Digital Signal Controller, dsPIC30F Series, 40 MHz, 24 KB, 12 I/O's, I2C, SPI, UART, 5.5 V

Manufacturers	Microchip Technology, Inc
Package/Case	SOIC-18
Product Type	Embedded Processors & Controllers
RoHS	Rohs
Lifecycle	

Images are for reference only

Please submit RFQ for DSPIC30F3012-30I/SO or Email to us: 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/PF](#)

Microchip Technology, Inc

TQFP-80

[DSPIC33EP512MU814-I/PH](#)

Microchip Technology, Inc

TQFP-144

[DSPIC30F5011-30I/PT](#)

Microchip Technology, Inc

TQFP-64

[DSPIC33EP512GM710-I/PF](#)

Microchip Technology, Inc

TQFP-100

[DSPIC33FJ256MC710-I/PF](#)

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[DSPIC30F4011-30I/PT](#)

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TQFP-44