ovaga

32-bit Microcontrollers - MCU 32B MCU 32KB FL 8KB RAM 40MHz 28Pin

Manufacturers	Microchip Technology, Inc
Package/Case	SPDIP-28
Product Type	Embedded Processors & Controllers
RoHS	Rohs
Lifecycle	

Images are for reference only

Please submit RFQ for PIC32MX120F032B-I/SP or Email to us: sales@ovaga.com We will contact you in 12 hours.   RFQ

General Description

DEVICE OVERVIEW
This document contains device-s PIC32MX1XX/2XX devices.

Operating Conditions
• 2.3V to 3.6V, -40ºC to +105ºC, DC to 40 MHz

Core: 40 MHz MIPS32® M4K®
• MIPS16e® mode for up to 40% smaller code size
• 1.56 DMIPS/MHz (Dhrystone 2.1) performance
• Code-efficient (C and Assembly) architecture
• Single-cycle (MAC) 32x16 and two-cycle 32x32 multiply

Clock Management
• 0.9% internal oscillator
• Programmable PLLs and oscillator clock sources
• Fail-Safe Clock Monitor (FSCM)
• Independent Watchdog Timer
• Fast wake-up and start-up

Power Management
• Low-power management modes (Sleep, Idle)
• Integrated Power-on Reset and Brown-out Reset
• 0.5 mA/MHz dynamic current (typical)
• 20 µA IPD current (typical)

Timers/Output Compare/Input Capture
• Five General Purpose Timers:
   - Five 16-bit and up to two 32-bit Timers/Counters
• Five Output Compare (OC) modules
• Five Input Capture (IC) modules
• Peripheral Pin Select (PPS) to allow function remap

• Real-Time Clock and Calendar (RTCC) module

Communication Interfaces
• USB 2.0-compliant Full-speed OTG controller
• Two UART modules (10 Mbps)
   - Supports LIN 2.0 protocols and IrDA® support
• Two 4-wire SPI modules (20 Mbps)
• Two I2C modules (up to 1 Mbaud) with SMBus support
• Peripheral Pin Select (PPS) to allow function remap
• Parallel Master Port (PMP)

Direct Memory Access (DMA)
• Four channels of hardware DMA with automatic data size detection
• Two additional channels dedicated for USB
• Programmable Cyclic Redundancy Check (CRC)

Input/Output
• 15 mA source/sink on all I/O pins
• 5V-tolerant pins
• Selectable open drain, pull-ups, and pull-downs
• External interrupts on all I/O pins

Qualification and Class B Support
• AEC-Q100 REVG (Grade 2 -40ºC to +105ºC) planned
• Class B Safety Library, IEC 60730

Debugger Development Support
• In-circuit and in-application programming
• 4-wire MIPS® Enhanced JTAG interface
• Unlimited program and six complex data breakpoints
• IEEE 1149.2-compatible (JTAG) boundary scan

Features

40/50 MHz, 32-bit RISC CPU with less than 0.5 mA/MHz current consumption

Two I2S/SPI modules for Codec and serial communications

Peripheral Pin Select (PPS) functionality

Parallel Master Port (PMP) for graphics interfaces

Charge Time Measurement Unit (CTMU) for mTouchTM Capacitive touch buttons and sliders

Temperature Range - 40℃ to 105℃

Microcontroller Features

Operating voltage range of 2.3V to 3.6V

Up to 32KB Flash memory (plus an additional 3 KB of Boot Flash)

Up to 8K SRAM memory

1.56 DMIPS/MHz (Dhrystone 2.1) performance

MIPS32® M4K® core with MIPS16e® mode for up to 40% smaller code size

Pin-compatible with most Microchip 16-bit devices

Multiple power management modes

Configurable WDT with on-chip Low-Power RC oscillator for reliable operation

Peripheral Features

Peripheral Pin Select (PPS) functionality

Up to 4 channels of hardware DMA with automatic data size detection

Two UART and I2C™ modules

Separate PLLs for CPU and USB clocks

Hardware Real-Time Clock and Calendar (RTCC)

Five 16-bit Timers/Counters (two 16-bit pairs combine to create two 32-bit timers)

Five Capture inputs and Five Compare/PWM outputs

Audio Interface Features

Data communication: I2S, LJ, RJ, DSP modes

Control interface: SPI and I2C™

Master clock:

Generation of fractional clock frequencies

Can be synchronized with USB clock

Can be tuned in run-time

Analog Features

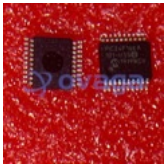Up to 13-channel, 10-bit ADC

Three Analog Comparators

Charge Time Measurement Unit (CTMU)

Debug Features
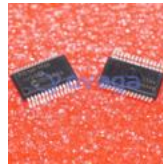
Two programming and debugging Interfaces

IEEE Standard 1149.2 compatible (JTAG) boundary scan

Related Products

PIC24F16KA101-I/SS

Microchip Technology, Inc

SSOP-20

PIC16F1936-I/SS

Microchip Technology, Inc

SSOP-28
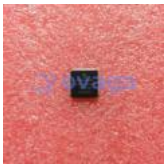
PIC16F1938-I/SP

Microchip Technology, Inc

PDIP-28

PIC18F23K22-I/SP

Microchip Technology, Inc

SPDIP-28

PIC18F6520-I/PT

Microchip Technology, Inc

TQFP-64

PIC18F2620-I/SP

Microchip Technology, Inc

SPDIP-28

PIC18F2620-I/SO

Microchip Technology, Inc

SOIC-28

PIC18F97J60T-I/PT

Microchip Technology, Inc

TQFP-100