

Digital Signal Controller, dsPIC30F Series, 30 MHz, 12 KB, 20 I/O's, I2C, SPI, UART

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



Images are for reference only

Please submit RFQ for DSPIC30F2012-30I/SO or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

dsPIC30F Sensor Family 16-bit Digital Signal Controller

For product comparison, please consider:dsPIC33EV32GM002

Features

High-Performance dsPIC30F core

Modified Harvard architecture

C compiler optimized instruction set architecture

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

Up to 30 MIPS operation

DSP Engine for math intensive operations

Modulo and Bit-Reversed Addressing modes

Two, 40-bit wide accumulators with optional saturation logic

17-bit x 17-bit single cycle hardware fractional/ integer multiplier

Single cycle Multiply-Accumulate (MAC) operation

40-stage Barrel Shifter

Dual data fetch

Operating Conditions

Wide operating voltage range (2.5V to 5.5V)

Industrial and Extended temperature ranges

Peripheral Features

High current sink/source I/O pins: 25 mA/25 mA

Optionally pair up 16-bit timers into 32-bit timer modules

3-wire SPI™ modules (supports 4 Frame modes)

I2C™ module supports Multi-Master/Slave mode and 7-bit/10-bit addressing

Addressable UART modules with FIFO buffers and selectable pins

Analog Features

12-bit 200 Ksps Analog-to-Digital Converter (A/D)

A/D Conversion available during Sleep and Idle

1 Sample/Hold

Multiple Conversion Sequencing Options

Special Microcontroller Features

Enhanced Flash program memory with 10,000 erase/write cycle (min.) for industrial temperature range, 100K (typical)

Data EEPROM memory with 100,000 erase/write cycle (min.) for industrial temperature range, 1M (typical)

Self-reprogrammable under software control

Power-on Reset (POR), Power-up Timer (PWRT) and Oscillator Start-up Timer (OST)

Flexible Watchdog Timer (WDT) with on-chip low power RC oscillator for reliable operation

Fail-Safe clock monitor operation

Detects clock failure and switches to on-chip low power RC oscillator

Programmable code protection

In-Circuit Serial Programming™ (ICSP™)

Programmable Brown-out Detection and Reset generation

DC to 40 MHz external clock input

Internal FRC input with PLL active (4x, 8x, 16x)

4 MHz-10 MHz oscillator input with PLL active (4x, 8x, 16x)

10 MHz - 20 MHz oscillator input in HS/2 or HS/3 with PLL active (4x, 8x, 16x)

Sleep, Idle and Alternate Clock modes for power management

Related Products



[DSPIC30F6014A-20E/PE](#)

Microchip Technology, Inc
TQFP-80



[DSPIC30F5011-30I/PT](#)

Microchip Technology, Inc
TQFP-64



[DSPIC33FJ256MC710-I/PE](#)

Microchip Technology, Inc
TQFP-100



[DSPIC30F5015-30I/PT](#)

Microchip Technology, Inc
TQFP-64



[DSPIC33EP512MU814-I/PH](#)

Microchip Technology, Inc
TQFP-144



[DSPIC33EP512GM710-I/PE](#)

Microchip Technology, Inc
TQFP-100



[DSPIC33FJ256GP710-I/PE](#)

Microchip Technology, Inc
TQFP-100



[DSPIC30F4011-30I/PT](#)

Microchip Technology, Inc
TQFP-44