

The Cypress MicroSystems Device YProgrammer

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 Associated Project: No
 Associated Part Family: CY8C25xxx, CY8C26xxx

Summary

The Cypress MicroSystems YProgrammer board provides flash programming support for all PSoC™ microcontroller packages. This Application Note describes the installation and use of the YProgrammer.

Intended Use

The YProgrammer board must be used with an ICE-base station.

It is intended for engineering development use only. For production programming, use a third-party programmer, your distributor, or contact Cypress MicroSystems for factory programming information.

Board Components

The YProgrammer board has four main parts: a Cat5 connector, an In-System Programming (ISP) header, a socket installation area, and a power LED.

Each programming board comes as shown in Figure 1, with no IC socket installed. Contact your distributor or Cypress MicroSystems to order IC sockets and YProgrammer boards.

In this configuration, the YProgrammer supports in-system programming only.

Install one socket per YProgrammer board.

In [Table 1: Recommended IC Sockets](#), note that on boards with a SOIC 28 socket installed, both 20 and 28 pin SOIC packages can be programmed.

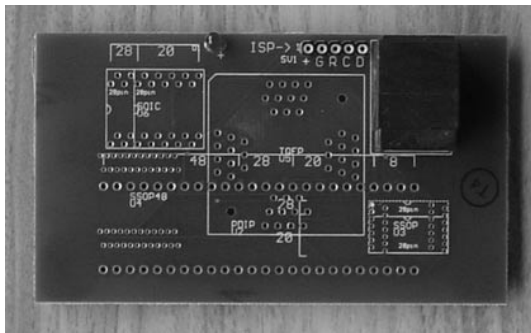


Figure 1: YProgrammer Board - No Sockets Installed

Table 1: Recommended IC Sockets2

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Package	Socket	Part Number	Manufacturer
SOIC 20, 28	SOIC 28	FP-28-1.28-01	Enplas
SSOP 20, 28	SSOP 28	IC51-755.KS-13330	Yamaichi
SSOP 48	SSOP 48	IC51-0562-1387	Yamaichi
TQFP 44	TQFP 44	7010-044-4-08	Wells
DIP 8, 28, 48	DIP 48	48-6554-10 48 PIN ZIF Socket	Aries

Table 1: Recommended IC Sockets

Hardware Setup

The YProgrammer should be connected to an ICE-base station, as shown in Figure 2. Use the Cat5 cable supplied with the ICE, or a replacement Cat5 cable that is one foot or less in length.

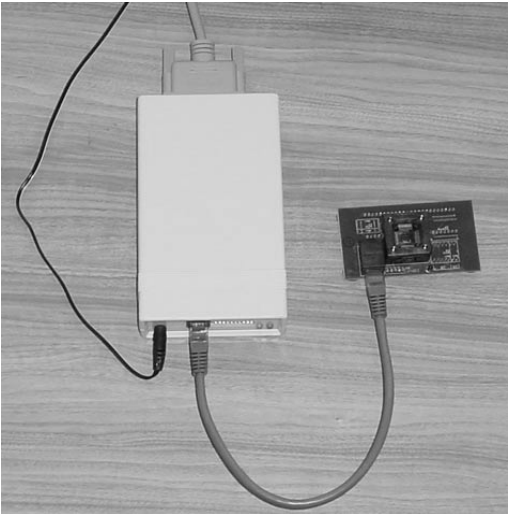



Figure 2: YProgrammer Board with TQFP Socket Connected to ICE

Software Setup

Once the hardware is connected, execute the following procedure:

1. Open PSoC Designer, v. 2.16 or newer.
2. Access your target project in the Debugger subsystem. (Either **Browse** the Start dialog box or click **File >> Open Project.**)

Note that most all PSoC Designer debugger features are *not operational* when the YProgrammer is connected to the ICE-base


station. Only the “Program Part”  feature is available.

Socket Installation

The YProgrammer board does not come with an IC socket installed. The action required by the user includes inserting the socket as directed and soldering it secure.

Programming Parts

To program, execute the following procedure:

1. Open PSoC Designer.
2. Open the project you wish to program. (Either **Browse** the Start dialog box or click **File >> Open Project.**)
3. Click the **Program Part** icon  in the Debugger subsystem toolbar.
4. You will be asked if you wish to end the current debugging session. Click **Yes.**
5. In the Open dialog box, Click **Open** to load your project .rom file.
6. When prompted, insert part in programming socket as far as it will go. Click **OK.** See following figures for part-specific examples.

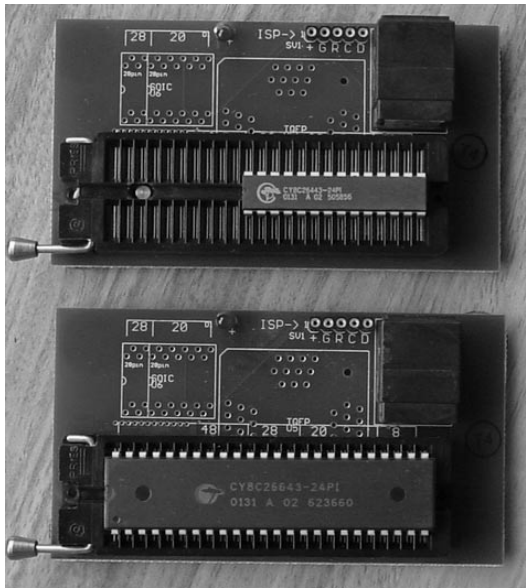


Figure 3: Alignment of 28 and 48-Pin DIP

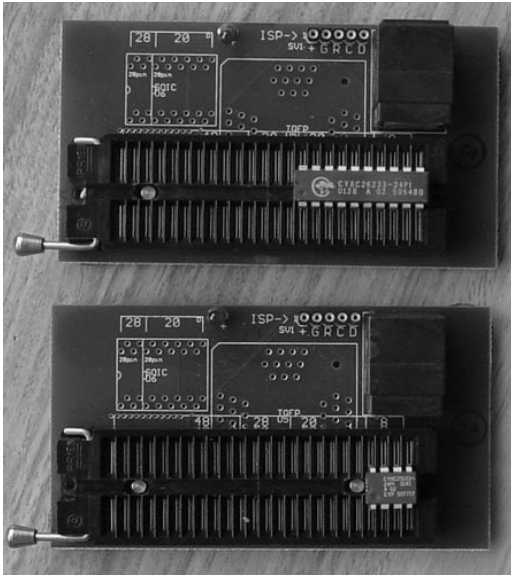


Figure 4: Alignment of 8 and 20-Pin DIPs

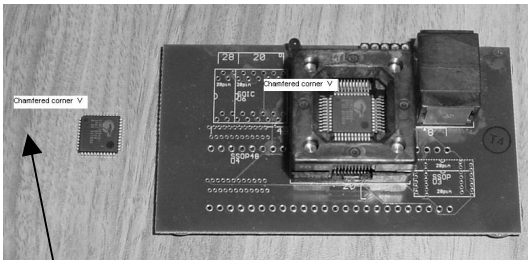


Figure 5: Alignment of TQFP Parts

Chamfered
Corner

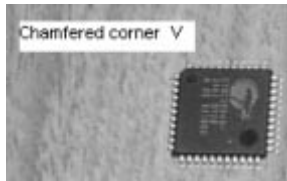


Figure 6: Chamfered Corner

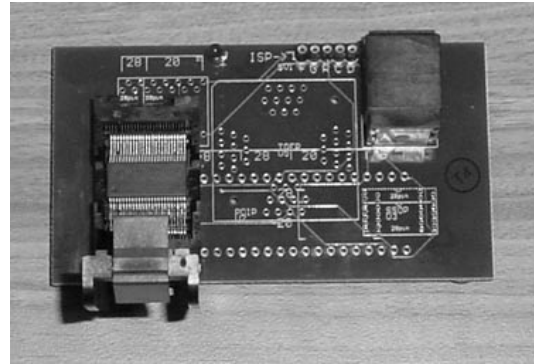


Figure 7: Alignment of 48-Pin SSOPs

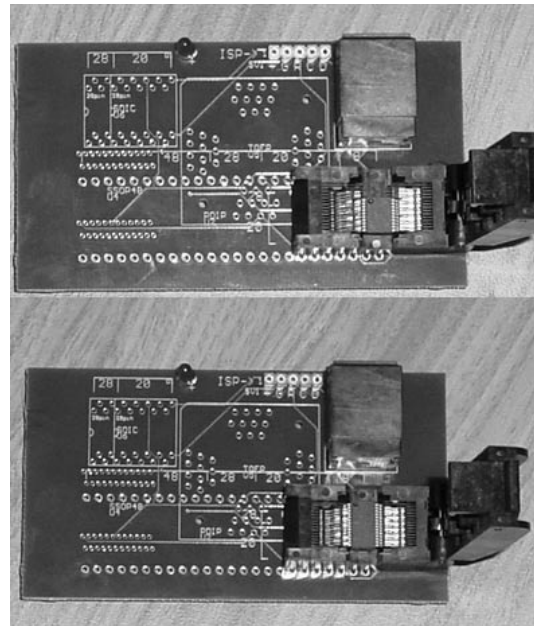


Figure 8: Alignment of 20 and 28-Pin SSOPs

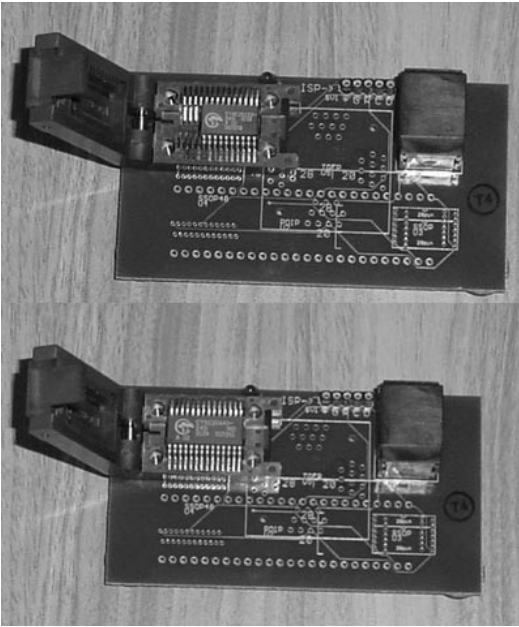


Figure 9: Alignment of SOICs

- 7. After the part is inserted and you click **OK**, you will see the percent of progress. When programming is successfully complete, you will see the dialog box in Figure 10. Click **OK**.

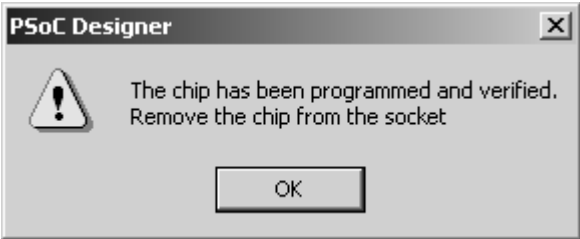


Figure 10: Successful Programming Dialog Box

If programming failed, you will see Figures 11 and 12, in succession.

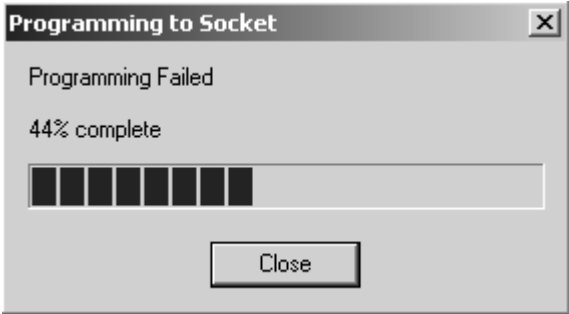


Figure 11: Programming Failed Status

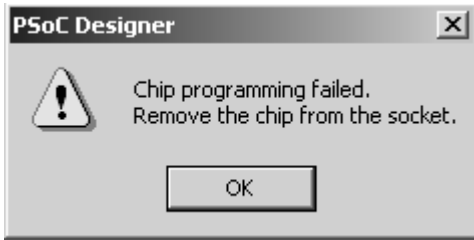


Figure 12: Programming Failed Alert

Note: To track the status of socket programming, see the Program tab of the Status window in the lower-left corner of the Debugger subsystem.

In-System Programming Header

The YProgrammer contains five pins for in-system programming. For details, please see the [In-System Serial Programming Application Note AN2014](#).

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