



PIC16F54/57/59

18/20/40-Pin Flash Microcontroller Product Brief

High Performance RISC CPU:

- Only 33 single-word instructions to learn
- All instructions are single-cycle except for program branches which are two-cycle
- Two-level deep hardware stack
- Direct, Indirect and Relative Addressing modes for data and instructions
- Operating speed:
 - DC – 20 MHz clock speed
 - DC – 200 ns instruction cycle time
- On-chip Flash Program Memory:
 - 512 x 12 on PIC16F54
 - 2048 x 12 on PIC16F57
 - 2048 x 12 on PIC16F59
- General Purpose Registers (SRAM):
 - 25 x 8 on PIC16F54
 - 72 x 8 on PIC16F57
 - 134 x 8 on PIC16F59

Special Microcontroller Features:

- Power-on Reset (POR)
- Device Reset Timer (DRT)
- Watchdog Timer (WDT) with its own on-chip RC oscillator for reliable operation
- Programmable code protection
- Power-saving Sleep mode
- In-Circuit Serial Programmable™ (ICSP™) via two external pin connections.
- Selectable oscillator options:
 - RC: Low-cost RC oscillator
 - XT: Standard crystal/resonator
 - HS: High-speed crystal/resonator
 - LP: Power-saving, low-frequency crystal

Packages:

- 18-pin PDIP and SOIC for PIC16F54
- 20-pin SSOP for PIC16F54
- 28-pin PDIP, SOIC and SSOP for PIC16F57
- 40-pin PDIP for PIC16F59
- 44-pin TQFP for PIC16F59

Low-Power Features:

- Operating Current:
 - 170 μ A @ 2V, 4 MHz, typical
 - 15 μ A @ 2V, 32 kHz, typical
- Standby Current:
 - 500 nA @ 2V, typical

Peripheral Features:

- 12/20/32 I/O pins:
 - Individual direction control
 - High current sink/source
- 8-bit real-time clock/counter (TMR0) with 8-bit programmable prescaler

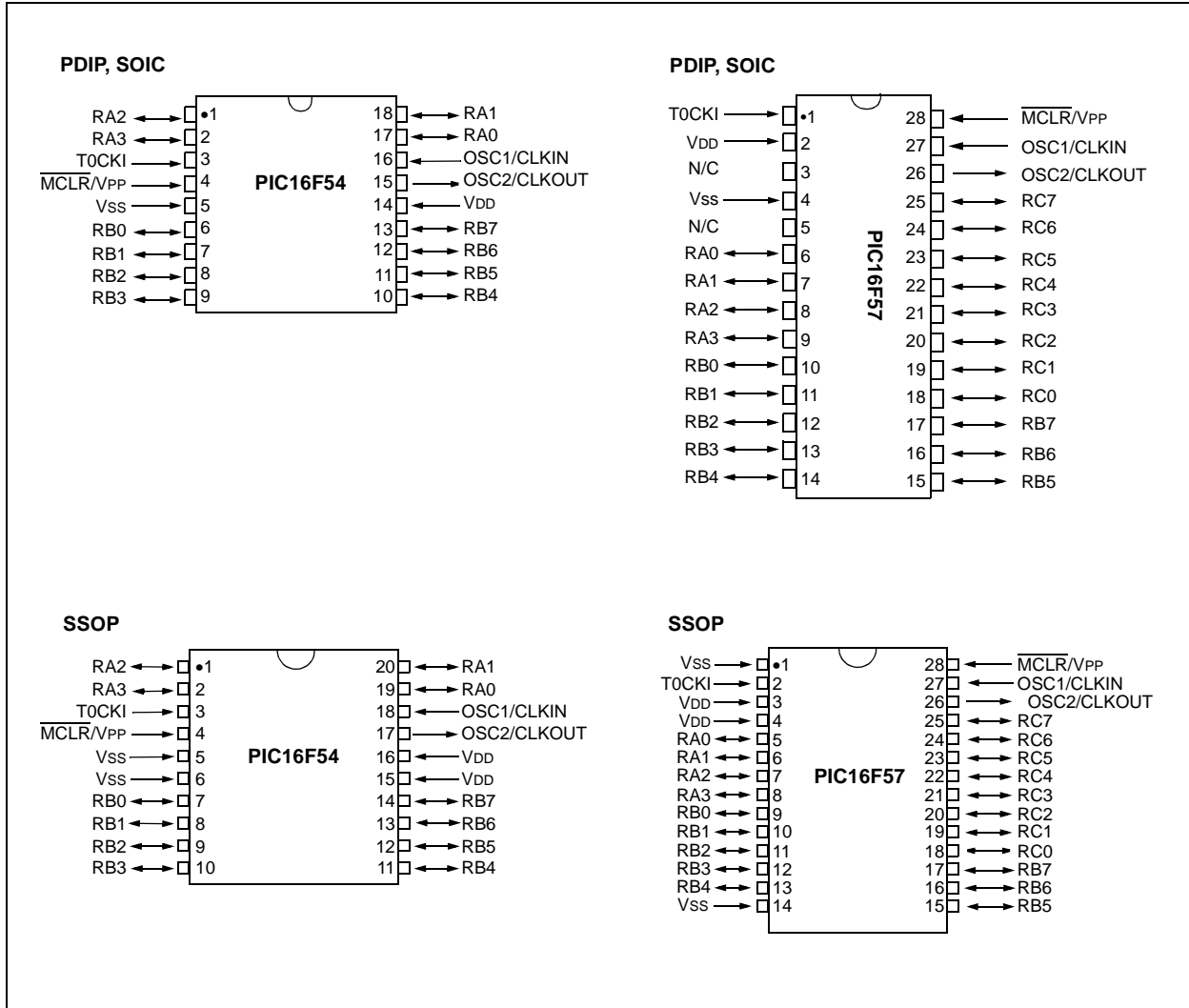
CMOS Technology:

- Wide operating voltage range:
 - Industrial: 2.0V to 5.5V
 - Extended: 2.0V to 5.5V
- Wide temperature range:
 - Industrial: -40°C to 85°C
 - Extended: -40°C to 125°C
- High endurance Flash:
 - 100K write/erase cycles
 - > 40 year retention

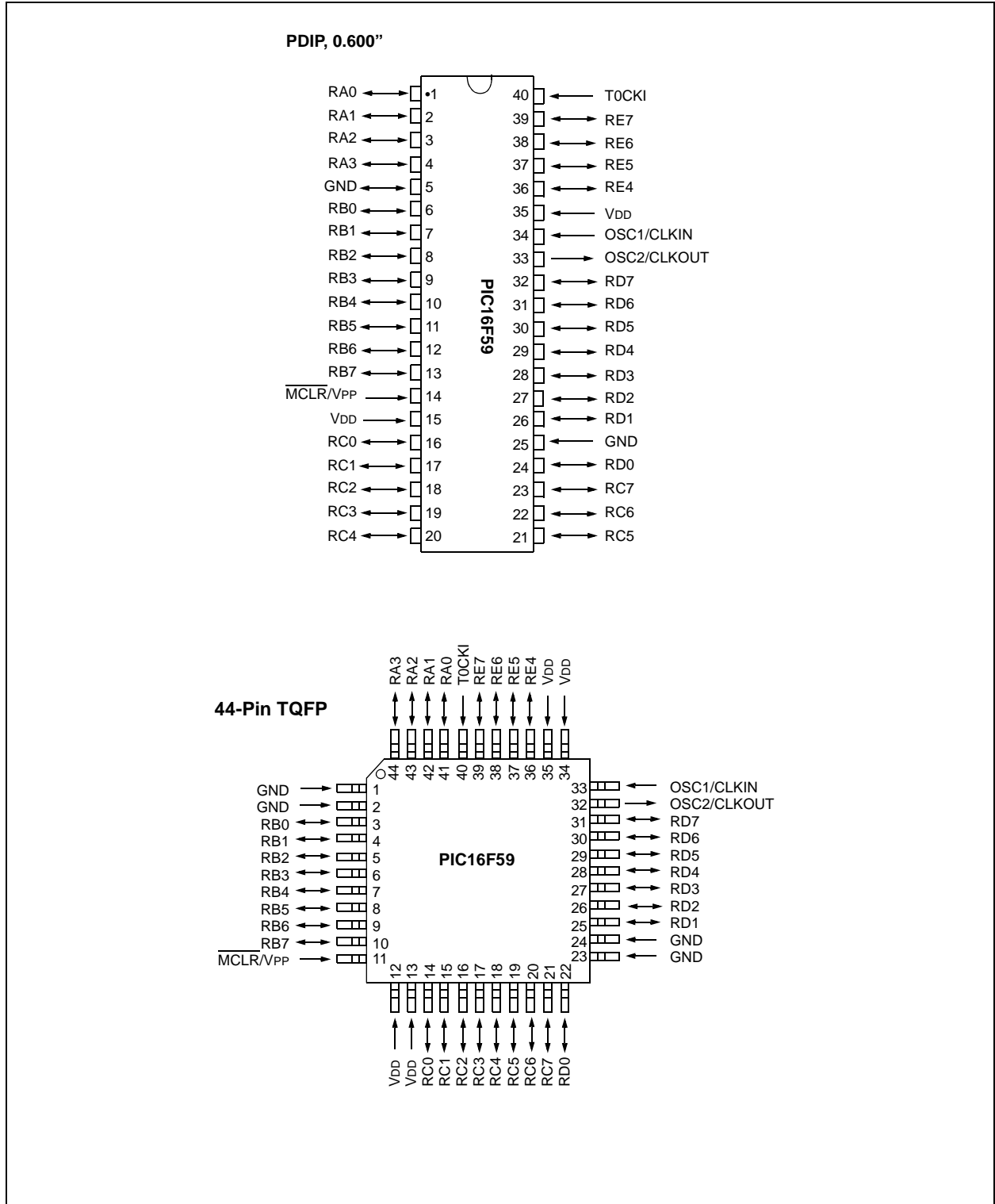
Device	Program Memory	Data Memory	I/O	Timers 8-bit
	FLASH (words)	SRAM (bytes)		
PIC16F54	512	25	12	1
PIC16F57	2048	72	20	1
PIC16F59	2048	134	32	1

PIC16F54/57/59

Pin Diagrams



Pin Diagrams (Continued)



PIC16F54/57/59

NOTES:

Note the following details of the code protection feature on Microchip devices:

- Microchip products meet the specification contained in their particular Microchip Data Sheet.
- Microchip believes that its family of products is one of the most secure families of its kind on the market today, when used in the intended manner and under normal conditions.
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