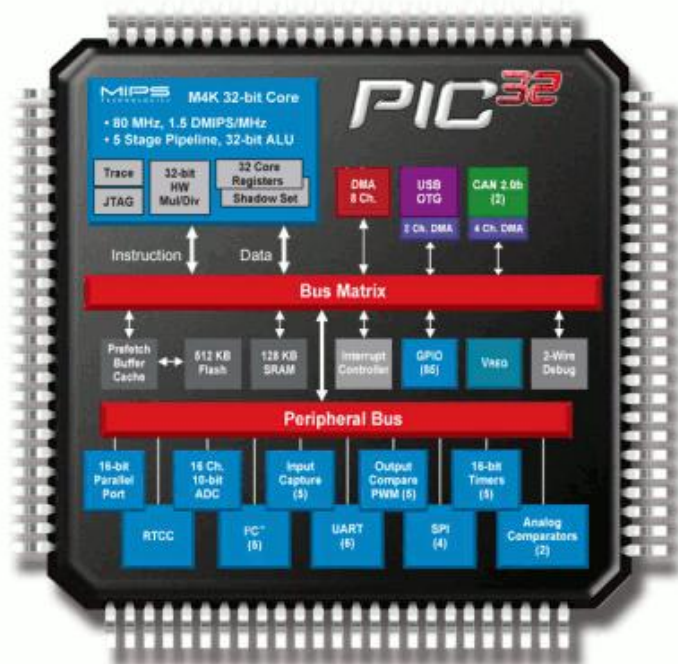
General Description:

The PIC32MX family processors are complex systems-on-a-chip that contains many features. PICMX32MX is a high-performance RISC CPU, which can be programmed in 32-bit and 16-bit modes, and even mixed modes. The PIC32MX MCU contains a high-performance interrupt controller, DMA controller, USB controller, in-circuit debugger, high performance switching matrix for high-speed data accesses to the peripherals, on-chip data RAM memory, which hides the latency of the Flash,gives zero Wait state equivalent performance.

Key Features:

Microcontroller:

• Operating voltage range of 2.3V to 3.6V

• 256K to 512K Flash memories (plus an additional
12 KB of Boot Flash)

• 64K to 128K SRAM memory

• Pin-compatible with most PIC24/dsPIC® devices

• Multiple power management modes

• Multiple interrupt vectors with individually programmable priority

• Fail-Safe Clock Monitor mode

• Configurable Watchdog Timer with on-chip Low-Power RC oscillator for reliable operation Available in SO-8, PSOP-8 or LLP-16 packages

Peripheral Features:

• Atomic Set, Clear, and Invert operation on select peripheral registers

• 8-channel hardware DMA with automatic data size detection

• USB 2.0-compliant full-speed device and On-The-Go (OTG) controller:

- Dedicated DMA channels

• 10/100 Mbps Ethernet MAC with MII and RMII interface:

- Dedicated DMA channels
- CAN module:
- 2.0B Active with DeviceNet™ addressing support
- Dedicated DMA channels
- 3 MHz to 25 MHz crystal oscillator
- Internal 8 MHz and 32 kHz oscillators
- Six UART modules with:
- RS-232, RS-485 and LIN 1.2 support
- IrDA® with on-chip hardware encoder and decoder
- Up to four SPI modules
- Up to five I2C™ modules
- Separate PLLs for CPU and USB clocks
- Parallel master and slave port (PMP/PSP) with 8-bit and 16-bit data and up to 16 address lines
- Hardware Real-Time Clock/Calendar (RTCC)
- Five 16-bit Timers/Counters (two 16-bit pairs combine to create two 32-bit timers)
- Five Capture inputs
- Five Compare/PWM outputs
- Five external interrupt pins
- High-speed I/O pins capable of toggling at up to 80 MHz
- High-current sink/source (18 mA/18 mA) on all I/O pins
- Configurable open-drain output on digital I/O pins

Debug Features:
- Two programming and debugging Interfaces:
- 2-wire interface with unintrusive access and real-time data exchange with application
- 4-wire MIPS® standard enhanced JTAG interface
- Unintrusive hardware-based instruction trace
- IEEE Standard 1149.2-compatible (JTAG) boundary scan

Analog Features:
- Up to 16-channel 10-bit Analog-to-Digital Converter:
- 1 Msps conversion rate
- Conversion available during Sleep and Idle
- Two Analog Comparators
- 5V tolerant input pins (digital pins only)

Applications:

- Audio & Speech
- Graphics
- CAN
- Ethernet
- Automobile

Related Products Information:

Mfr Part #	Farnell #	Newark #	Description
PIC32MX575F256H-80I/MR	1778953	25R8378	MCU, 32BIT, 256K FLASH, USB, 64QFN
PIC32MX575F256H-80I/PT	1778494	25R8379	MCU, 32BIT, 256K FLASH, USB, 64TQFP
PIC32MX575F512L-80I/BG	1778959	25R8390	MCU, 32BIT, 512K FLASH, USB, 121BGA
PIC32MX575F512L-80I/PF	1778960	53R0306	MCU, 32BIT, 512K FLASH, USB, 100TQFP
PIC32MX575F512L-80I/PT	1778962	25R8391	MCU, 32BIT, 512K FLASH, USB, 100TQFP
PIC32MX575F256L-80I/PT	1778956	25R8383	MCU, 32BIT, 256K FLASH, USB, 100TQFP
PIC32MX575F256L-80I/BG	1778954	25R8382	MCU, 32BIT, 256K FLASH, USB, 121BGA
PIC32MX575F256L-80I/PF	1778955	53R0304	MCU, 32BIT, 256K FLASH, USB, 100TQFP
PIC32MX575F512H-80I/MR	1778957	25R8386	MCU, 32BIT, 512K FLASH, USB, 64QFN
PIC32MX575F512H-80I/PT	1778958	25R8387	MCU, 32BIT, 512K FLASH, USB, 64TQFP