

16 bit MCU/DSP 28LD 40MIPS 12KB FLASH, -40C to +85C, 28-SPDIP, TUBE, Microcontrollers (MCU) 12KB FLASH 1024BRAM 40MIPS

Manufacturers	<a href="#">Microchip Technology, Inc</a>
Package/Case	PDIP-28
Product Type	Embedded Processors & Controllers
RoHS	Rohs
Lifecycle	



Images are for reference only

Please submit RFQ for PIC24HJ12GP202-I/SP or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

## General Description

The PIC24H 16-bit device family employs a powerful 16-bit architecture, ideal for applications that rely on high-speed, repetitive computations, as well as control. The devices are pin compatible with the dsPIC33F family of devices, and share a very high degree of compatibility with the dsPIC30F family devices. This allows seamless migration options from/to PIC24F, dsPIC30F and dsPIC33F devices.

## Features

### Operating Range

Up to 40 MIPS operation (3.0-3.6V)

Industrial temperature range (-40°C to +85°C)

Extended temperature range (-40°C to +125°C)

High Efficiency PIC24H core

Modified Harvard architecture

C compiler optimized instruction set

16-bit-wide data path, 24-bit-wide instructions

Linear program memory addressing up to 4M instruction words

Linear data memory addressing up to 64 Kbytes

71 base instructions, mostly one word/one cycle

Sixteen 16-bit general purpose registers

Flexible and powerful addressing modes

16 x 16 multiply operations

32/16 and 16/16 divide operations

Up to  $\pm 16$ -bit shifts for up to 40-bit data

Interrupt Controller

5-cycle latency

Up to 21 available interrupt sources

Up to three external interrupts

Seven programmable priority levels

Four processor exceptions

Digital I/O

Peripheral Pin Select Functionality

Up to 21 programmable digital I/O pins

Wake-up/Interrupt-on-Change for up to 21 pins

Output pins can drive from 3.0V to 3.6V

Up to 5V output with open drain configurations on 5V tolerant pins

4 mA sink on all I/O pins

System Management

Flexible clock options: - External, crystal, resonator, internal RC, fully integrated Phase-Locked Loop (PLL) and extremely low-jitter PLL

Power-up Timer

Oscillator Start-up Timer/Stabilizer

Watchdog Timer with its own RC oscillator

Fail-Safe Clock Monitor (FSCM)

Reset by multiple sources

Power Management

On-chip 2.5V voltage regulator

Switch between clock sources in real time

Idle, Sleep, and Doze modes with fast wake-up

Timers/Capture/Compare

Timer/Counters, up to three 16-bit timers: - Can pair up to make one 32-bit timer, one timer runs as Real-Time Clock with external 32.768 kHz oscillator and programmable prescaler

Input Capture (up to four channels): - Capture on up, down, or both edges, 16-bit capture input functions and 4-deep FIFO on each capture

Output Compare (up to two channels): - Single or Dual 16-bit Compare mode, 16-bit Glitchless PWM Mode

Communication Modules

4-wire SPI with framing supports I/O interface to simple codecs, supports 8-bit and 16-bit data and all serial clock formats and sampling modes

I2C™ with Full Multi-Master Slave mode support, 7-bit and 10-bit addressing, bus collision detection and arbitration, integrated signal conditioning, slave address masking

UART with LIN bus support, IrDA® encoding and decoding in hardware, High-Speed Baud Mode, Hardware Flow Control with CTS and RTS

Analog-to-Digital Converters (ADCs)

10-bit, 1.1 Msps or 12-bit, 500 Ksps conversion

Two and four simultaneous samples (10-bit ADC)

Up to 10 input channels with auto-scanning

Conversion start can be manual or synchronized with one of four trigger sources

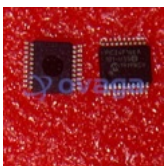
Conversion possible in Sleep mode

Packaging

18-pin PDIP/SOIC

28-pin SPDIP/SOIC/QFN/SSOP

## Related Products



### [PIC24F16KA101-I/SS](#)

Microchip Technology, Inc  
SSOP-20



### [PIC16F1936-I/SS](#)

Microchip Technology, Inc  
SSOP-28



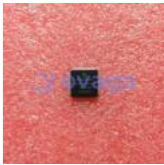
[PIC16F1938-I/SP](#)

Microchip Technology, Inc  
PDIP-28



[PIC18F23K22-I/SP](#)

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[PIC18F6520-I/PT](#)

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TQFP-100