



PIC32MX575FXXXX USB, CAN and Ethernet 32-bit Flash Microcontroller

General Description:

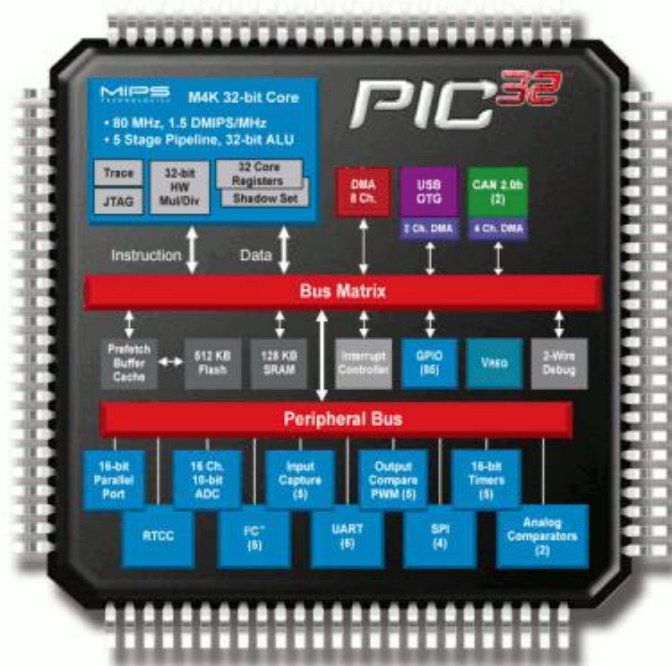
The PIC32MX family processors are complex systems-on-a-chip that contains many features. PIC32MX is a high-performance RISC CPU, which can be programmed in 32-bit and 16-bit modes, and even mixed modes. The PIC32MX MCU contains a high-performance interrupt controller, DMA controller, USB controller, 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 |