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Spec No: 002-05120

Spec Title: AN205120 - F2MC-8FX Family MB95430H Series LQFP32 PGM Adaptor

Replaced by: NONE

AN205120

F²MC-8FX Family MB95430H Series LQFP32 PGM Adaptor

This application note describes about the MB95430H LQFP32 PGM adaptor which is developed mainly as an independent on-board programming and debugging tool for the MB95430H series LQFP32 package MCU. Its original function of programming and debugging after being installed on the MB95430H series EV board still remains.

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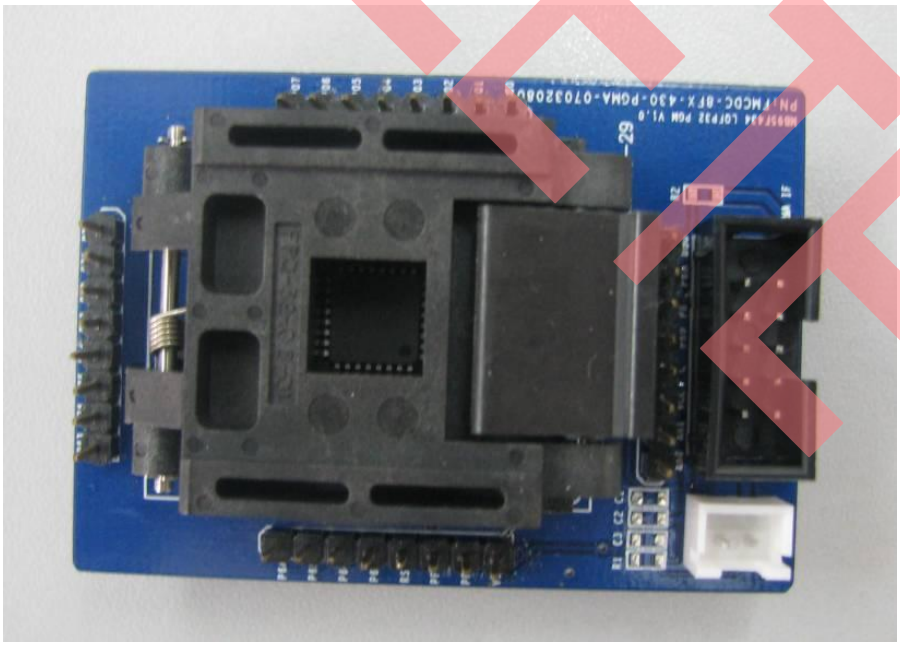
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1 Introduction

The MB95430H LQFP32 PGM adaptor is developed mainly as an independent on-board programming and debugging tool for the MB95430H series LQFP32 package MCU. Its original function of programming and debugging after being installed on the MB95430H series EV board still remains. The picture of MB95430H series LQFP32 PGM adaptor is shown in Figure 1. Four 8-pin connectors are used to connect with MB95430H EV board. The PN of the MB95430H LQFP32 PGM is FMCDC-8FX-430-PGMA-07032080.

Figure 1. MB95430H LQFP32 PGM Adaptor



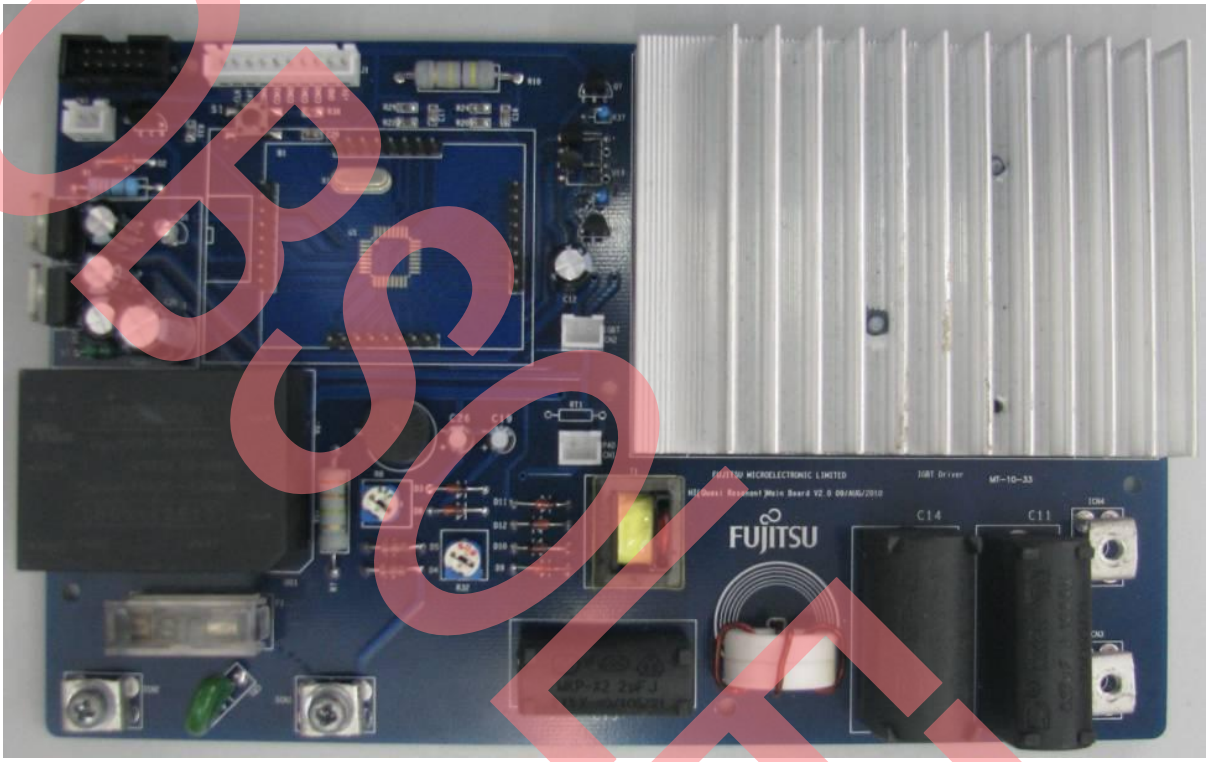
2 Application Environment

This chapter introduces application environment of MB95430H LQFP32 PGM adaptor.

2.1 Mother Board

The mother board of MB95430H LQFP32 PGM adaptor is HI (Quasi Resanant) Main Board V2.0, as below picture.

Figure 2. HI (Quasi Resanant) Main Board V2.0



2.2 Debug Tool

The debug tool is BGMA (BGM Adaptor), the type of it is MB2146-08-E, as below picture.

Figure 3. BGM Adaptor



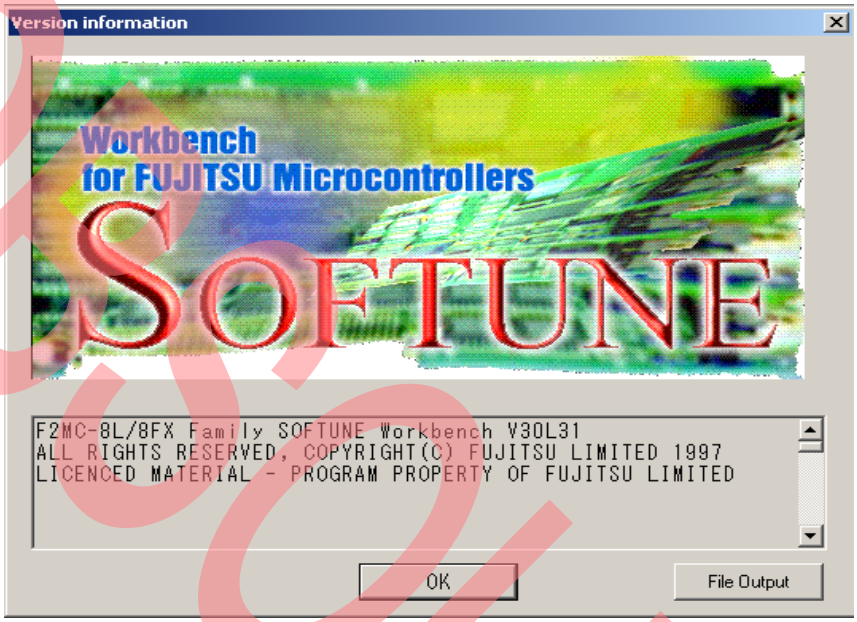
Obsolete

2.3 SOFTUNE

SOFTUNE is used to program and debug, as software development environment. The version of it is F2MC-8L/8FX SOFTUNE Workbench V30L31, as below picture. It can be downloaded from the following website.

www.cypress.com/supporttools/8fx

Figure 4. SOFTUNE Version

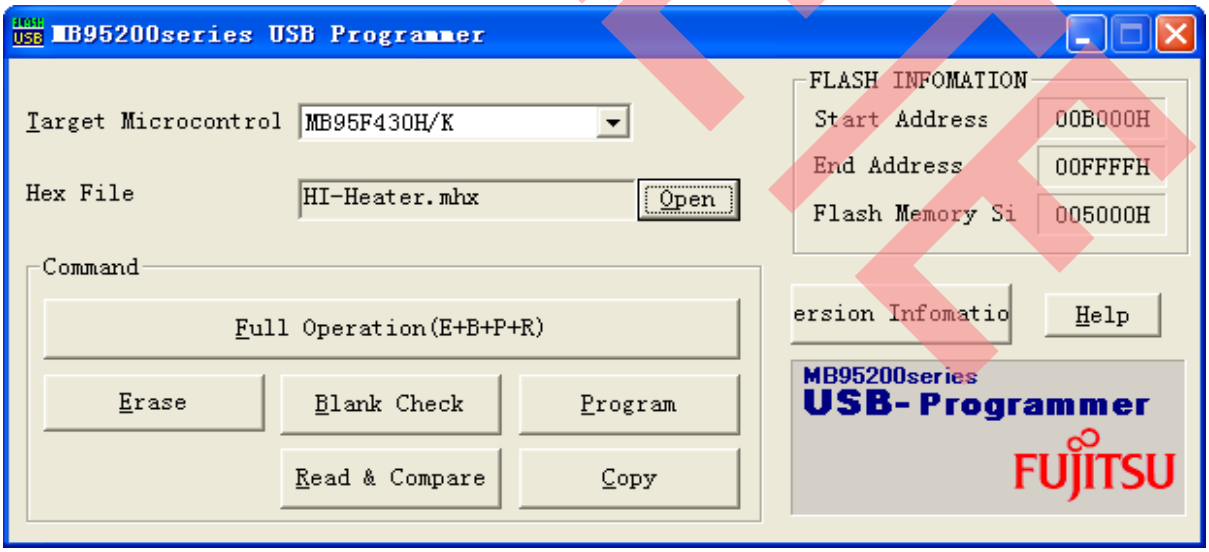


2.4 USB Programmer

The MB95430H series USB programmer is as below picture. It can be downloaded from the following website.

www.cypress.com/supporttools/8fx

Figure 5. MB95430H Series USB Programmer



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3 Hardware Connection

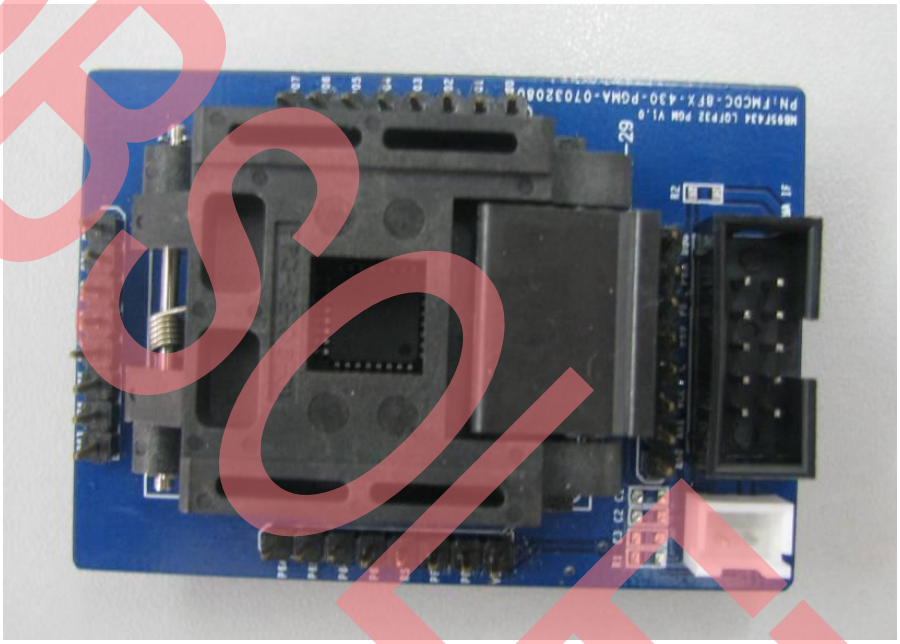
This chapter introduces hardware connection when it is used independently or with mother board.

MB95430H LQFP32 PGM adaptor can be used to program and debug independently or after being installed to the mother board. Hardware preparations for each case are described in Section 3.1and Section 3.2 respectively.

3.1 Independent Usage

When using MB95430H LQFP32 PGM adaptor independently for programming, we should fix MCU on the socket first. Then following steps should be implemented.

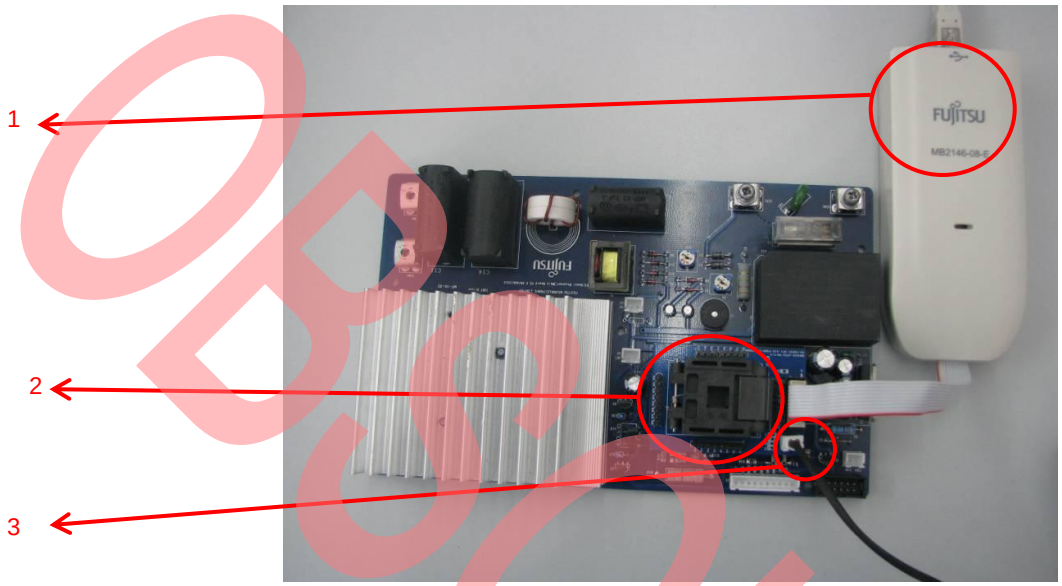
Figure 6. Independent Usage Preparation



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1. Connect BGMA to PC
2. Connect PGM adaptor board to BGMA
3. Power on the PGM adaptor board, the typical input voltage is 5V.

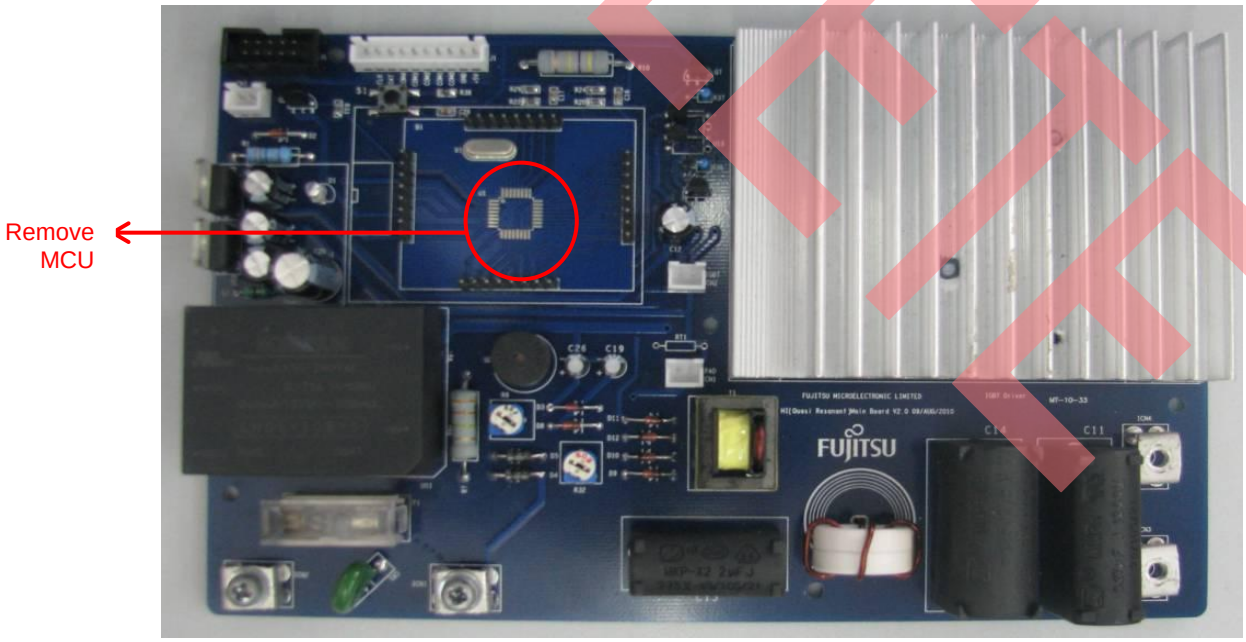
Figure 7. Hardware Connection for Independent Usage



3.2 Used with Mother Board

1. HI (Quasi Resanant) Main Board V2.0 is the mother board of MB95430H LQFP32 PGM adaptor board. First remove the MB95430H chip mounted on the mother board.

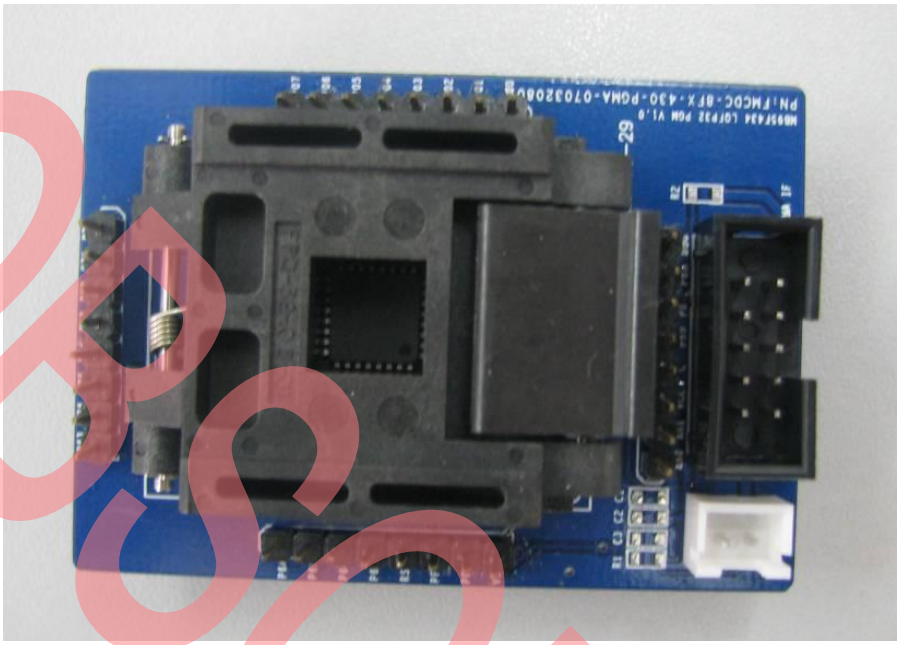
Figure 8. Remove MCU from Mother Board



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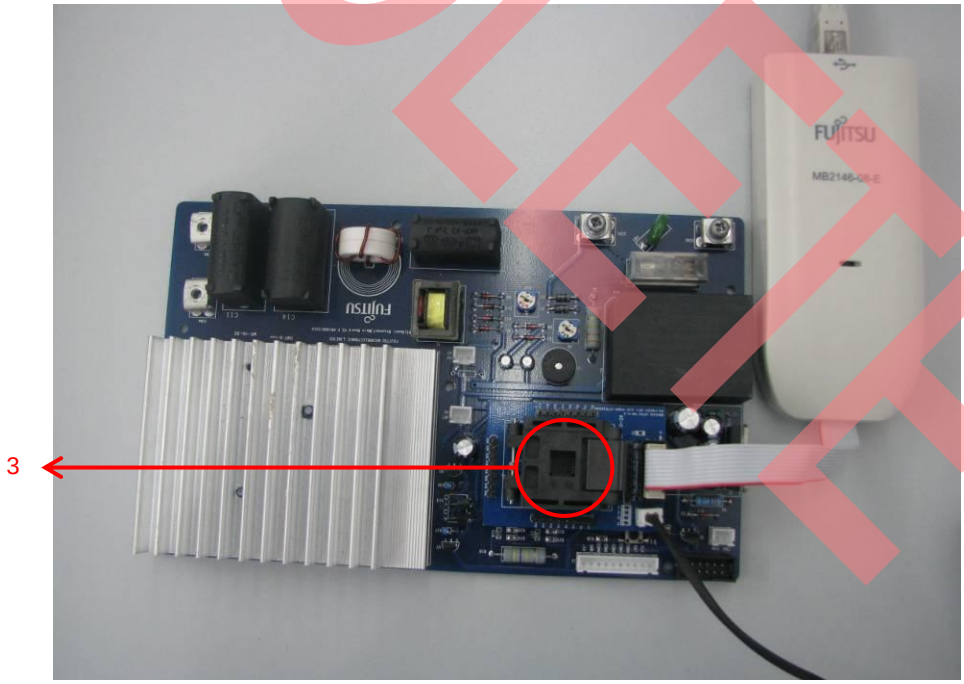
2. Install the MB95F434K chip onto the adaptor socket.

Figure 9. Place MCU on Adaptor Board



3. Fix the adaptor board to the mother board.

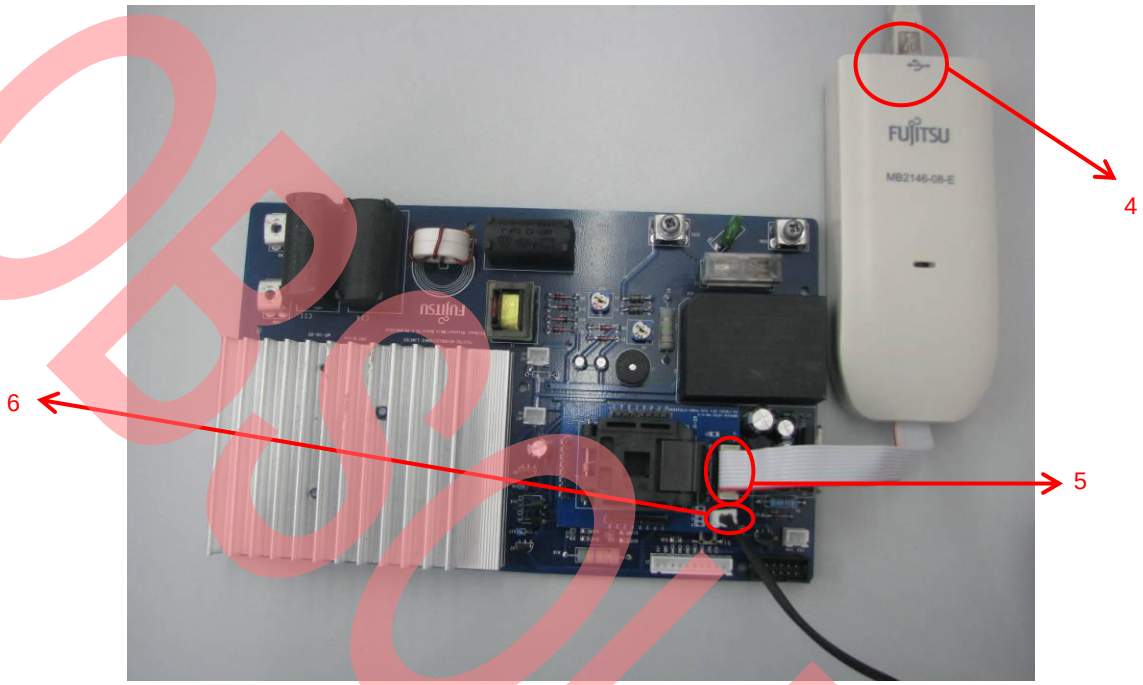
Figure 10. Fix Adaptor Board on the Mother Board



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4. Connect BGMA to PC.
5. Connect PGM adaptor board to BGMA.
6. Power on the EV-board.

Figure 11. Process 4-6



OBSOLETE

4 Program Function

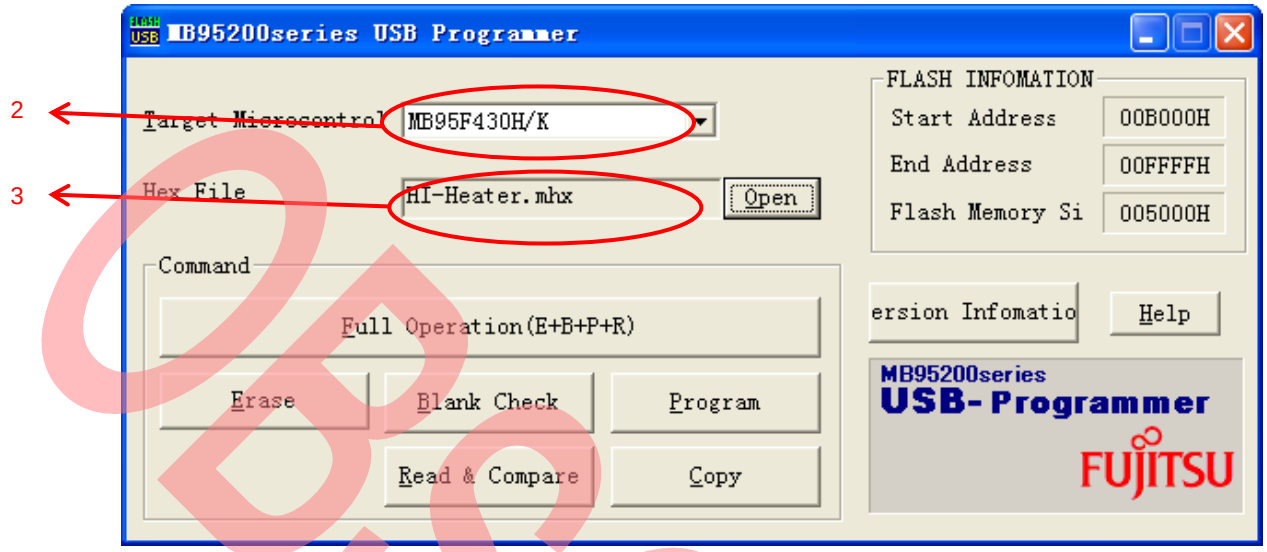
This chapter introduces programming steps using either MB95430H series USB programmer or F²MC-8L/8FX SOFTUNE Workbench V30L31.

MB95430H series MCU can be programmed through MB95430H series USB programmer or F²MC-8L/8FX SOFTUNE Workbench V30L31. Section 4.1 and section 4.2 introduce programming steps with MB95430H series USB programmer and F²MC-8L/8FX SOFTUNE Workbench V30L31 respectively.

4.1 Use MB95430H Series USB Programmer to Program

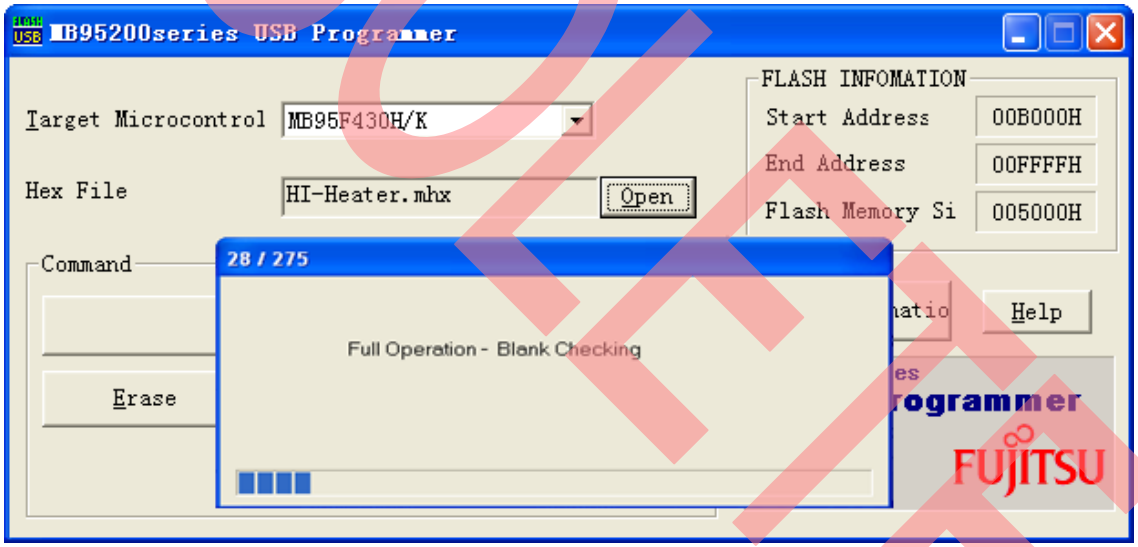
1. Open MB95430H series USB programmer.
2. Select MCU type (MB95F434H/K).
3. Select Hex file by the path: Current project DIR\Debug\ABS.

Figure 12. Select MCU Type and Hex File



4. Click **Full Operation** to start programming.

Figure 13. Click Full Operation



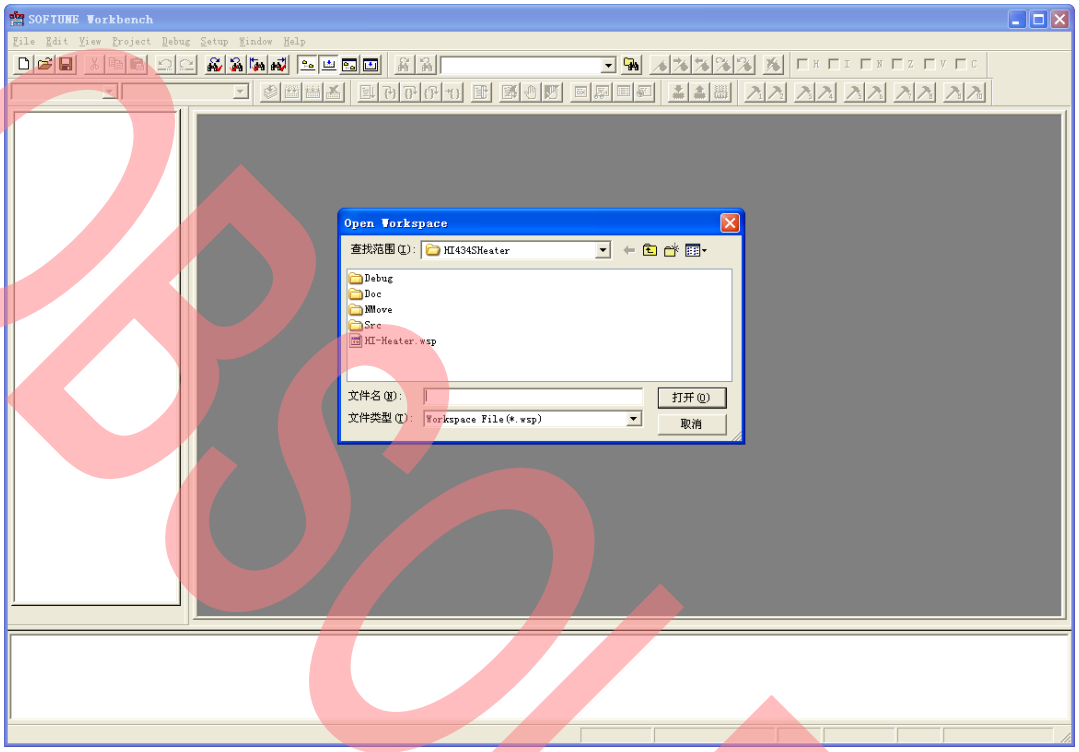
5. The USB programmer also provides single operation, including Erase, Blank Check, Program, Read & Compare and Copy.

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4.2 Use F²MC-8L/8FX SOFTUNE to Program

1. Open a project (E.g. Test) using SOFTUNE.

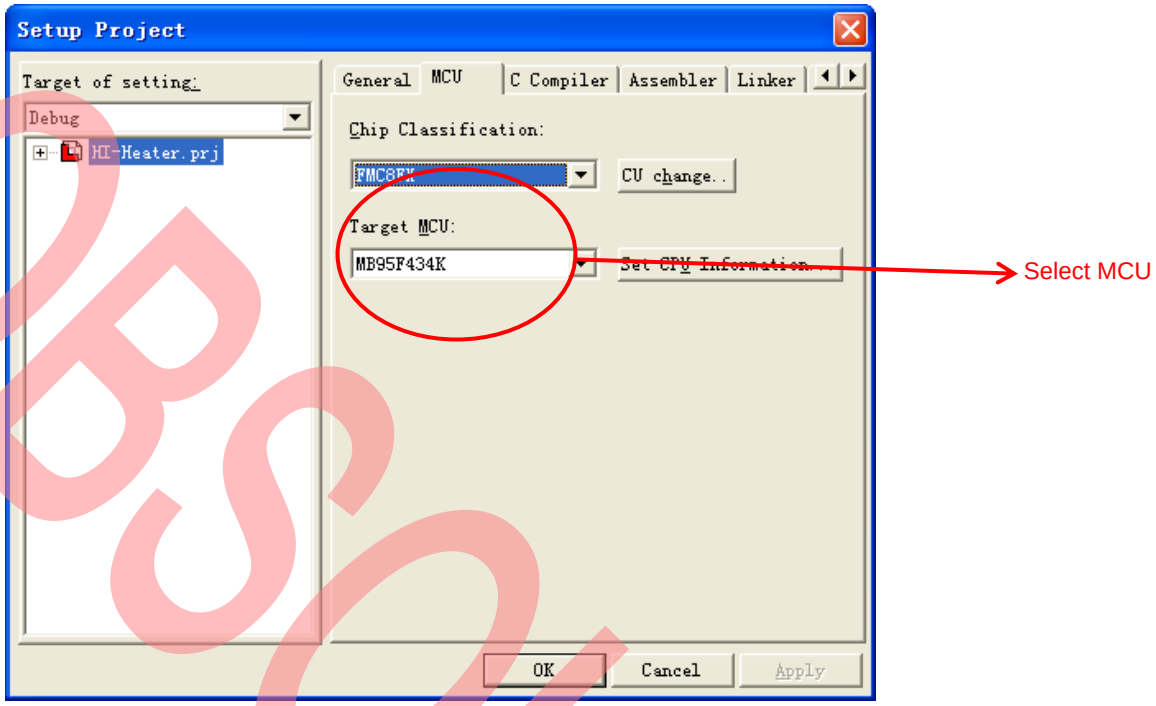
Figure 14. Open Demo Project



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2. Please select the MCU type to MB95F434K by selecting **Project/Setup Project**…/**MCU**.

Figure 15. Set MCU Type



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3. Select **Project/Setup Project…/Linker**, set **Disposition/Connection** in **Category**, then select **_INROM01** and click **Set Section…**. After that, a dialog window will pop up as shown in Figure 17 below. Set Const (named @INIT) and Dirconst (named @DIRINIT) as shown in Figure 18 and Figure 19.

Figure 16. Disposition Display Window

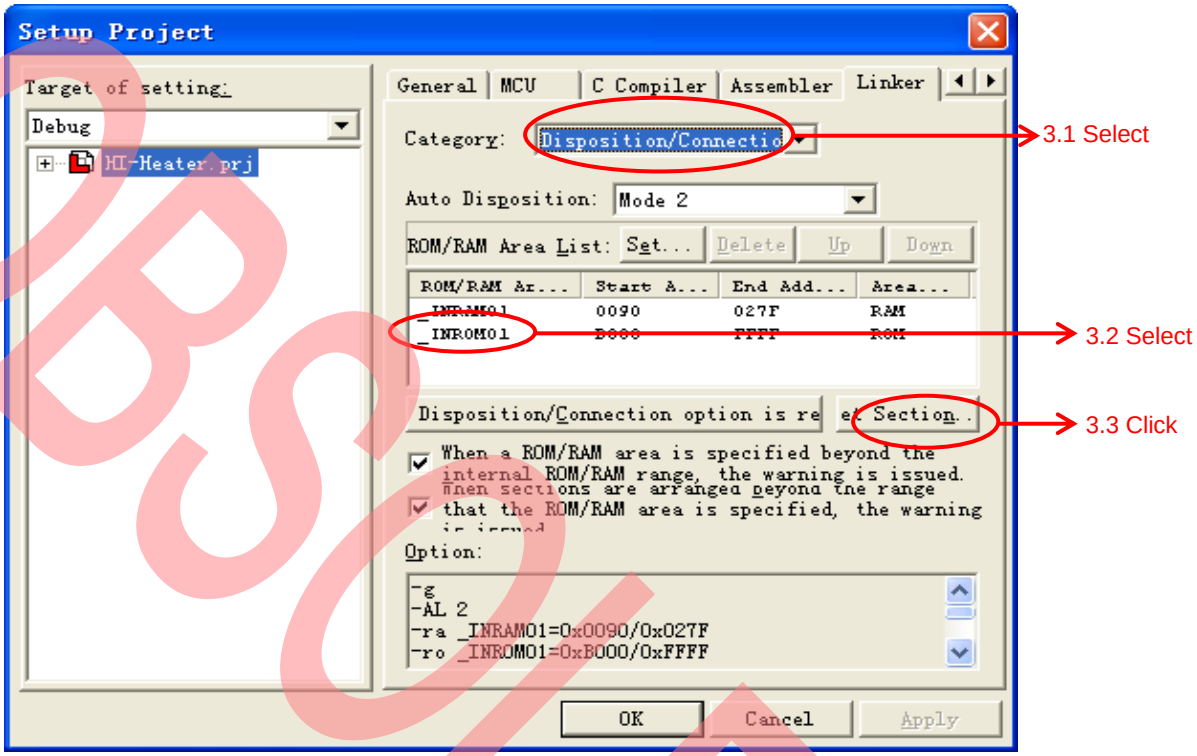


Figure 17. Section Setting Window

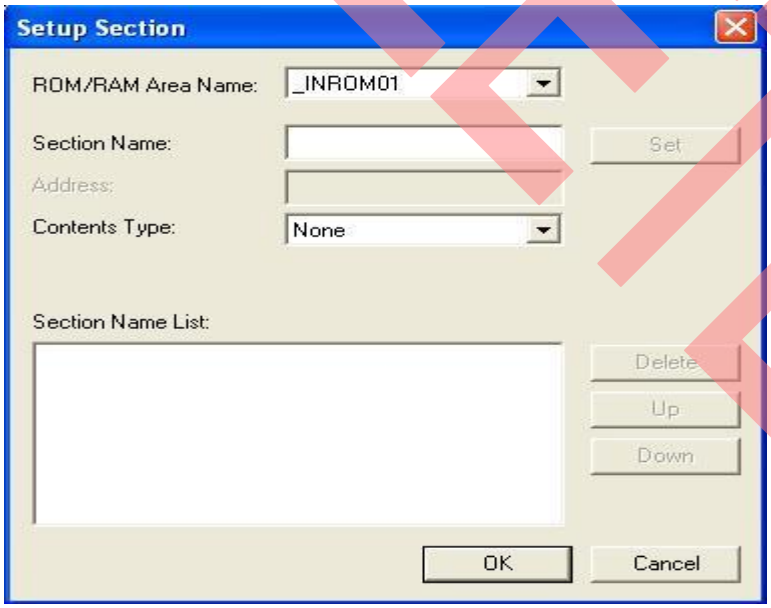


Figure 18. Set Const Section

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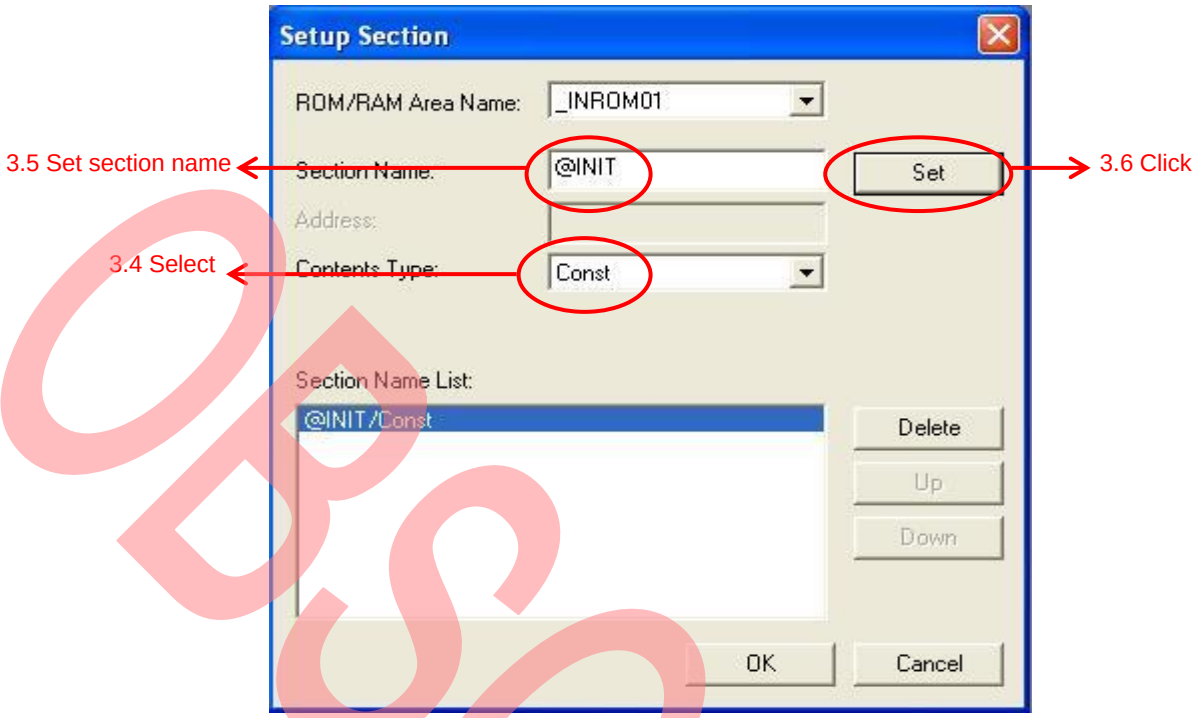
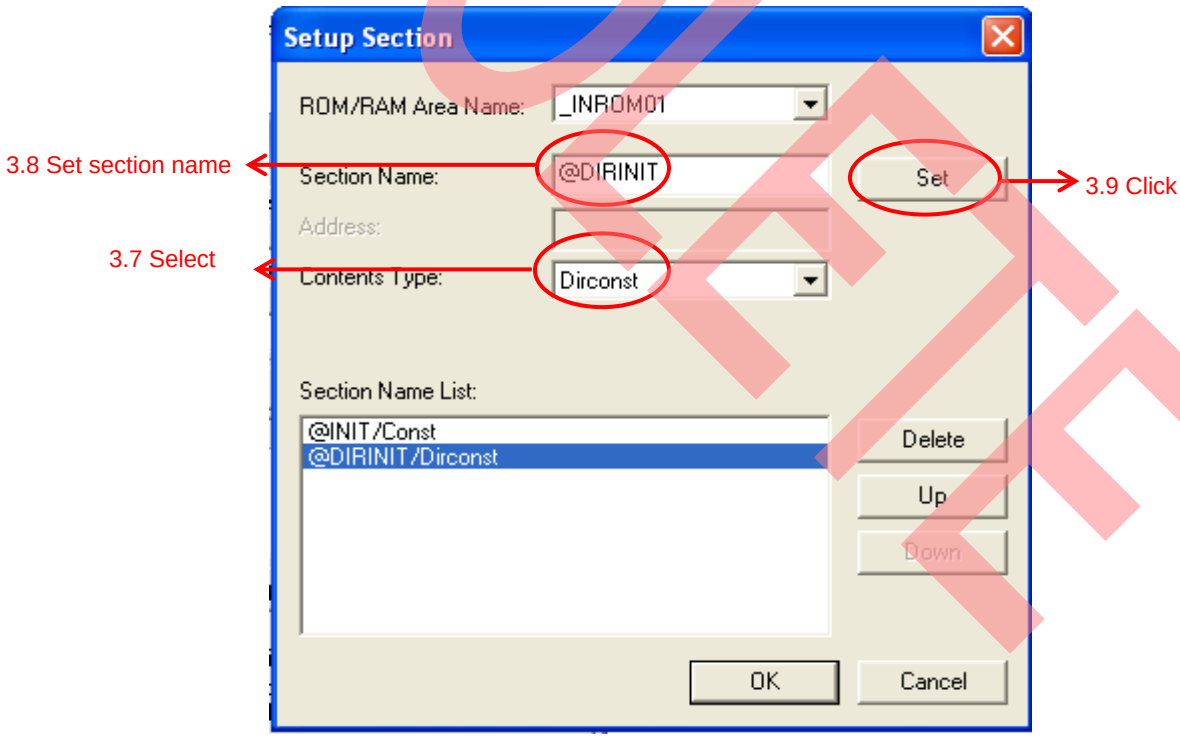


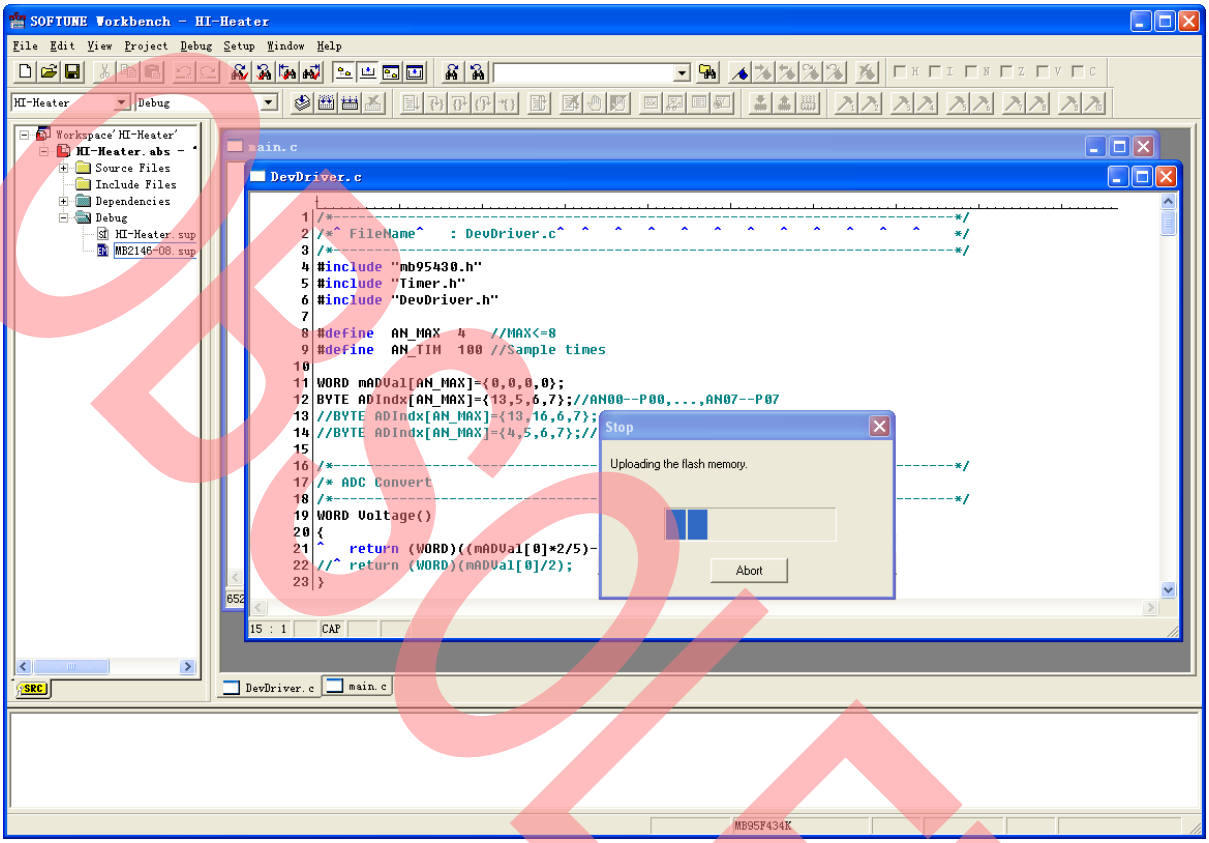
Figure 19. Set Dirconst Section



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4. Compile project.
5. Start debugging.

Figure 20. Start Debugging

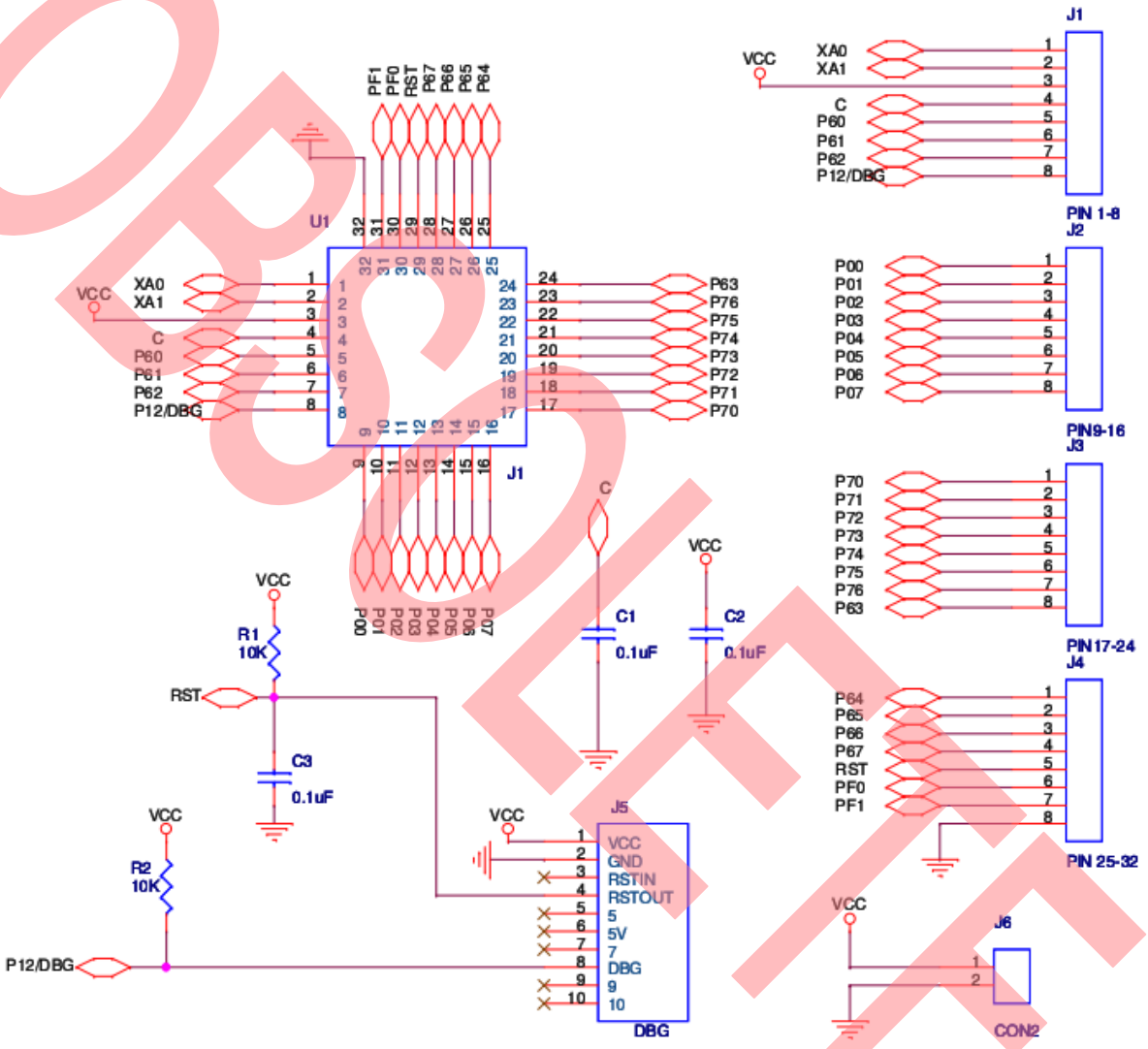

SOFTUNE Workbench - HI-Heater
File Edit View Project Debug Setup Window Help
HI-Heater
Debug
Workspace 'HI-Heater'
HI-Heater.abs
Source Files
Include Files
Dependencies
Debug
HI-Heater.sup
MB2146-08.sup
main.c
DevDriver.c
/*---*/
/*^ FileName^ : DevDriver.c^ ^ ^

5 Schematic

This chapter demonstrates schematic of MB95430H PGM adaptor.

5.1 LQFP32 PGM Adaptor

Figure 21. LQFP32 PGM Adaptor Schematic



6 PN Definition Rule

The part number of PGM adaptor is FMCDC-8FX-430-PGMA-07032080.

07→LQFP,

032→Pin count (e.g. 032 means 32pin MCU),

080→Lead pitch (e.g. 0.80mm means lead pitch 080).

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7 PN List of Applicable MCUs

MCU Series	Part Number	Footprint
MB95430H series	MB95F434H MB95F434K	LQFP32

8 More Information

For more information on Cypress MB95430H products, please visit the following website:

www.cypress.com/documentation/software-and-drivers/f2mc-8fx-mb95200-series-bgm-adapter-mb2146-08-e-operation-manual

www.cypress.com/documentation/application-notes/mb95430-programmer-adaptor-mb95434

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Document History

Document Title: AN205120 - F²MC-8FX Family MB95430H Series LQFP32 PGM Adaptor

Document Number: 002-05120

Revision	ECN	Orig. of Change	Submission Date	Description of Change
**	—	HAUL	09/07/2010	Initial release.
*A	5257274	HAUL	06/28/2016	Migrated Spansion Application note from MCU-AN-500098-E-10 to Cypress format. Link to Hardware doesn't exist and this AN to be Obsolete.

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