

PIC/DSPIC Microcontroller, PIC24 Family PIC24FJ GA Series Microcontrollers, PIC24, 16bit, 32 MHz

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



Images are for reference only

Please submit RFQ for PIC24FJ1024GA610-I/PT or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The eXtreme lowpower, PIC24F MCU includes up to 1MB of Flash memory with ErrorCorrection Code (ECC) and 32 KB of RAM. This devicefeatures dual-partition Flash with Live Update capability, enabling them to hold two independent software applications, permitting simultaneousprogramming of one partition while executing application code from the other. With the ability to perform over-the-air firmware updates, designers canprovide a cost-effective, reliable and secure method for updating theirapplications. These MCUsalso feature eXtreme low powermodes with current consumptions as low as 300nA in sleep modes. This powerfulcombination of features makes the PIC24F “GA6” family ideal for industrial,computer, medical/fitness and portable applications that require a long batterylife, and data transfer and storage without the need of external memory, suchas electricity metering, HVAC control, fingerprint scanners and gaming.

Features

CPU

Modified Harvard Architecture

Up to 16 MIPS Operation @ 32 MHz

8 MHz Internal Oscillator:

96 MHz PLL option

Multiple clock divide options

Run-time self-calibration capability for maintaining better than $\pm 0.20\%$ accuracy

Fast start-up

17 Bit x 17 Bit Single Cycle Hardware Fractional/Integer Multiplier

32-Bit by 16-Bit Hardware Divider

16 x 16-Bit Working Register Array

C Compiler Optimized Instruction Set Architecture

Two Address Generation Units for Separate Read and Write Addressing of Data Memory

Live Update

Dual Partition Flash with Live Update Capability

Capable of Holding Two Independent Software Applications, including Bootloader

Permits Simultaneous Programming of One Partition while Executing Application Code from the Other

Allows Run-Time Switching Between Active Partitions

Low-Power Features

Sleep and Idle modes Selectively Shut Down Peripherals and/or Core for Substantial Power Reduction and Fast Wake-up

Doze mode Allows CPU to Run at a Lower Clock Speed than Peripherals

Alternate Clock modes Allow On-the-Fly Switching to a Lower Clock Speed for Selective Power Reduction

Analog Features

10/12-Bit, up to 24-Channel Analog-to-Digital (A/D) Converter:

12-bit conversion rate of 200 ksps

Auto-scan and threshold compare features

Conversion available during Sleep

Three Rail-to-Rail, Enhanced Analog Comparators with Programmable Input/Output Configuration

Charge Time Measurement Unit (CTMU):

Used for capacitive touch sensing, up to 24 channels

Time measurement down to 100 ps resolution

Peripheral Features

Peripheral Pin Select (PPS) –Allows Independent I/O Mapping of Many Peripherals

Eight-Channel DMA Supports All Peripheral modules

Six Input Capture modules, Each with a Dedicated 16-Bit Timer

Six Output Compare/PWM modules, Each with a Dedicated 16-Bit Timer

Four Single Output CCPs (SCCPs) and Three Multiple Output CCPs (MCCPs)

Enhanced Parallel Master/Slave Port (EPMP/EPSP)

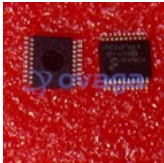
Hardware Real-Time Clock/Calendar (RTCC) with Timestamping

Programmable 32-Bit Cyclic Redundancy Check (CRC) Generator

Four Configurable Logic Cells (CLCs)

5.5V Tolerant Inputs on Multiple I/O Pins

Related Products



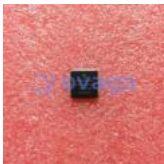
[PIC24F16KA101-I/SS](#)

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SSOP-20



[PIC16F1938-I/SP](#)

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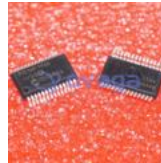
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