16-bit PIC® Microcontroller Peripheral Integration

Quick Reference Guide

Product Family	Program Flash Memory (KB)	Pin Count	Peripheral Function Focus: Intelligent Analog					Waveform Control								Timing and Measurements					Safety and Monitoring					Communications										User Interface			Secure Data			System Flexibility								
			ADC (resolution)[1]	DAC (resolution)[2]	CV_{REF}	HS Comp	OPA	CCP/ECCP	SCCP	MCCP	PWM	MC PWM	SMPS PWM	IC and OC	PWM Resolution (ns)	8-bit Timer	16-bit Timer	32-bit Timer	RTCC	QEI	LVD	WDT	DMT	CRC	Class B Safety[3]	USB	CAN	UART	LIN	IrDA®	I^2C	SPI	I^2S™	SENT	Parallel Port	CTMU and mTouch® Sensing	LCD (Segments)	GFX	Cryptographic Engine	Secure Key Storage	RNG	Dual Partition Flash	CLC	PPS	PTG	DMA	IDLE, SLEEP and PMD	DOZE	XLP	V_{BAT}
PIC24 Family																																																		
PIC24F04KA20X	4	14–20	10		✓	✓					✓			✓	62		✓	✓			✓	✓			L1			✓	✓	✓	✓	✓				✓											✓	✓	✓	
PIC24F04KL10X	4	14–20			✓	✓		✓			✓			✓	15	✓	✓	✓			✓	✓			L1			✓	✓	✓	✓	✓															✓	✓	✓	
PIC24F08KL20X	8	14–20	10		✓	✓		✓			✓			✓	15	✓	✓	✓			✓	✓			L1			✓	✓	✓	✓	✓															✓	✓	✓	
PIC24F08KL30X	8	20–28			✓	✓		✓			✓			✓	15	✓	✓	✓			✓	✓			L1			✓	✓	✓	✓	✓															✓	✓	✓	
PIC24FXXKL40X	8–16	20–28	10		✓	✓		✓			✓			✓	15	✓	✓	✓			✓	✓			L1			✓	✓	✓	✓	✓															✓	✓	✓	
PIC24FXXKA10X	8–16	20–28	10		✓	✓					✓			✓	62		✓	✓			✓	✓		✓	L2			✓	✓	✓	✓	✓				✓											✓	✓	✓	
PIC24FXXKM10X	8–16	20–44	12		✓	✓			✓	✓	✓			✓	62		✓	✓			✓	✓		✓	L2			✓	✓	✓	✓	✓				✓							✓				✓	✓	✓	
PIC24FXXKM20X	8–16	20–44	12	8	✓	✓	✓		✓	✓	✓			✓	62		✓	✓			✓	✓		✓	L2			✓	✓	✓	✓	✓				✓							✓				✓	✓	✓	
PIC24FXXKA30X	16–32	20–44	12		✓	✓					✓			✓	15		✓	✓			✓	✓		✓	L2			✓	✓	✓	✓	✓				✓											✓	✓	✓	
PIC24FJXXGA00X	16–64	28–44	10			✓					✓			✓	62		✓	✓			✓	✓		✓	L2			✓	✓	✓	✓	✓			✓									✓			✓	✓		
PIC24FJXXMC10X	16–32	20–44	10	4		✓					✓	✓	✓	✓	31		✓	✓	✓			✓			L1			✓	✓	✓	✓	✓				✓								✓			✓	✓		
PIC24EPXXXGP20X	32–512	28–64	12	4		✓	✓				✓			✓	14		✓	✓				✓		✓	L2			✓	✓	✓	✓	✓				✓								✓	✓	✓	✓	✓		
PIC24EPXXXMC20X	32–512	28–64	12	4		✓	✓				✓	✓	✓	✓	7		✓	✓		✓		✓		✓	L2			✓	✓	✓	✓	✓				✓								✓	✓	✓	✓	✓		
PIC24FJXXGA10X	32–64	28–44	10			✓					✓			✓	15		✓	✓			✓	✓		✓	L2			✓	✓	✓	✓	✓			✓	✓								✓			✓	✓	✓	
PIC24FJXXGB00X	32–64	28–44	10			✓					✓			✓	15		✓	✓			✓	✓		✓	L2	✓		✓	✓	✓	✓	✓			✓	✓								✓			✓	✓	✓	
PIC24FJXXXGA0XX	64–128	64–100	10			✓					✓			✓	62		✓	✓				✓		✓	L2			✓	✓	✓	✓	✓			✓												✓	✓		

1: 16-bit PIC® MCU offers SAR ADC, high-speed ADC and Delta-Sigma ADC
2: 16-bit PIC MCU offers general-purpose DAC and audio DAC
3: Class B Safety Features:
L1: Includes WDT, oscillator fail-safe, illegal opcode detect, TRAP, reset trace, register lock, frequency check, CodeGuard™ security, PWM lock*
L2: Includes features of L1 + CRC
L3: Includes features of L1 + Flash ECC + DMT
*PWM lock available in devices with MC PWM/SMPS PWM peripheral
Note: Similar family of devices with fewer variations are grouped with the same color coding

Product Family	Program Flash Memory (KB)	Pin Count	Peripheral Function Focus: Intelligent Analog					Waveform Control								Timing and Measurements					Safety and Monitoring					Communications										User Interface			Secure Data			System Flexibility								
			ADC (resolution)[1]	DAC (resolution)[2]	CV_{REF}	HS Comp	OPA	CCP/ECCP	SCCP	MCCP	PWM	MC PWM	SMPS PWM	IC and OC	PWM Resolution (ns)	8-bit Timer	16-bit Timer	32-bit Timer	RTCC	QEI	LVD	WDT	DMT	CRC	Class B Safety[3]	USB	CAN	UART	LIN	IrDA®	I^2C	SPI	I^2S™	SENT	Parallel Port	CTMU and mTouch® Sensing	LCD (Segments)	GFX	Cryptographic Engine	Secure Key Storage	RNG	Dual Partition Flash	CLC	PPS	PTG	DMA	IDLE, SLEEP and PMD	DOZE	XLP	V_{BAT}
PIC24 Family (Continued)																																																		
PIC24FJXXXGA1XX	64–256	64–100	10			✓					✓			✓	15		✓	✓			✓	✓		✓	L2			✓	✓	✓	✓	✓			✓	✓								✓			✓	✓		
PIC24FJXXXGB1XX	64–256	64–100	10			✓					✓			✓	15		✓	✓			✓	✓		✓	L2	✓		✓	✓	✓	✓	✓			✓	✓								✓			✓	✓		
PIC24FJXXXGA20X	64–128	28–44	12			✓					✓			✓	15		✓	✓	✓		✓	✓						✓			✓	✓	✓		✓	✓			✓	✓	✓			✓		✓	✓	✓	✓	✓
PIC24FJXXXGB20X	64–128	28–44	12			✓					✓			✓	15		✓	✓	✓		✓	✓				✓		✓			✓	✓	✓		✓	✓			✓	✓	✓			✓		✓	✓	✓	✓	✓
PIC24FJXXXGA3XX	64–128	64–100	12		✓	✓					✓			✓	15		✓	✓	✓		✓	✓		✓	L2			✓	✓	✓	✓	✓				✓	Up to 480							✓		✓	✓	✓	✓	✓
PIC24FJXXXGC0XX	64–128	64–100	16	10	✓	✓					✓			✓	15		✓	✓	✓		✓	✓		✓	L2	✓		✓	✓	✓	✓	✓			✓	✓	Up to 472							✓		✓	✓	✓	✓	✓
PIC24FJXXXDA2XX	128–256	64–100	10			✓					✓			✓	15		✓	✓			✓	✓		✓	L2	✓		✓	✓	✓	✓	✓			✓	✓		✓						✓		✓	✓	✓		
PIC24FJXXXGA2XX	128–256	64–100	10			✓					✓			✓	62		✓	✓			✓	✓		✓	L2			✓	✓	✓	✓	✓			✓	✓								✓			✓	✓		
PIC24FJXXXGB2XX	128–256	64–100	10			✓					✓			✓	62		✓	✓			✓	✓		✓	L2	✓		✓	✓	✓	✓	✓			✓	✓								✓			✓	✓		
PIC24FJXXXGA4XX	64–256	64–121	12	10	✓	✓			✓	✓	✓			✓	62		✓	✓	✓		✓	✓		✓	L2			✓			✓	✓	✓		✓	✓	Up to 512		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
PIC24FJXXXGB4XX	64–256	64–121	12	10	✓	✓			✓	✓	✓			✓	62		✓	✓	✓		✓	✓		✓	L2	✓		✓			✓	✓	✓		✓	✓	Up to 512		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
PIC24FJXXXGA7XX	64–256	24–48	12		✓	✓				✓	✓			✓	62		✓	✓	✓		✓	✓		✓	L2			✓	✓	✓	✓	✓	✓		✓	✓							✓	✓		✓	✓	✓		
PIC24EPXXXGU81X	256–512	100–144	12	4		✓					✓			✓	14		✓	✓				✓		✓	L2	✓	✓	✓	✓	✓	✓	✓	✓		✓							✓		✓		✓	✓	✓		
PIC24EP512GP806	512	64	12	4		✓					✓			✓	14		✓	✓				✓		✓	L2		✓	✓	✓	✓	✓	✓	✓		✓							✓		✓		✓	✓	✓		
PIC24FJXXXXGA6XX	128–1024	64–121	12		✓	✓			✓	✓	✓			✓	62		✓	✓	✓		✓	✓		✓	L2			✓			✓	✓	✓		✓	✓						✓	✓	✓			✓	✓		
PIC24FJXXXXGB6XX	128–1024	64–121	12		✓	✓			✓	✓	✓			✓	62		✓	✓	✓		✓	✓		✓	L2	✓		✓			✓	✓	✓		✓	✓						✓	✓	✓			✓	✓		
dsPIC33F Family																																																		
dsPIC33FJ06GS001	6	18	10	10	✓	✓						✓	✓		1		✓					✓			L1			✓	✓	✓	✓	✓												✓			✓	✓		
dsPIC33FJ06GS102/1/A	6	18–28	10		✓						✓	✓	✓		1		✓					✓			L1			✓	✓	✓	✓	✓												✓			✓	✓		
dsPIC33FJ0XGS202/A/302	6–9	28	10	10	✓	✓					✓	✓	✓	✓	1		✓					✓			L1			✓	✓	✓	✓	✓												✓			✓	✓		
dsPIC33FJ16GS40X	16	28–44	10		✓						✓	✓	✓	✓	1		✓	✓				✓			L1			✓	✓	✓	✓	✓												✓			✓	✓		
dsPIC33FJ16GS50X	16	28–44	10	10	✓	✓					✓	✓	✓	✓	1		✓	✓				✓			L1			✓	✓	✓	✓	✓												✓			✓	✓		
dsPIC33FJXXGP2/30X	12–16	20–28	12								✓			✓	25		✓	✓				✓			L1			✓	✓	✓	✓	✓												✓			✓	✓		
dsPIC33FJXXMC2/30X	12–16	20–28	12								✓	✓	✓	✓	12		✓	✓		✓		✓			L1			✓	✓	✓	✓	✓												✓			✓	✓		
dsPIC33FJXXGP10X	16–32	20–44	10	4		✓					✓			✓	62		✓	✓	✓			✓			L1			✓	✓	✓	✓	✓				✓								✓			✓	✓		
dsPIC33FJXXMC10X	16–32	20–44	10	4		✓					✓	✓	✓	✓	12		✓	✓	✓			✓			L1			✓	✓	✓	✓	✓				✓								✓			✓	✓		

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Product Family	Program Flash Memory (KB)	Pin Count	Intelligent Analog: ADC (resolution)[1]	DAC (resolution)[2]	C_{VREF}	HS Comp	OPA	Waveform Control: CCP/ECCP	SCCP	MCCP	PWM	MC PWM	SMPS PWM	IC and OC	PWM Resolution (ns)	Timing and Measurements: 8-bit Timer	16-bit Timer	32-bit Timer	RTCC	QEI	Safety and Monitoring: LVD	WDT	DMT	CRC	Class B Safety[3]
dsPIC33F Family (Continued)																									
dsPIC33FJ32GP20X	32	28–44	12								✓			✓	25		✓	✓				✓			L1
dsPIC33FJXXXGP2/30X	32–128	28–44	12	4		✓					✓			✓	25		✓	✓				✓		✓	L2
dsPIC33FJXXXGP80X	64–128	28–44	12	16		✓					✓			✓	25		✓	✓				✓		✓	L2
dsPIC33FJXXXGS406	32–64	64	10		✓						✓	✓	✓	✓	1		✓	✓		✓		✓			L1
dsPIC33FJ32GS6XX	32	64–100	10	10	✓	✓					✓	✓	✓	✓	1		✓	✓		✓		✓			L1
dsPIC33FJ64GS6XX	64	64–100	10	10	✓	✓					✓	✓	✓	✓	1		✓	✓		✓		✓			L1
dsPIC33FJ32MC20X	32	28–44	12								✓	✓	✓	✓	12		✓	✓		✓		✓			L1
dsPIC33FJ32MC30X	32	28–44	12	4		✓					✓	✓	✓	✓	12		✓	✓		✓		✓		✓	L2
dsPIC33FJXXXMC20X	64–128	28–44	12	4		✓					✓	✓	✓	✓	12		✓	✓		✓		✓		✓	L2
dsPIC33FJXXXMC80X	64–128	28–44	12	4 to 16		✓					✓	✓	✓	✓	12		✓	✓		✓		✓		✓	L2
dsPIC33FJXXXMC5/7XXA	64–128	64–100	12								✓	✓	✓	✓	12		✓	✓		✓		✓			L1
dsPIC33FJXXXGP2/3XXA	64–128	64–100	12								✓			✓	25		✓	✓				✓			L1
dsPIC33FJXXXGP5/7XXA	64–256	64–100	12								✓			✓	25		✓	✓				✓			L1
dsPIC33FJ256MC5/710A	256	100	12								✓	✓	✓	✓	12		✓	✓		✓		✓			L1
dsPIC33EV Family																									
dsPIC33EVXXXGM00X	32–256	28–64	12	7		✓	✓				✓	✓		✓	8		✓	✓				✓	✓		L3
dsPIC33EVXXXGM10X	32–256	28–64	12	7		✓	✓				✓	✓		✓	8		✓	✓				✓	✓		L3
dsPIC33EP Family																									
dsPIC33EPXXGS2/50X	16–64	28–64	12	12	✓	✓	✓				✓		✓	✓	1		✓	✓				✓			L1
dsPIC33EPXXXGS80X	64–128	28–80	12	12	✓	✓	✓				✓		✓	✓	1		✓	✓	✓			✓			L1
dsPIC33EPXXGP50X	32–512	28–64	12	4		✓	✓				✓			✓	14		✓	✓				✓		✓	L2
dsPIC33EPXXXMC20X	32–256	28–64	12	4		✓	✓				✓	✓	✓	✓	7		✓	✓		✓		✓		✓	L2
dsPIC33EPXXXMC50X	32–512	28–64	12	4		✓	✓				✓	✓	✓	✓	7		✓	✓		✓		✓		✓	L2
dsPIC33EPXXXGM3XX	128–512	44–100	12	4		✓	✓				✓	✓	✓	✓	7		✓	✓		✓		✓		✓	L2
dsPIC33EPXXXGM6/7XX	128–512	44–100	12	4		✓	✓				✓	✓	✓	✓	7		✓	✓		✓		✓		✓	L2
dsPIC33EPXXXMU8XX	256–512	64–144	12	4		✓					✓	✓	✓	✓	7		✓	✓		✓		✓		✓	L2
dsPIC33EP512GP806	512	64	12	4		✓					✓			✓	14		✓	✓				✓		✓	L2

Product Family	Communications: USB	CAN	UART	LIN	IrDA®	I²C	SPI	I²S™	SENT	Parallel Port	User Interface: CTMU and mTouch® Sensing	LCD (Segments)	GFX	Secure Data: Cryptographic Engine	Secure Key Storage	RNG	System Flexibility: Dual Partition Flash	CLC	PPS	PTG	DMA	IDLE, SLEEP and PMD	DOZE	XLP	V_{BAT}
dsPIC33F Family (Continued)																									
dsPIC33FJ32GP20X			✓	✓	✓	✓	✓												✓			✓	✓		
dsPIC33FJXXXGP2/30X			✓	✓	✓	✓	✓			✓									✓		✓	✓	✓		
dsPIC33FJXXXGP80X		✓	✓	✓	✓	✓	✓			✓									✓		✓	✓	✓		
dsPIC33FJXXXGS406			✓	✓	✓	✓	✓															✓	✓		
dsPIC33FJ32GS6XX			✓	✓	✓	✓	✓															✓	✓		
dsPIC33FJ64GS6XX		✓	✓	✓	✓	✓	✓														✓	✓	✓		
dsPIC33FJ32MC20X			✓	✓	✓	✓	✓												✓			✓	✓		
dsPIC33FJ32MC30X			✓	✓	✓	✓	✓			✓									✓			✓	✓		
dsPIC33FJXXXMC20X			✓	✓	✓	✓	✓			✓									✓		✓	✓	✓		
dsPIC33FJXXXMC80X		✓	✓	✓	✓	✓	✓			✓									✓		✓	✓	✓		
dsPIC33FJXXXMC5/7XXA		✓	✓	✓	✓	✓	✓														✓	✓	✓		
dsPIC33FJXXXGP2/3XXA			✓	✓	✓	✓	✓	✓													✓	✓	✓		
dsPIC33FJXXXGP5/7XXA		✓	✓	✓	✓	✓	✓	✓													✓	✓	✓		
dsPIC33FJ256MC5/710A		✓	✓	✓	✓	✓	✓														✓	✓	✓		
dsPIC33EV Family																									
dsPIC33EVXXXGM00X			✓	✓	✓	✓	✓		✓		✓								✓		✓	✓	✓		
dsPIC33EVXXXGM10X		✓	✓	✓	✓	✓	✓		✓		✓								✓		✓	✓	✓		
dsPIC33EP Family																									
dsPIC33EPXXGS2/50X			✓			✓	✓	✓									✓		✓			✓	✓		
dsPIC33EPXXXGS80X		✓	✓	✓	✓	✓	✓	✓									✓	✓	✓	✓	✓	✓	✓		
dsPIC33EPXXGP50X		✓	✓	✓	✓	✓	✓				✓								✓	✓	✓	✓	✓		
dsPIC33EPXXXMC20X			✓	✓	✓	✓	✓				✓								✓	✓	✓	✓	✓		
dsPIC33EPXXXMC50X		✓	✓	✓	✓	✓	✓				✓								✓	✓	✓	✓	✓		
dsPIC33EPXXXGM3XX			✓	✓	✓	✓	✓	✓		✓	✓								✓	✓	✓	✓	✓		
dsPIC33EPXXXGM6/7XX		✓	✓	✓	✓	✓	✓	✓		✓	✓								✓	✓	✓	✓	✓		
dsPIC33EPXXXMU8XX	✓	✓	✓	✓	✓	✓	✓	✓		✓							✓		✓		✓	✓	✓		
dsPIC33EP512GP806		✓	✓	✓	✓	✓	✓	✓		✓							✓		✓		✓	✓	✓		

Peripheral Function Focus

1: 16-bit PIC® MCU offers SAR ADC, high-speed ADC and Delta-Sigma ADC
2: 16-bit PIC MCU offers general-purpose DAC and audio DAC
3: Class B Safety Features:
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L2: Includes features of L1 + CRC
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INTELLIGENT ANALOG: Sensor Interfacing and Signal Conditioning	
ADC: Analog-to-Digital Converter	General-purpose ADC with up to 10-/12-/16-bit resolution
HS ADC: High-Speed Analog-to-Digital Converter	High-speed SAR ADC with 12-bit resolution and sampling speed of 10 Msps
ΔΣ ADC: Delta-Sigma Analog-to-Digital Converter	Bipolar differential inputs configurable gain integrated PGA Delta-Sigma ADC
DAC: Digital-to-Analog Converter	General-purpose DAC with resolution up 16-bit resolution
ΔΣ DAC: Delta-Sigma Digital-to-Analog Converter	Second-order digital bipolar, two output channel Delta-Sigma DAC with stereo operation support
CVREF: Internal Voltage Reference	Programmable voltage reference with multiple internal and external connections
HS Comp: High-Speed Comparator	General-purpose rail-to-rail comparator with <1 ns response time
OPA: Operational Amplifier	General-purpose op amp for internal and external signal source conditioning
WAVEFORM CONTROL: PWM Drive and Waveform Generation	
CCP/ECCP: (Enhanced) Capture/Compare/PWM	Multi-purpose timers with functionality of the comparable input capture, output compare and PWM with four outputs
SCCP: Single Capture/Compare/PWM	Multi-purpose 16-/32-bit input capture, output compare and PWM
MCCP: Multiple Capture/Compare/PWM	Multi-purpose 16-/32-bit input capture, output compare and PWM with up to six outputs and an extended range of output control features
PWM: Pulse Width Modulation	16-bit PWM with up to nine independent time bases
MC PWM: Motor Control Pulse Width Modulation	Motor control 16-bit PWM with multiple synchronized pulse-width modulation, up to six outputs with four duty cycle generators and resolution up to 1 ns
SMPS PWM: Power Supply Pulse Width Modulation	Power supply 16-bit PWM with multiple synchronized pulse-width modulation, up to eight outputs with four independent time bases and resolution up to 1 ns
IC: Input Capture	Input capture with an independent timer base to capture an external event
OC: Output Compare	Output compare with an independent time base to compare value with compare registers and generate a single output pulse, or a train of output pulses on a compare match event
TIMING AND MEASUREMENTS: Signal Measurement with Timing and Counter Control	
8-/16-/32-bit Timer	General-purpose 8-/16-/32-bit timer/counter with compare capability
RTCC: Real-Time Clock/Calendar	Real-time clock and calendar with a Binary-Coded Decimal (BCD) clock calendar to maintain accurate timing with external 32/768 kHz crystal
QEI: Quadrature Encoder Interface	Quadrature encoder interface to increment encoders for obtaining mechanical position data
SAFETY AND MONITORING: Hardware Monitoring and Fault Detection	
LVD: Low-Voltage Detection	LVD detects drops in system operating voltage using an internal reference voltage for comparison, especially in battery-powered applications
WDT: Watch Dog Timer	System supervisory circuit that generates a reset when software timing anomalies are detected within a configurable critical window
DMT: Dead Man Timer	System supervisory circuit that generates a reset when instruction sequence anomalies are detected within a configurable critical window
CRC: Cyclical Redundancy Check with Memory Scan	Automatically calculates CRC checksum of Program/DataEE memory for NVM integrity and a general-purpose 16-bit CRC for use with memory and communications data
Class B Safety	Hardware Class B support with Flash error correction, backup system oscillator, WDT, DMT, CRC scan, etc.

COMMUNICATIONS: General, Industrial, Lighting and Automotive	
USB OTG: Universal Serial Bus	USB 2.0 full-speed (host and device), low-speed (host) and On-The-Go (OTG) support
CAN: Controller Area Network	Industrial- and automotive-centric communication bus
UART: Universal Asynchronous Receiver Transceiver	General-purpose full-duplex, 8-bit or 9-bit data serial communications with optional ISO 7816 Smart Card support
LIN: Local Interconnect Network	1. Industrial- and automotive-centric communication bus 2. Support for LIN when using the EUSART
IrDA: Infrared Data Association	IrDA encoder and decoder logic support through UART
I²C: Inter-Integrated Circuit	General purpose 2-wire inter IC serial interface for communicating with other peripherals or microcontroller devices
SPI: Serial Peripheral Interface	General-purpose 4-wire synchronous serial interface for communicating with other peripherals or microcontroller devices
I²S: Data Converter Interface	3-wire synchronous half duplex serial interface to handle the stereo data
SENT: Single-Edge Nibble Transmission	SENT is an unidirectional, single-wire serial communications protocol designed for point-to-point transmission of signal values
Parallel Port	General-purpose parallel communication interface
USER INTERFACE: Capacitive Touch Sensing and LCD Control	
CTMU and mTouch Sensing: Microchip Proprietary Capacitive Touch Technology Using Charge Time Measurement Unit	Capacitive sensing for touch buttons, sliders and system measurements and detection (e.g. water level, intrusion detection, etc.) using an analog CTMU that provides accurate differential time measurement between pulse sources and asynchronous pulse generation
LCD: Liquid Crystal Display	Highly integrated segmented LCD controller
GFX: Graphics Controller	Highly integrated graphics controller supporting direct interface with display glasses with built-in analog drive for individual pixel control
SECURE DATA: Hardware Integrated Cryptographic Engine	
Cryptographic Engine	Independent NIST-standard encryption and decryption engine
Secure Key Storage	Multiple option for key storage, selection and management
RNG: Random Number Generator	Hardware true random number generation
SYSTEM FLEXIBILITY: System Peripherals and Interconnects	
Dual Partition Flash	Dual partition Flash operation, allowing the support of robust bootloader systems and fail-safe storage of application code, with options designed to enhance code security
CLC: Configurable Logic Cell	Integrated combinational and sequential logic with custom interconnection and re-routing of digital peripherals
PPS: Peripheral Pin Select	I/O pin remapping of digital peripherals for greater design flexibility and improved EMI board layout
PTG: Peripheral Trigger Generator	User-programmable sequencer, capable of generating complex trigger signal sequences to coordinate the operation of other peripherals
DMA: Direct Memory Access	Direct memory access for transfer of data between the CPU and its peripherals without CPU assistance
IDLE, SLEEP and PMD	Low-power saving modes
DOZE	Ability to run the CPU core slower than the system clock used by the internal peripherals
XLP: eXtreme Low Power Technology	XLP technology devices with extreme low-power operation modes for battery/low power applications
VBAT	Hardware-based power mode that maintains only the most critical operations when a power loss occurs on VDD

Learn more about 16-bit PIC microcontrollers at www.microchip.com/16bit.

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