MICROCHIP

PRO MATE/PRO MATE II
DEVICE SUPPORT

Chapter 1. Socket Modules

Introduction

This document lists the part numbers for the socket modules that support each device and discusses the life expectancy and cleaning procedures for the different socket types. These sockets work on both PRO MATE and PRO MATE II.

Note: The information listed in this document is current as of this printing. If you are using a device not listed, refer to the PRO MATE README.PRO file located on the MPLAB distribution diskette for the latest socket module information.

For socket modules with 2 sets of screws, the longer screws are for PRO MATE, the shorter screws are for PRO MATE II

Highlights

This document contains the following information:

• Currently supported devices and socket modules

• Socket Contact Cleaning Procedures

Currently Supported Devices and Socket Modules

The following table lists the part numbers for the socket modules that support each device

Model Name/ Device #	Pin Count	DIP	SOIC	SSOP	PLCC	MQFP	TQFP
24CXX24LCXX	8	AC004001	AC004002				
93CXX/93LCXX	8	AC004001	AC004002				
HCS200	8	AC004001	AC004002				
HCS300	8	AC004001	AC004002				
HCS301	8	AC004001	AC004002				
HCS360	8	AC004001	AC004002				
HCS361	8	AC004001	AC004002				
HCS500	8						
HCS509	8						
HCS512	8						
PIC12C508	8	AC124001	AC124001				

Note When using a 28-pin device in a 40-pin socket, align pin 1 to the pin 1 indicator (socket is top justified) Shaded area indicates not applicable.

PRO MATE/PRO MATE II DEVICE SUPPORT

Model Name/ Device #	Pin Count	DIP	SOIC	SSOP	PLCC	MQFP	TQFP
PIC12C509	8	AC124001	AC124001				
PIC14C000	28	AC144001	AC144002	AC144002			
PIC16C52	18/20	AC164001	AC164002	AC164015			
PIC16C54	18/20	AC164001	AC164002	AC164015			
PIC16C54A	18/20	AC164001	AC164002	AC164015			
PIC16C55	28	AC164001	AC164002	AC164015			
PIC16C554	18/20	AC164010	AC164010	AC164018			
PIC16C558	18/20	AC164010	AC164010	AC164018			
PIC16C56	18/20	AC164001	AC164002	AC164015			
PIC16C57	28	AC164001	AC164002	AC164015			
PIC16C58A	18/20	AC164001	AC164002	AC164015			
PIC16C61	18	AC164010	AC164010				
PIC16C620	18/20	AC164010	AC164010	AC164018			
PIC16C621	18/20	AC164010	AC164010	AC164018			
PIC16C622	18/20	AC164010	AC164010	AC164018			
PIC16C62A	28	AC164012	AC164017	AC164021			
PIC16C63	28	AC164012*	AC164017	AC164021			
PIC16C642	28	AC164012	AC164017				
PIC16C64A	40/44	AC164012			AC164013	AC164014	AC164020
PIC16C65A	40/44	AC164012			AC164013	AC164014	AC164020
PIC16C65A	40/44	AC164012			AC164013	AC164014	AC164020
PIC16C66	28	AC164012	AC164017	AC164021			
PIC16C662	40/44	AC164012			AC164013	AC164014	AC164020
PIC16C67	40/44	AC164012			AC164013	AC164014	AC164020
PIC16C71	18	AC164010	AC164010				
PIC16C710	18	AC164010	AC164010	AC164018			
PIC16C711	18	AC164010	AC164010	AC164018			
PIC16C715	18	AC164010	AC164010	AC164018			
PIC16C72	28	AC164012	AC164017	AC164021			
PIC16C73A	28	AC164012	AC164017				
PIC16C74A	40/44	AC164012			AC164013	AC164014	AC164020
PIC16C76	28	AC164012	AC164017	AC164021			
PIC16C77	40/44	AC164012			AC164013	AC164014	AC164020
PIC16C923	64/68	AC164025			AC164022		AC164023

Note: When using a 28-pin device in a 40-pin socket, align pin 1 to the pin 1 indicator (socket is top justified) Shaded area indicates not applicable.

Model Name/ Device #	Pin Count	DIP	SOIC	SSOP	PLCC	MQFP	TQFP
PIC16C924	64/68	AC164025			AC164022		AC164023
PIC16F83	18	AC164010	AC164010				
PIC16F84	18	AC164010	AC164010				
PIC17C42A	40/44	AC174001			AC174002	AC174004	AC174005
PIC17C43	40/44	AC174001			AC174002	AC174004	AC174005
PIC17C44	40/44	AC174001			AC174002	AC174004	AC174005
PIC17C756	68/64	AC174009			AC174007		AC174008

Note. When using a 28-pin device in a 40-pin socket, align pin 1 to the pin 1 indicator (socket is top justified) Shaded area indicates not applicable

The following table defines the acronyms for the microcontroller device packages

Device Package Names:

DIP   Dual Inline Package   MQFP   Metric Quad Flat Pack
SOIC   Small Outline Integrated Circuit   ZIF   Zero Insertion Force
SSOP   Shrink Small Outline Package   TQFP   Thin Quad Flat Pack
PLCC   Plastic Leaded Chip Carrier

Socket Life Expectancy and Cleaning Procedures

Microchip uses socket types from manufacturers including· Aries, AMP, 3M Textool, and Yamaichi. Each socket module has different cleaning and insertion times. Look at the socket module to determine the name of the manufacturer. The Yamaichi socket is not labeled; identify a Yamaichi socket by looking for the letters IC51- (as the prefix to a part number) on the socket.

Socket Life Expectancy

The expected life for manual insertions has been found to be less than the manufacturer's reported number. The number of manual insertions depends on the socket condition and how often the socket is cleaned.

The following table gives the expected life (in number of automatic insertions) for each socket module as reported by the manufacturer. The expected life of a socket module is normally listed as the number of automatic insertions.

Careless insertions or dirty socket conditions can bring the number of insertions down to less than 5,000. Cleanliness and care in inserting devices into a socket are most important with surface mount devices as the socket contactors must remain planar to function properly

Any bent or non-planar contacts will result in a failure. Non-planar socket module contacts occur earlier in the life of a socket module when devices are inserted manually into a socket module. Early contact failure from manual insertions is due to the non-repeatability of the manual insertion method

Therefore, the listed number of insertions may not be reached for sockets where devices are inserted manually. No good method exists to ensure that the contacts are planar.

Table 1: Socket Life Expectancy and Cleaning Method

Manufacturer	Insertions	Cleaning
Aries(28 pin)	10,000	Not Recommended
AMP (18 pin)	25,000	Not Recommended
3M Textool	10,000	Methyl Alcohol
AMP (Dip)	25,000	Not Recommended
3M Textool(SOIC)	10,000	Methyl Alcohol
Aries	10,000	Not Recommended
Yamaichi	25,000	Methyl Alcohol

Socket Contact Cleaning Procedure

Methyl Alcohol:

Clean with methyl alcohol, and then blow off the contacts with dry compressed air.

WARNING: *Methyl alcohol is highly flammable. Use methyl alcohol in a well ventilated area away from sparks, flames, or any other source of ignition.*

Methyl alcohol is poisonous and may cause blindness if taken internally. Avoid inhaling methyl alcohol vapor.

Not Recommended

There is no cleaning procedure for this socket type. If contacts get extremely contaminated, replace the socket module.