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## PIC12F529T48A Product Brief

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### High-Performance RISC CPU:

- Only 34 Single-Word Instructions
- All Single-Cycle Instructions except for Program Branches which are Two-Cycle
- Four-Level Deep Hardware Stack
- Direct, Indirect and Relative Addressing modes for Data and Instructions
- Operating Speed:
  - DC – 8 MHz internal clock
  - DC – 500 ns instruction cycle

### Special Microcontroller Features:

- 8 MHz Precision Internal Oscillator:
  - Factory calibrated to  $\pm 1\%$
- In-Circuit Serial Programming™ (ICSP™)
- Power-on Reset (POR)
- Device Reset Timer (DRT)
- Watchdog Timer (WDT) with Dedicated On-Chip RC Oscillator for Reliable Operation
- Programmable Code Protection
- Multiplexed MCLR Input Pin
- Internal Weak Pull-ups on I/O Pins
- Power-Saving Sleep mode
- Wake-up from Sleep on Pin Change
- Selectable Oscillator Options:
  - INTRC: 4 MHz or 8 MHz precision internal RC oscillator
  - EXTRC: External low-cost RC oscillator
  - XT: Standard crystal/resonator
  - LP: Power-saving, low-frequency crystal

### Low-Power Features/CMOS Technology:

- Standby Current:
  - 250 nA @ 2.0V, RF sleep, typical
- Operating Current:
  - 170  $\mu$ A @ 4 MHz, 2.0V, RF sleep, typical
  - 9.17 mA @ 4 MHz, 2.0V, RF on at +0 dBm, typical
  - 16.67 mA @ 4 MHz, 2.0V, RF on at +10 dBm, typical
- Watchdog Timer Current:
  - 1  $\mu$ A @ 2.0V, typical
- High Endurance Program and Flash Data Memory cells:
  - 100,000 write Flash Program Memory endurance
  - 1,000,000 write Flash Data Memory endurance
  - Program and Flash Data retention: >40 years
- Fully Static Design
- Operating Voltage Range: 2.0V to 3.7V
- Industrial temperature range: -40°C to +85°C

### RF Transmitter:

- Fully Integrated Transmitter
- FSK Operation up to 100 kbps
- OOK Operation up to 10 kbps
- Operation in 418, 434 and 868 MHz Bands:
  - 8 Selectable center frequencies
- Configurable Output Power: +10 dBm, 0 dBm

### Peripheral Features:

- 6 I/O Pins:
  - 5 I/O pins with individual direction control
  - 1 input-only pin
  - High-current sink/source for direct LED drive
- 8-Bit Real-Time Clock/Counter (TMR0) with 8-Bit Programmable Prescaler

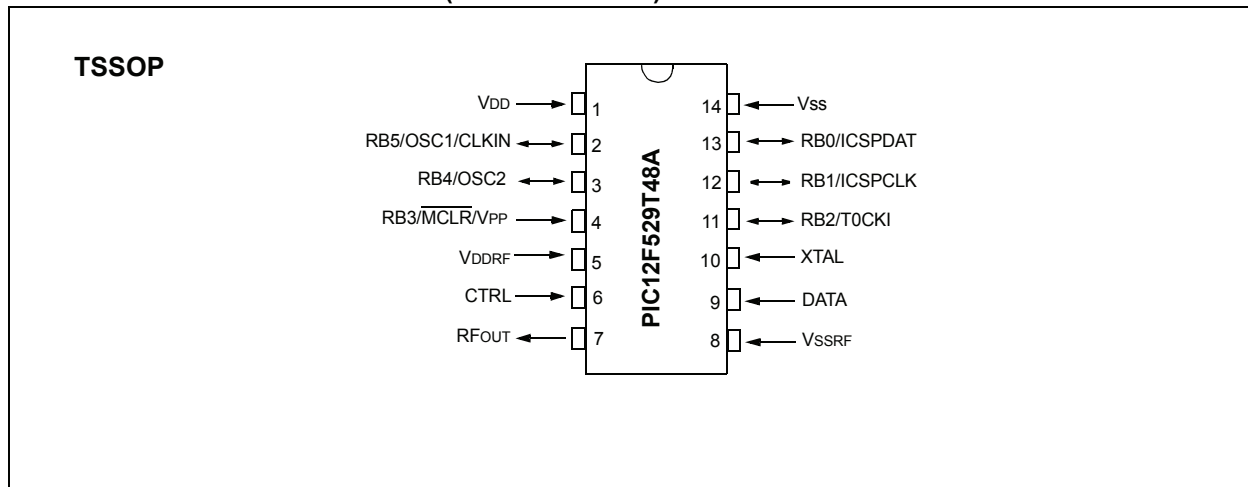
# PIC12F529T48A

**TABLE 1: PIC12F529T48A FEATURE SUMMARY**

Device	Program Memory	Data Memory		I/O <sup>(1)</sup>	RF Transmitter	Timers (8-bit)
	Flash (words)	SRAM (bytes)	Flash (bytes)			
PIC12F529T48A	1536	201	64	6	1	1

**Note 1:** One pin is input-only.

**FIGURE 1: 14-PIN DIAGRAM (PIC12F529T48A)**



**Note:** Pin details are subject to change.

**TABLE 2: 14-PIN ALLOCATION TABLE (PIC12F529T48A)**

I/O	14-Pin TSSOP	Timer	Pull-up	Basic	ICSP™	RF Transmitter
RB0	13	—	Y	—	ICSPDAT	—
RB1	12	—	Y	—	ICSPCLK	—
RB2	11	TOCKI	—	—	—	—
RB3	4	—	Y	MCLR	VPP	—
RB4	3	—	—	OSC2	—	—
RB5	2	—	—	OSC1 CLKIN	—	—
VDD	1	—	—	VDD	—	—
Vss	14	—	—	Vss	—	—
CTRL	6	—	—	—	—	CTRL
DATA	9	—	—	—	—	DATA
RFOUT	7	—	—	—	—	RFOUT
XTAL	10	—	—	—	—	XTAL
VDDRF	5	—	—	—	—	VDDRF
VSSRF	8	—	—	—	—	VSSRF

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