

F²MC-16LX FAMILY
16-BIT MICROCONTROLLER
MB903XX/4XX/5XX/8XX

PROBE CABLES AND SOCKETS

APPLICATION NOTE

Revision History

Date	Issue
15.11.2002	1.1, mst new format
28.04.2003	1.2, mst further probe cable added
02.01.2004	1.3, mst MB2132-540 Probe cable added
07.09.2006	1.3, hwe - partnumber corrected: MB2132-540 -> MB2147-540 - MB2147-542 Probe cable added

This document contains 13 pages.

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0 Introduction

To connect the Emulation Chip (MB90Vxxx) at the Emulation Pod to the target system Probe Cables are used.

The following will list all available Probe Cables / sockets for the different packages.

Furthermore the available Fujitsu Evaluation boards are listed.

Not all packages are supported with Fujitsu Evaluation boards.

There exist different Probe Cables for MB905xx/4xx and MB903xx/8xx series.

Because of improvements (e.g. EMI, power consumption), the 0.35um technology (MB903xx/8xx series) is using other V_{CC}/V_{SS} routing.

1 120-pin MCU's

1.1 QFP-120 package: FPT-120P-M13

1.1.1 MB2132-448 Probe cable (old) (for 256-pin Evaluation devices)

(Evaluation Board: Flash-EVA-120P-M13)

Socket for emulator only, from Yamaichi

TQPACK 120/144SD (it is not possible to mount a μ C in this)

1.1.2 MB2132-468 Probe cable (new) (for 256-pin Evaluation devices)

(Evaluation board: Flash-EVA2-120P-M13)

Socket from Tokyo Eletech

NQPACK 120 SD 220 (socket)

HQPACK 120 SD 226 (header to fix μ C into the socket)

YQPACK120SD220 (With YQPACK old probe cable can be used)

1.2 LQFP120 package: FPT-120P-M21

1.2.1 MB2132-497 Probe Cable (for 256-pin Evaluation devices)

Socket from Tokyo Eletech

NQPACK120SD (socket)

HQPACK120SD (Header to fix controller in the socket)

1.2.2 MB2132-469 Probe cable (for 299-pin Evaluation devices)

(Evaluation Board: Flash-CAN-120-390)

Socket from Tokyo Eletech

NQPACK120SD (socket)

HQPACK120SD (Header to fix controller in the socket)

1.3 LQFP120 package: FPT-120P-M05

1.3.1 MB2132-498 Probe Cable (for 256-pin Evaluation devices)

Socket from Tokyo Eletech

NQPACK120SD (socket)

HQPACK120SD (Header to fix controller in the socket)

2 100-pin MCU's

2.1 QFP100 package: FPT-100P-M06

2.1.1 MB2132-457 Probe cable (preferred) (for 256-pin Evaluation devices and MB90V480)

Evaluation Board: Flash-CAN-100P-M06

Socket from Yamaichi

IC149-100-KS11113-1 (with positioning pins, clips used to fix μ C)

IC149-100-114-B5 (with positioning pins, gold plated, screw s used to fix μ C)

IC149-100-014-B5 (without positioning pins, gold plated, screws used to fix μ C)

2.1.2 MB2132-464 Probe cable (for 256-pin Evaluation devices and MB90V480)

Evaluation Board: Flash-CAN2-100P-M06 (OLD)

Socket from Tokyo Eletech

NQPACK 100RB (socket)

HQPACK 100RB179 (Header to fix controller in the socket)

2.1.3 MB2147-582 Probe cable (for 299-pin Evaluation devices, except MB90V480 and MB90V810)

Evaluation Board: Flash-CAN-100P-340

Socket from Tokyo Eletech

NQPACK 100RB (socket)

HQPACK 100RB179 (Header to fix controller in the socket)

2.2 LQFP100 package: FPT-100P-M05

2.2.1 MB2132-496 Probe cable (for 256-pin Evaluation devices and MB90V480)

Socket from Tokyo Eletech

NQPACK100SD (socket)

HQPACK100SD (Header to fix controller in the socket)

2.2.2 MB2147-581 Probe cable (for 299-pin Evaluation devices, except MB90V480)

Socket from Tokyo Eletech

NQPACK100SD (socket)

HQPACK100SD (Header to fix controller in the socket)

3 64-pin MCU's

3.1 LQFP64 package: FPT-64P-M09

3.1.1 MB2132-461 Probe cable (for 256-pin Evaluation devices)

Evaluation Board: Flash-CAN-64P-M09-V2

Socket from Tokyo Eletech

NQPACK 064 SB (socket)

HQPACK 064 SB 140 (Header to fix controller in the socket)

3.1.2 MB2147-540 Probe cable (for 299-pin Evaluation devices)

Evaluation Board: Flash-CAN-64P-350

Socket from Tokyo Eletech

NQPACK 064 SB (socket)

HQPACK 064 SB 140 (Header to fix controller in the socket)

3.2 LQFP64 package: FPT-64P-M24 (10x10mm, 0.5mm pitch)

3.2.1 MB2147-542 Probe cable (for 299-pin Evaluation devices)

Socket from Tokyo Eletech:

NQPACK 064 SD-ND (socket)

HQPACK 064 SD (Header to fix controller in the socket)

3.3 SH-DIP-64 package: DIP-64P-M01

3.3.1 MB2132-464 Probe cable (for 256-pin Evaluation devices)

4 48-pin MCU's

4.1 LQFP48 package: FPT-48P-M26

4.1.1 MB2132-466 Probe cable (for 256-pin Evaluation devices)

Evaluation Board: Flash-CAN-48P

Socket from Tokyo Eletech

NQPACK 48 SD (socket)

HQPACK 48 SD (Header to fix controller in the socket)

5 Series Overview

Series	256-Pin Evaluation device	299-Pin Evaluation device
MB90340	--	yes
MB90350	--	yes
MB90385	yes	--
MB90390	--	yes
MB90420/425	yes	--
MB90435	yes	--
MB90440G	yes	--
MB90455	yes	--
MB90460	yes	--
MB90470H/L	yes	--
MB90480	--	yes
MB90495G	yes	--
MB90520	yes	--
MB90540G/GS	yes	--
MB90550A	yes	--
MB90560/565	yes	--
MB90570	yes	--
MB90580	yes	--
MB90590G	yes	--
MB90595G	yes	--
MB90860	--	yes
MB90895	yes	--

Table 1: Series Overview of used Evaluation Devices