



PIC[®] MCU and dsPIC[®] DSC Products



PIC MCU or dsPIC DSC Family	PIC10	PIC12	PIC16	PIC18	PIC24F	PIC24H/E	dsPIC30F	dsPIC33F/E	PIC32
Attributes	8-bit				16-bit				32-bit
Program Memory/ RAM (Bytes)	354–896 Bytes 16–64	0.75–7 KB 25–256	0.75–28 KB 25–1.5K	4–128 KB 256–4K	4–256 KB 512–96K	6–536 KB 1024–52K	6–144 KB 256–8K	6–536 KB 256–52K	19–524 KB 4K–128K
EEPROM (Bytes)	–	Up to 256	Up to 256	Up to 1K	Up to 512	–	Up to 4K	–	–
Pin Count	6	8	14–64	18–100	14–100	18–144	18–80	18–144	28–100
MIPS	Up to 5	Up to 8	Up to 8	Up to 16	16	40/70	30	16/40/70	40/50/80 MHz
Internal Oscillator(s)	32k–16 MHz	32k–32 MHz	32k–32 MHz	32k–16 MHz	32k, 8 or 16 MHz	32k, 7.37 MHz	32k, 7.37 MHz	32k, 7.37 MHz	32k, 8 MHz
Operating Range (V _{DD})	1.8V–5.5V	1.8V–5.5V	1.8V–5.5V	1.8V–5.5V	1.8V–5.5V	3V–3.6V	2.5V–5.5V	3V–3.6V	2.3V–3.6V
XLP (eXtreme Low Power)	–	✓	✓	✓	✓	–	–	–	–
# of Devices in Family	8+	15+	100+	200+	90+	30+	24	80+	70+
10K Pricing Starting At	\$0.25	\$0.39	\$0.45	\$1.11	\$0.95	\$1.77	\$2.13	\$1.50	\$1.44
Max Peripherals									
Timers (8-/16-/32-bit)	2/1/0	3/1/0	6/3/0	6/5/0	2/5/2	0/9/4	0/5/2	0/9/4	0/5/2
ADC	3 ch, 8-bit	4 ch, 8-, 10-bit	30 ch, 8-, 10-, 12-bit	24 ch, 8-, 10-, 12-bit	24 ch, 10-, 12-bit	32 ch, 10-, 12-bit	16 ch, 10-, 12-bit	32 ch, 10-, 12-bit	16 ch, 10-bit
Comparators	1	2	4	3	3	3	4	4	3
Cap/Comp/PWM	0/0/2	1/1/4	10/10/10	10/10/10	9/9/9	16/16/16	8/8/16	16/16/30	5/5/5
# Cap Touch Ch.	3	4	30	24	24	32	–	32	16
Internal Regulator	–	✓	✓	✓	✓	✓	✓	✓	✓
I ² C™, SPI, UART, I ² S	–	2/2/2/0	2/2/2/0	2/2/2/0	3/3/4/0	2/4/4/0	1/2/2/0	2/4/4/0	5/4/6/2
CAN/LIN	–	LIN	LIN	CAN/LIN	LIN	CAN/LIN	CAN/LIN	CAN/LIN	CAN/LIN
USB	–	–	USB 2.0 FS, Device	USB 2.0 FS, Device	USB 2.0 FS, Device/Host/OTG	USB 2.0 FS, Device/Host/OTG	–	USB 2.0 FS, Device/Host/OTG	USB 2.0 FS, Device/Host/OTG
Ethernet	–	–	–	10BaseT MAC/PHY	–	–	–	–	10/100 MAC
Display	–	–	Segmented LCD	Segmented LCD	Segmented LCD, Graphics	Graphics	–	Graphics	Graphics
Hardware DSP	–	–	–	–	–	–	✓	✓	–
DMA	–	–	–	–	✓	✓	–	✓	✓
Op Amps	–	–	2	–	–	–	–	–	–
Other Peripherals	CLC, NCO, CWG	CLC, NCO, CWG	CLC, NCO, PSMC, CWG	PMP, CTMU	PMP	PMP	–	PMP	PMP
Development Tools									
C Compiler	MPLAB [®] XC 8	MPLAB XC 8	MPLAB XC 8	MPLAB XC 8	MPLAB XC 16	MPLAB XC 16	MPLAB XC 16	MPLAB XC 16	MPLAB XC 32
Software IDE					MPLAB X				
In-Circuit Debugger	PICKIT™ 3/MPLAB ICD 3/REAL ICE™								

Interface

CAN – MCP25XX
 Ethernet – ENCXXX/LANXXXX
 LIN – MCP20XX
 Serial – MCP23XXX
 USB – MCP2200/USBXXXX

Data Converters

D/A – MCP4XXX
 A/D – MCP3XXX
 DigiPot – MCP4XXX

Sensors/Horns

Temp – MCP9XXX/EMC1XXX
 Smoke/Horn – RE46CXXX
 Cap Touch – Cap11XX
 Power/Current –
 EMC17XX/PAC17XX

Power Supply: Other

MOSFET Drvs – MCP14XX/TCXX
 Battery Chargers – MCP73XXX
 Power Over USB – UCS1XXX

Memory

EEPROM
 Serial SRAM
 Serial/Parallel Flash

Microcontrollers

8-bit – PIC10/12/16/18
 16-bit – PIC24
 32-bit – PIC32

Digital Signal Controllers

16-bit – dsPIC30/33

DC-DC Power Supply

LDO – MCP1XXX/TCXXX
 Boost – MCP16XX
 Buck – MCP16XX
 Charge Pump – MCP12XX/TCXX

Reset/RTC

Reset – MCP1XXX & TCXXX
 RTC – MCP79XXX

Op Amps/Comparators

Op Amps – MCP6XXX
 Comparators – MCP65XX

App Specific

Energy Measurement – MCP39XX
 Security – HCSXXX
 Safety – REC46CXXX
 Smart Card Readers – SEC1XXX
 Secure Flash Controllers – SECX410

Wireless

400/900 MHz ICs – MRF49/89
 2.4 GHz IC – MRF24J40
 2.4 GHz Module – MRF24J40MX
 Wi-Fi® Module –
 MRF24WB0MX/RN1XX
 Bluetooth® – RN4X