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What is "Embedded - Microcontrollers"?

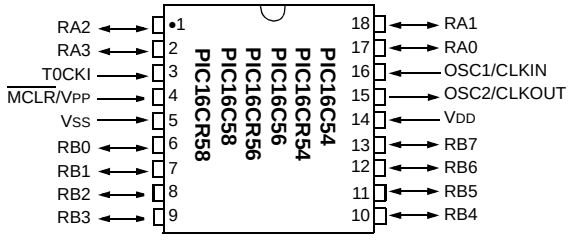
"Embedded - Microcontrollers" refer to small, integrated circuits designed to perform specific tasks within larger systems. These microcontrollers are essentially compact computers on a single chip, containing a processor core, memory, and programmable input/output peripherals. They are called "embedded" because they are embedded within electronic devices to control various functions, rather than serving as standalone computers. Microcontrollers are crucial in modern electronics, providing the intelligence and control needed for a wide range of applications.

Applications of "Embedded - Microcontrollers"

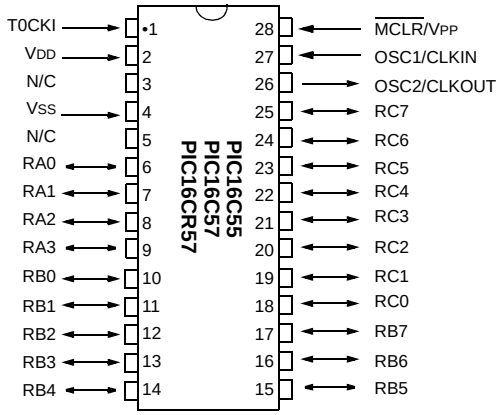
Details	
Product Status	Active
Core Processor	PIC
Core Size	8-Bit
Speed	20MHz
Connectivity	-
Peripherals	POR, WDT
Number of I/O	12
Program Memory Size	1.5KB (1K x 12)
Program Memory Type	OTP
EEPROM Size	-
RAM Size	25 x 8
Voltage - Supply (Vcc/Vdd)	4.5V ~ 5.5V
Data Converters	-
Oscillator Type	External
Operating Temperature	-40°C ~ 85°C (TA)
Mounting Type	Surface Mount
Package / Case	20-SSOP (0.209", 5.30mm Width)
Supplier Device Package	20-SSOP
Purchase URL	https://www.e-xfl.com/product-detail/microchip-technology/pic16c56-hsi-ss

Pin Diagrams

PDIP, SOIC, Windowed CERDIP



PDIP, SOIC, Windowed CERDIP



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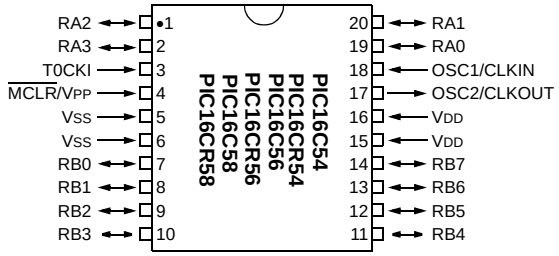

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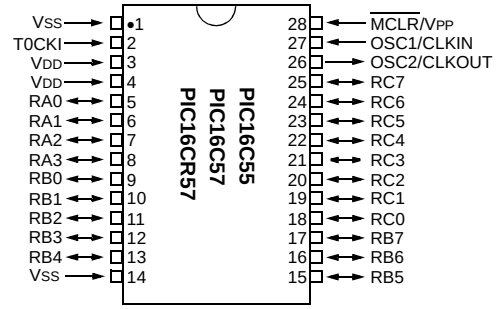

Device Differences

Device	Voltage Range	Oscillator Selection (Program)	Oscillator	Process Technology (Microns)	ROM Equivalent	$\overline{\text{MCLR}}$ Filter
PIC16C54	2.5-6.25	Factory	See **Note 1**	1.2	PIC16CR54A	No
PIC16C54A	2.0-6.25	User	See **Note 1**	0.9	—	No
PIC16C54C	2.5-5.5	User	See **Note 1**	0.7	PIC16CR54C	Yes
PIC16C55	2.5-6.25	Factory	See **Note 1**	1.7	—	No
PIC16C55A	2.5-5.5	User	See **Note 1**	0.7	—	Yes
PIC16C56	2.5-6.25	Factory	See **Note 1**	1.7	—	No
PIC16C56A	2.5-5.5	User	See **Note 1**	0.7	PIC16CR56A	Yes
PIC16C57	2.5-6.25	Factory	See **Note 1**	1.2	—	No
PIC16C57C	2.5-5.5	User	See **Note 1**	0.7	PIC16CR57C	Yes
PIC16C58B	2.5-5.5	User	See **Note 1**	0.7	PIC16CR58B	Yes
PIC16CR54A	2.5-6.25	Factory	See **Note 1**	1.2	N/A	Yes
PIC16CR54C	2.5-5.5	Factory	See **Note 1**	0.7	N/A	Yes
PIC16CR56A	2.5-5.5	Factory	See **Note 1**	0.7	N/A	Yes
PIC16CR57C	2.5-5.5	Factory	See **Note 1**	0.7	N/A	Yes
PIC16CR58B	2.5-5.5	Factory	See **Note 1**	0.7	N/A	Yes

Note 1: If you change from this device to another device, please verify oscillator characteristics in your application.

Note: The table shown above shows the generic names of the PIC16C5X devices. For device varieties, please refer to Section 2.0.

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TABLE 1-1: PIC16C5X FAMILY OF DEVICES

Features	PIC16C54	PIC16CR54	PIC16C55	PIC16C56	PIC16CR56
Maximum Operation Frequency	40 MHz	20 MHz	40 MHz	40 MHz	20 MHz
EPROM Program Memory (x12 words)	512	—	512	1K	—
ROM Program Memory (x12 words)	—	512	—	—	1K
RAM Data Memory (bytes)	25	25	24	25	25
Timer Module(s)	TMR0	TMR0	TMR0	TMR0	TMR0
I/O Pins	12	12	20	12	12
Number of Instructions	33	33	33	33	33
Packages	18-pin DIP, SOIC; 20-pin SSOP	18-pin DIP, SOIC; 20-pin SSOP	28-pin DIP, SOIC; 28-pin SSOP	18-pin DIP, SOIC; 20-pin SSOP	18-pin DIP, SOIC; 20-pin SSOP
All PIC® Family devices have Power-on Reset, selectable Watchdog Timer, selectable Code Protect and high I/O current capability.					

Features	PIC16C57	PIC16CR57	PIC16C58	PIC16CR58
Maximum Operation Frequency	40 MHz	20 MHz	40 MHz	20 MHz
EPROM Program Memory (x12 words)	2K	—	2K	—
ROM Program Memory (x12 words)	—	2K	—	2K
RAM Data Memory (bytes)	72	72	73	73
Timer Module(s)	TMR0	TMR0	TMR0	TMR0
I/O Pins	20	20	12	12
Number of Instructions	33	33	33	33
Packages	28-pin DIP, SOIC; 28-pin SSOP	28-pin DIP, SOIC; 28-pin SSOP	18-pin DIP, SOIC; 20-pin SSOP	18-pin DIP, SOIC; 20-pin SSOP
All PIC® Family devices have Power-on Reset, selectable Watchdog Timer, selectable Code Protect and high I/O current capability.				

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