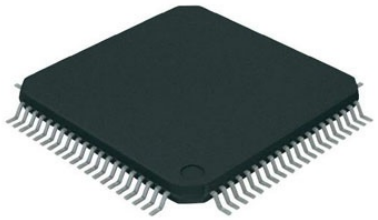
DSPIC33FJ256MC710A-I/PT

Data Sheet

Digital Signal Controller, dsPIC33F Series, 80 MHz, 256 KB, 85 I/O's, CAN, I2C, I2S, SPI, UART, USB

Manufacturers	Microchip Technology, Inc
Package/Case	TQFP-100
Product Type	Embedded Processors & Controllers
RoHS	Rohs
Lifecycle	



Images are for reference only

Please submit RFQ for DSPIC33FJ256MC710A-I/PT or Email to us: sales@ovaga.com We will contact you in 12 hours. RFQ

General Description

ThedsPIC33FJ256MC710A family of devices supports a variety of motorcontrol applications, such as brushless DC motors, single and 3-phase inductionmotors and switched reluctance motors. The dsPIC33F Motor Control products arealso well-suited for Uninterrupted Power Supply (UPS), inverters, Switched modepower supplies, power factor correction and also for controlling the powermanagement module in servers, telecommunication equipment and other industrialequipment. These devices are also available in extended operating temperatureoptions.

Features

Operating Conditions

3.0V to 3.6V, -40ºC to +150ºC, DC to 20 MIPS

3.0V to 3.6V, -40ºC to +125ºC, DC to 40 MIPS

Qualification and Class B Support

AEC-Q100 REVG (Grade 1 -40ºC to +125ºC)

AEC-Q100 REVG (Grade 0 -40ºC to +150ºC)

Class B Safety Library, IEC 6073

Core: 16-bit dsPIC33F CPU

Code-efficient (C and Assembly) architecture

Two 40-bit wide accumulators

Single-cycle (MAC/MPY) with dual data fetch

Single-cycle mixed-sign MUL plus hardware divide

Clock Management

Programmable PLLs and oscillator clock sources

Fail-Safe Clock Monitor (FSCM)

Independent Watchdog Timer (WDT)

Fast wake-up and start-up

Power Management

Low-power management modes (Sleep, Idle,Doze)

Integrated Power-on Reset and Brown-out Reset

1.35 mA/MHz dynamic current (typical)

55 µA IPD current (typical)

Motor Control PWM

Up to four PWM generators with eight outputs

Dead Time for rising and falling edges

12.5 ns PWM resolution

PWM support for Motor Control: BLDC, PMSM, ACIM and SRM

Programmable Fault inputs

Flexible trigger for ADC conversions and configurations

Advanced Analog Features

Two ADC modules

Configurable as 10-bit, 1.1 Msps with four S&H or 12-bit,500 ksps with one S&H

18 analog inputs on 64-pin devices and up to

32 analog inputs on 100-pin devices

Flexible and independent ADC trigger sources

Timers/Output Compare/Input Capture

Up to nine 16-bit timers/counters. Can pair up to make four 32-bit timers

Eight Output Compare modules configurable as

timers/counters

Eight Input Capture modules

Communication Interfaces

Two UART modules (10 Mbps)

Support for LIN 2.0 protocols and IrDA®

Two 4-wire SPI modules (15 Mbps)

Up to two I2C™ modules (up to 1 Mbaud) with SMBus support

Up to two Enhanced CAN (ECAN) modules (1 Mbaud) with 2.0B support

Quadrature Encoder Interface (QEI) module

Data Converter Interface (DCI) module with I2S codec support

Input/Output

5V-tolerant pins

Selectable open drain, pull-ups, and pull-downs

Up to 5 mA overvoltage clamp current

External interrupts on all I/O pins

Related Products

DSPIC30F6014A-20E/PF

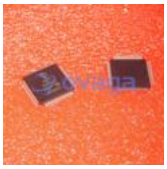
Microchip Technology, Inc

TQFP-80

DSPIC33EP512MU814-I/PH

Microchip Technology, Inc

TQFP-144



DSPIC30F5011-30I/PT

Microchip Technology, Inc

TQFP-64

DSPIC33EP512GM710-I/PF

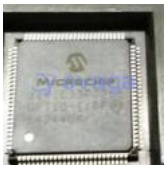
Microchip Technology, Inc

TQFP-100

DSPIC33FJ256MC710-I/PF

Microchip Technology, Inc

TQFP-100



DSPIC33FJ256GP710-I/PF

Microchip Technology, Inc

TQFP-100

[DSPIC30F5015-30I/PT]

Microchip Technology, Inc

TQFP-64

[DSPIC30F4011-30I/PT]

Microchip Technology, Inc

TQFP-44