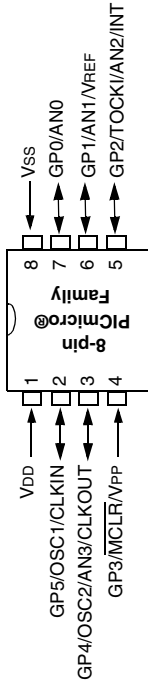


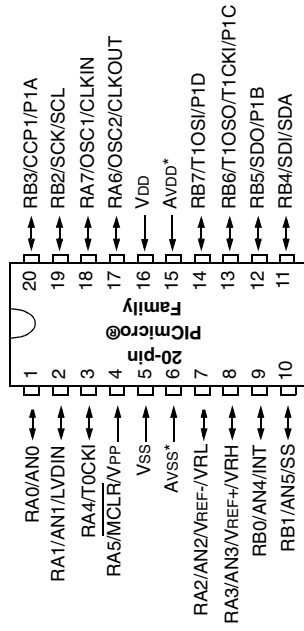
# PIN AND CODE COMPATIBILITY CHART

## 8-pin PICmicro® MCU Family



PIC12C508A	PIC12CE519	PIC12CE673
PIC12C509A	PIC12C671	PIC12CE674
PIC12CR509A	PIC12C672	PIC12F629
PIC12CE518		PIC12F675

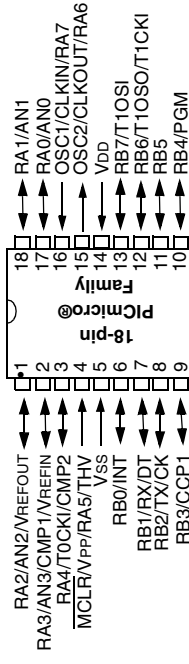
## 20-pin PICmicro® MCU Family



PIC16C717*	PIC16C771	PIC18F1220*
PIC16C770	PIC16C781	PIC18F1320*
	PIC16C782	

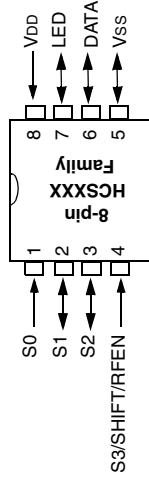
\*18 pin device; AVSS and AVDD are not valid pins for this device

## 18-pin PICmicro® MCU Family



PIC16C620A	PIC16CE625	PIC16C710	PIC16F84A
PIC16CR620A	PIC16F627	PIC16C711	PIC16F818
PIC16C621A	PIC16F628	PIC16C712	PIC16F819
PIC16C622A	PIC16F627A	PIC16C715	PIC16F87
PIC16CE623	PIC16F628A	PIC16C716	PIC16F88
PIC16CE624	PIC16F648A		

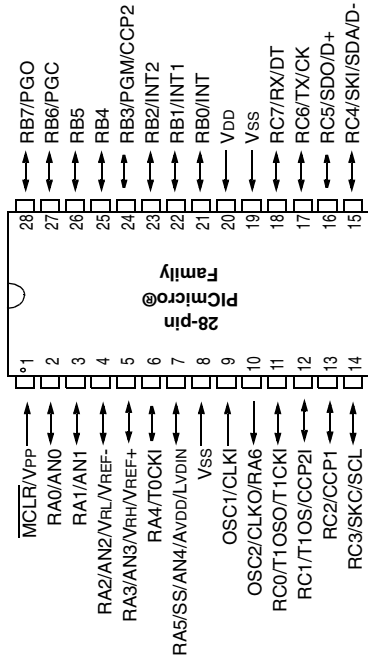
## 8-pin KEELoq® Family



HCS101	HCS300	HCS360
HCS200	HCS301	HCS361
HCS201	HCS320	HCS362
		HCS365

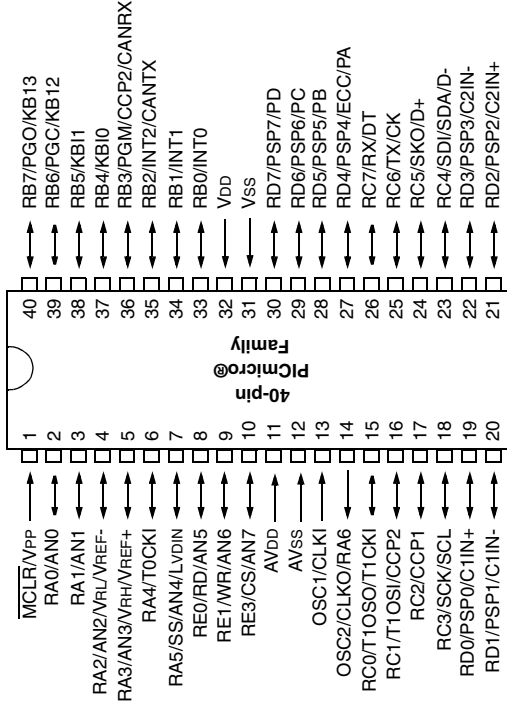
# PIN AND CODE COMPATIBILITY CHART (CONTINUED)

## 28-pin PICmicro® MCU Family



PIC16C62B	PIC16F76	PIC18C242
PIC16C63	PIC16C642	PIC18C252
PIC16C63A	PIC16C745	PIC18F2220
PIC16C66	PIC16C773	PIC18F2320
PIC16CR72	PIC16F870	PIC18F2331
PIC16C72A	PIC16F872	PIC18F2431
PIC16F72	PIC16F873	PIC18F242
PIC16C73B	PIC16F873A	PIC18F252
PIC16C76	PIC16F876	PIC18F248
PIC16F73	PIC16F876A	PIC18F258

## 40-pin PICmicro® MCU Family



PIC16CR65	PIC16C765	PIC18F4220
PIC16C65B	PIC16C774	PIC18F4320
PIC16C67	PIC16F871	PIC18F4331
PIC16C662	PIC16F874	PIC18F4431
PIC16C74B	PIC16F874A	PIC18F442
PIC16C77	PIC16F877	PIC18F452
PIC16F74	PIC16F877A	PIC18F448
PIC16F77	PIC18C442	PIC18F458
	PIC18C452	

**CERAMIC DUAL IN-LINE  
CERDIP**



18-LEAD CERDIP  
"JW"



20-LEAD CERDIP  
"JW"



28-LEAD CERDIP  
"JW"



40-LEAD CERDIP  
"JW"

**PLASTIC DUAL IN-LINE  
PDIP**



8-LEAD PDIP  
"P" OR "PA"



14-LEAD PDIP  
"P" OR "PD"



18-LEAD PDIP  
"P"



20-LEAD PDIP  
"P"



24-LEAD PDIP  
"P" OR "PG"



28-LEAD PDIP  
"P" OR "PI"



28-LEAD SKINNY PDIP  
"SP" OR "PJ"



40-LEAD PDIP  
"P" OR "PL"

**PLASTIC LEADED  
CHIP CARRIER  
PLCC**



32-LEAD PLCC  
"L"



44-LEAD PLCC  
"L" OR "W"



68-LEAD PLCC  
"L" OR "LS"



84-LEAD PLCC  
"L"

**PLASTIC QUAD  
FLATPACK  
"QFP"**



44-LEAD MQFP  
"PQ"

**CERAMIC CHIP CARRIER  
CERQUAD**



68-LEAD CERQUAD  
"CL"



84-LEAD CERQUAD  
"CL"

**PACKAGES ARE APPROXIMATE SIZE**

**PLASTIC SMALL OUTLINE  
"SOIC"**



8-LEAD SOIC  
(.150") "SN" OR "OA"



8-LEAD SOIC  
(.208") "SM"



14-LEAD SOIC  
(.150") "SL" OR "OD"



16-LEAD SOIC  
(.150") "SL"



18-LEAD SOIC  
"SO"



20-LEAD SOIC  
"SO"



28-LEAD SOIC  
"SO" OR "OI"

**PLASTIC SHRINK  
SMALL OUTLINE  
"SSOP"**



20-LEAD SSOP  
"SS"



28-LEAD SSOP  
"SS"



16-LEAD QSOP



8-LEAD MSOP  
"MS"



8-LEAD MSOP  
"JA"

**PLASTIC THIN QUAD  
FLATPACK  
"TQFP"**



44-LEAD TQFP  
"PT"



64-LEAD TQFP  
"PT"



80-LEAD TQFP  
"PT"

**SIDE BRAZED  
DUAL-IN-LINE  
"JW"**



8-LEAD SIDE BRAZED  
"JW"



14-LEAD SIDE BRAZED  
"JW"



20-LEAD SIDE BRAZED  
"JW"



28-LEAD SIDE BRAZED  
(.300") "JW"

**PLASTIC THIN SHRINK  
SMALL OUTLINE  
"TSOP"**



8-LEAD TSSOP  
(4.4MM) "ST"



14-LEAD TSSOP  
(4.4MM) "ST" (PIC<sup>micro</sup> MCU)  
(4.4MM) "ST14" (MEMORY)



20-LEAD TSSOP  
(4.4MM) "ST"

**CHIP SCALE  
PACKAGES**



8-LEAD DFN  
"MF"



28-LEAD QFN  
"ML"



44-LEAD QFN  
"ML"

**SMALL OUTLINE TRANSISTOR**



3-LEAD TRANSISTOR  
"TO" OR "ZB"



6-LEAD SOT-23  
"CH" OR "OT"



3-LEAD SC-89



3-LEAD SOT-23  
"TT" OR "CB"



SOT-143  
"RC"



5-LEAD SOT-23  
"OT" OR "CT"



5-LEAD SC-70



3-LEAD SC-70

**PACKAGES ARE APPROXIMATE SIZE**

Ordering Information for all Microchip PICmicro, KEELoq, RFID, rHCS and Memory Products

XXXXXXXXXX - XX X/XX XXX

**QTP, SQTP or ROM Code; Special Requirements**

**Package:**

1C	=	1000pF COB Module, .75mm	SL	=	14-lead Small Outline (150 mil)
3C	=	330pF COB Module, .45mm	SM	=	8-lead Small Outline (207 mil)
6C	=	2x68pF COB Module (WORLD II)	SN	=	8-lead Small Outline (150 mil)
7M	=	2x68pF COB Module (IOA2)	SO	=	Plastic Small Outline (SOIC) (300 mil)
CB	=	Chip on Board (COB)	SP	=	Plastic Skinny DIP
CL	=	Windowed CERQUAD	SS	=	Plastic Shrink Small Outline (SSOP)
JW	=	Windowed CERDIP	ST	=	Thin Shrink Small Outline (TSSOP 4.4 mm)
L	=	Plastic Leaded Chip Carrier (PLCC)	ST14	=	14-lead Thin Shrink Small Outline (TSSOP-14)
ML	=	Quad Flat - No Leads (QFN)	TO-92	=	Transistor Outline
MF	=	Dual Flat - No Leads (DFN)	TS	=	Thin Small Outline (8mm x 20mm)
MS	=	Micro Small Outline (MSOP)	TT	=	SOT-23-3 Small Outline Transistor
OT	=	5-Lead SOT-23	VS	=	Very Small Outline (8mm x 12mm)
P	=	Plastic DIP	W	=	Uncut Wafer
PQ	=	Plastic Quad Flatpack (PQFP)	WB	=	Bumped Wafer
PT	=	Plastic Thin Quad Flatpack (TQFP)	WF	=	Sawed Wafer on Frame (7 mil for 6" wafer, 8 mil for 8" wafer)
S	=	Die in Waffle Pack	WFB	=	Bumped, Sawed Wafer on Frame
SB	=	Bumped Die in Waffle Pack	WM	=	SOT385 Leadless Module

**Process Temperature:**

Blank = 0°C to +70°C  
 I (Industrial) = -40°C to +85°C  
 E (Extended) = -40°C to +125°C

**Speed:**

OR

-90	=	90 ns
-10	=	100 ns
-12	=	120 ns
-15	=	150 ns
-17	=	170 ns
-20	=	200 ns
-25	=	250 ns
-30	=	300 ns

**Crystal Frequency Designator for PICmicro MCUs**

LP	=	DC to 40 kHz, Low Power Crystal Oscillator
RC	=	DC to 4 MHz, Resistor/Capacitor Oscillator
XT	=	DC to 4 MHz, Standard Crystal Resonator Oscillator
HS	=	DC to 20 MHz, High Speed Crystal Oscillator
02	=	DC to 2 MHz, XT and RC Oscillator Support
04	=	DC to 4 MHz Internal, XT and RC Oscillator Support
04	=	DC to 200 kHz, LP Oscillator Support
08	=	DC to 8 MHz, HS Oscillator Support
10	=	DC to 10 MHz, HS Oscillator Support
16	=	DC to 16 MHz, XT Oscillator Support
20	=	DC to 20 MHz, HS Oscillator Support
25	=	DC to 25 MHz, XT Oscillator Support
30	=	DC to 30 MHz, HS Oscillator Support
33	=	DC to 33 MHz, XT Oscillator Support
40	=	DC to 40 MHz, HS Oscillator Support

**Option:**

T = Tape and Reel Shipments  
 Blank = twc = 1ms  
 F = twc = 200 μs  
 X = Rotated pinout

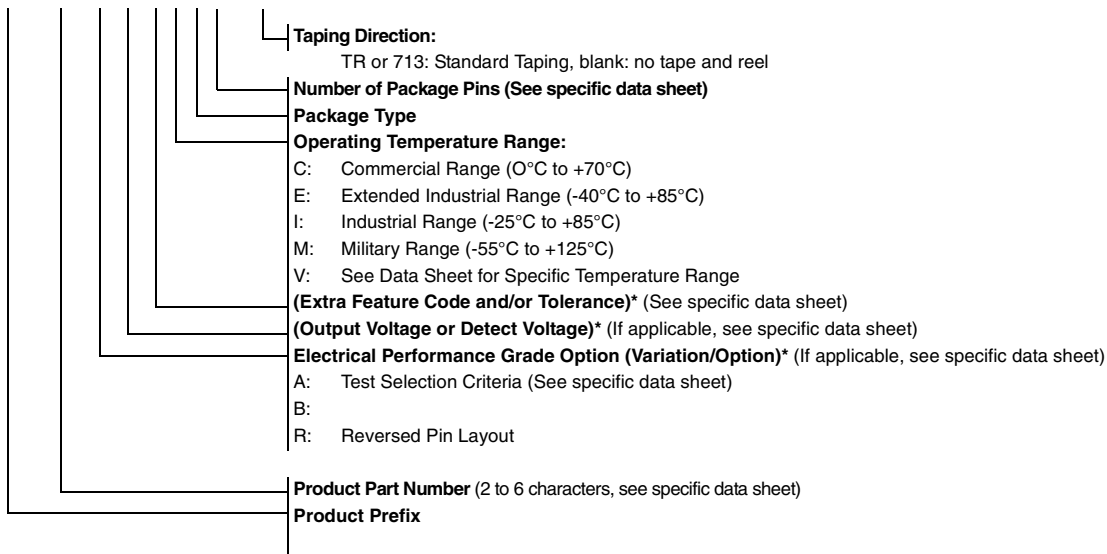
**Device Type: (Up to 10 digits)**

AA	=	1.8V Serial EEPROM	LCE	=	Low Voltage CMOS EPROM/EEPROM MCU
C	=	CMOS EPROM/ROMless MCU	LCR	=	Low Voltage CMOS ROM MCU
C	=	5V Serial EEPROM	LCS	=	Low Voltage Security
CE	=	CMOS EPROM/EEPROM MCU	LF	=	Low Voltage FLASH MCU
CR	=	CMOS ROM MCU	LV	=	Low Voltage
F	=	Flash MCU	24	=	2-Wire (I <sup>2</sup> C)
HC	=	High Speed	25	=	SPI
HV	=	High Voltage	93	=	3-Wire (Microwire®)
LC	=	Low Voltage CMOS EPROM MCU			
LC	=	Low Voltage (2.5V) Serial EEPROM			

## Part Number Suffix Designations

Ordering Information for all Microchip Analog Products beginning with "TC" (formerly TelCom Semiconductor Products)

TC 7106 A-60 1 C P L 713



**NOTE:** (\*) Used for voltage regulators and detectors.

Package	Description	# of Pins
AB	TO-220	3
AK	TO-220	7
AT	TO-220	5
AV	TO-220 (Formed)	5
BB	TO-220B	3
CB	SOT-23A	3
CH	SOT-23A	6
CT	SOT-23A	5
DB	SOT-223	3
EB	DDPAK	3
EK	DDPAK	7
ET	DDPAK	5
HA	SOP	8
JA	CDIP (N)	8
JD	CDIP (N)	14
JE	CDIP (N)	16
JG	CDIP (W)	24
JI	CDIP (W)	28
JL	CDIP (W)	40
KU	PQFP	64
KW	PQFP	44
LB	SC-70	3
LI	PLCC	28
LS	PLCC	68
LT	SC-70	5
LW	PLCC	44

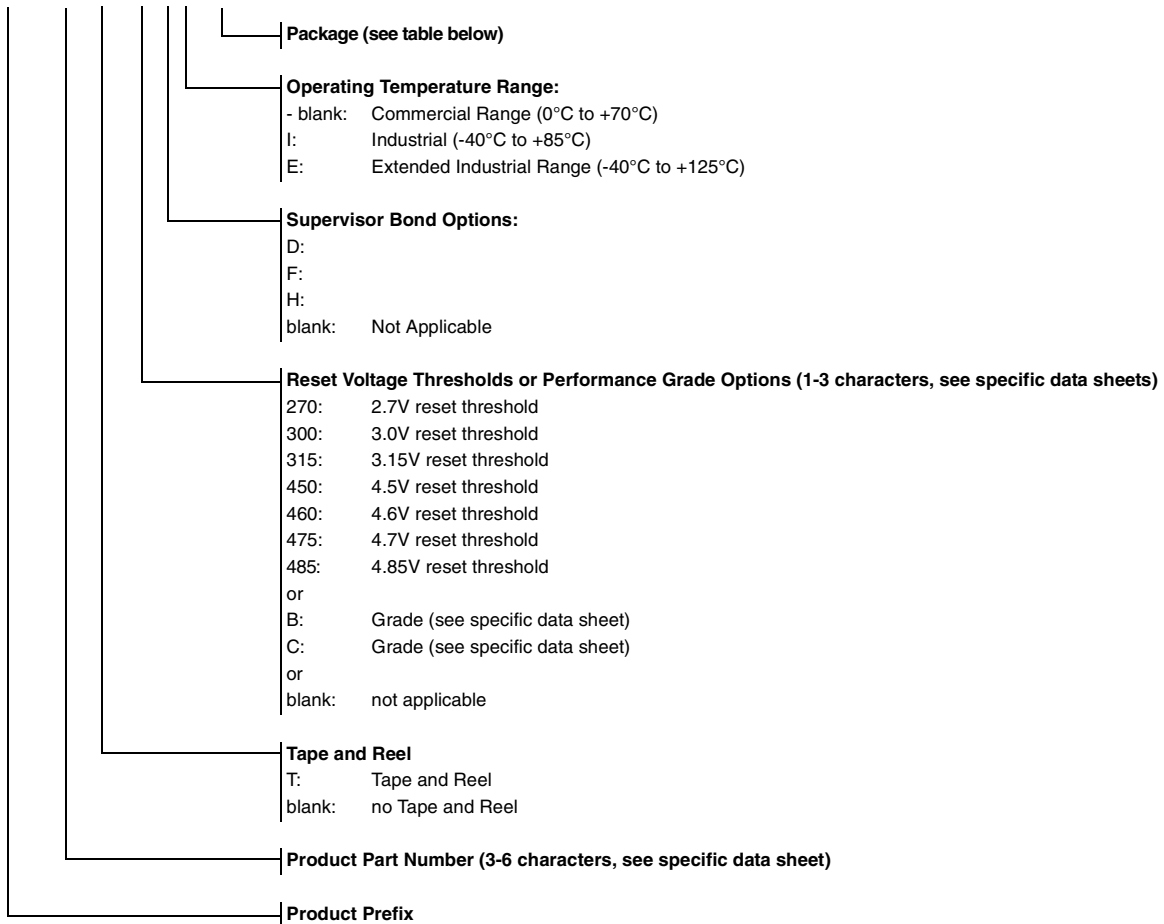
Package	Description	# of Pins
MB	SOT-89	3
MF	DFN	8
MT	SOT-89	5
NB	SOT-23B	3
OA	SOIC (N)	8
OD	SOIC (N)	14
OE	SOIC (W)	16
OG	SOIC (W)	24
OI	SOIC (W)	28
OR	SOIC (N)	16
PA	PDIP (N)	8
PD	PDIP (N)	14
PE	PDIP (N)	16
PF	PDIP (N)	24
PG	PDIP (W)	24
PI	PDIP (W)	28
PJ	PDIP (W)	28
PL	PDIP (W)	40
QR	QSOP (N)	16
RC	SOT-143	4
SI	SSOP (W)	28
UA	MSOP	8
UN	MSOP	10
VB	DDPAK	3
ZB	TO-92	3
ZM	TO-92	2

Pin Count/  
Packaging

## Part Number Suffix Designations

Ordering Information for all Microchip Analog Products beginning with "MCP" Prefix Parts

MCP xxxxx T - yyy z h / qq



Pin Count/  
Packaging

Package	Description	# of Pins	Tube/Bag Qty.	Reel Qty.
TO	TO-92	3	1000	n/a
TT	SOT-23	3	n/a	3000
OT	SOT-23	5	n/a	3000
P	PDIP	8	60	n/a
P	PDIP	14	30	n/a
P	PDIP	18	25	n/a
SN	SOIC	8	100	3300
ST	TSSOP	8	100	2500
ST	TSSOP	14	96	2500
ST	TSSOP	20	74	2500
MS	MSOP	8	100	2500
SL	SOIC	14	57	2600
SO	SOIC	18	42	1100
SS	SSOP	20	67	1600

**ABBREVIATIONS**

ADC	Analog-to-Digital Converter
ASK	Amplitude Shift Key
AUSART	Addressable USART
BOR	Brown-Out Detection/Reset
CAP	Capture
CCP	Capture/Compare/PWM
CRC	Cyclic Redundancy Check
DAC	Digital-to-Analog Converter
3 $\phi$	3 Phase PWMs
4 $\phi$	4 Phase PWMs
E2	EEPROM (Reprogrammable)
ECCP	Enhanced Capture/Compare/PWM
EMA	External Memory Addressing
FSK	Frequency Shift Key
I <sup>2</sup> C	Inter-integrated Circuit Bus
ICSP	In-Circuit Serial Programming
ICD	In-Circuit Debug
LVD	Low Voltage Detection
LIN XCVR	Local Interconnection Network Transceiver
MI <sup>2</sup> C/SPI	Master I <sup>2</sup> C/SPI
OTP	One-Time Programmable
PBOR	Programmable Brown-Out Detection/Reset
PLVD	Programmable Low-Voltage Detection
PSMC	Programmable Switch Mode Controller
PSP	Parallel Slave Port
PWM	Pulse Width Modulator
SLAC	Slope A/D Converter, up to 16 bits
SMB	System Management Bus
SPI	Serial Peripheral Interface
USART	Universal Synchronous/Asynchronous Receiver/Transmitter
USB	Universal Serial Bus
VREF	Voltage Reference
WDT	Watchdog Timer
✓P	Programmable



**NOTES:**