Application Note AN2222a

Flex-Pod Soldering Guide

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Associated Project: No
Associated Part Family: CY8C21x23, CY8C21x34, CY8C24794, CY8C29x66

Abstract
This Application Note provides instructions on soldering PSoC Flex-Pods. For more information on specific Flex-Pod kit part numbers, see the Development Tools Selector Guide.

Suggested Shop Supplies
- Solder
- Flat/Wide Tip Solder Iron
- Flux (Water-Wash)
- Water
- Brush to Remove Flux (Optional)
- Dental pick (Optional)
- Masking Tape (Optional)
- Light Source
- Microscope or Magnifying Lens (Optional)

Suggested Vendor and Part Number
- AIM LF218
- METCAL STTC-036 Replacement Tip Cartridge
- Kester 2331-Zx

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Flex-Pod Kit Part #	PSoC Device Supported	Category	Spare Foot Kit	Page #
CY3211-28PDIP	CY8C29443-24PXI	DIP	CY3230-28PDIP-AK	N/A
CY3211-28SSOP	CY8C29443-24PVXI	SSOP	CY3230-28SSOP-AK	Page 2
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CY3211-48MLF	CY8C29666-24LFXI	MLF	CY3230-48MLF-AK	Page 4
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CY3211-100TQFP	CY8C29866-24AXI	TQFP	CY3230-100TQFP-AK	Page 3
CY3212-16SOIC	CY8C21234-24SXI	SOIC	CY3230-16SOIC-AK	Page 2
CY3212-20SSOP	CY8C21334-24PVXI	SSOP	CY3230-20SSOP-AK	Page 2
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CY3212-32MLF2	CY8C21634-24LFXI	MLF	CY3230-32MLF-AK	Page 4
CY3213-8SOIC	CY8C21123-24SXI	SOIC	CY3230-8SOIC-AK	Page 2
CY3213-16SOIC	CY8C21223-24SXI	SOIC	CY3230-16SOIC-AK	Page 2
CY3213-20SSOP	CY8C21323-24PVXI	SSOP	CY3230-20SSOP-AK	Page 2
CY3213-24MLF	CY8C21323-24LFXI	MLF	N/A	Page 4
CY3214-56MLF	CY8C24794-24LFXI	MLF	CY3230-56MLF-AK	Page 4

SSOP and SOIC Flex-Pod Soldering Instructions

Step 1: Solder Flex-Pod Adapter to Customer Application Board

1. Position Flex-Pod Chip Adapter (Foot) centered on PSoC pad layout on Customer Application Board. Note position of pin 1 with relation to white silk-screen marking on adapter PCB.
2. Apply liberal amount of flux.
3. Apply heat to pad of each pin on the Customer Application Board only. Note that solder flows under Flex-Pod Chip Adapter PCB (Foot). If required, additional solder can be added.
4. Wash off flux.

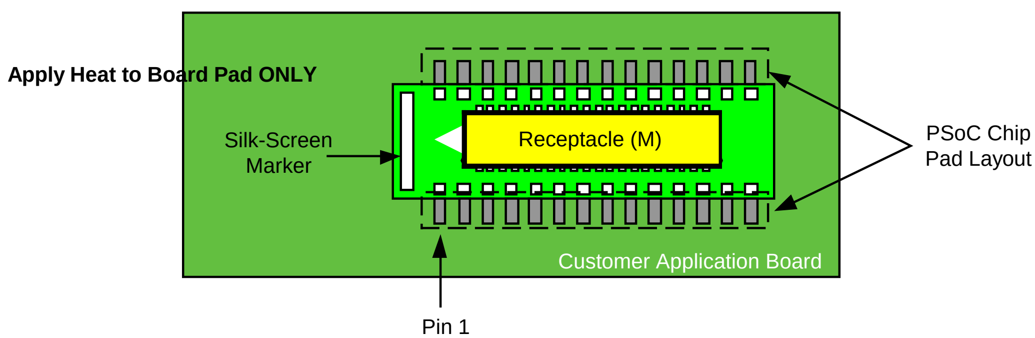

Figure 1. SSOP/SOIC Flex-Pod Chip Adapter (Foot) on Customer Application Board

Step 2: Connect Flex-Pod to Chip Adapter

1. Connect the Flex-Pod to the customer circuit by connecting the Header to the Receptacle connectors.
2. Note that the orientation indicators (signified by the white silk-screen bar) must align.
3. **TO REMOVE THE FLEX-POD FROM PCB**, apply upward pressure under the top flex stiffener.
4. Connectors are limited to 50 insertion/desertions, per manufacturer's specifications.

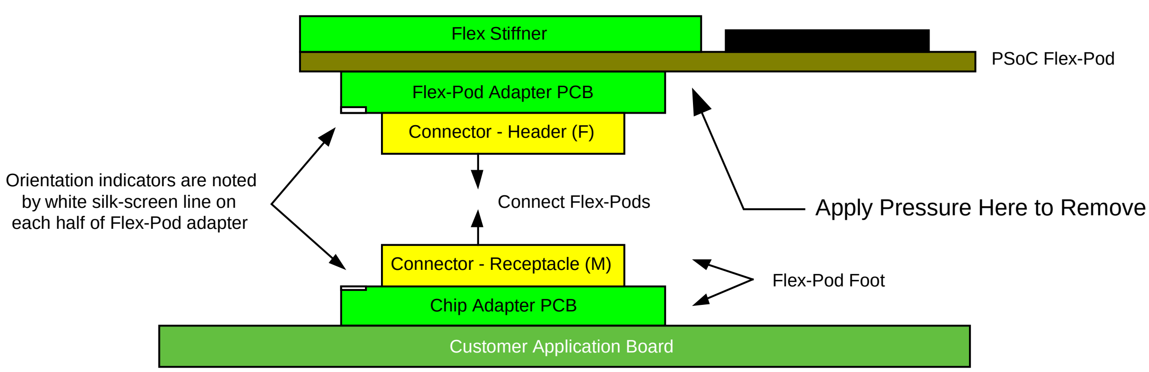

Figure 2. Connecting the Flex-Pod to the Flex-Pod Chip Adapter (Foot)

TQFP Flex-Pod Soldering Instructions

Step 1: Solder Flex-Pod Adapter to Customer Application Board

1. Position Flex-Pod Chip Adapter (Foot) centered on PSoC pad layout on Customer Application Board. Note position of pin 1 with relation to white silk-screen marking on adapter PCB.
2. Apply liberal amount of flux.
3. Apply heat to pad of each pin on the Customer Application Board only. Note that solder flows under Flex-Pod Chip Adapter PCB. If required, additional solder can be added.
4. Wash off flux.

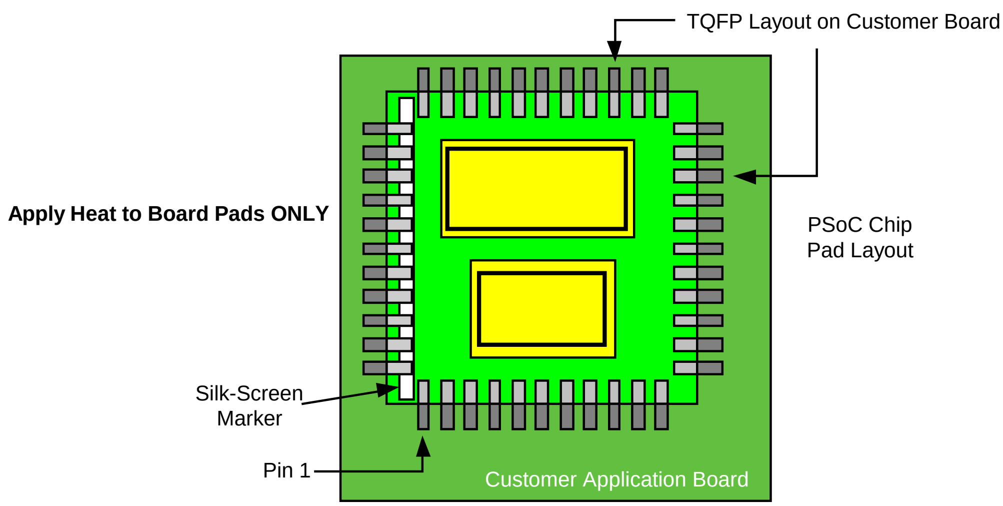

Figure 3. TQFP Flex-Pod Chip Adapter (Foot) on Customer Application Board

Step 2: Connect Flex-Pod to Chip Adapter

1. Connect the Flex-Pod to the customer circuit by connecting the Header to the Receptacle connectors.
2. Note that the orientation indicators (signified by the white silk-screen bar) must align.
3. **TO REMOVE THE FLEX-POD FROM PCB**, apply upward pressure under the top flex stiffener.
4. Connectors are limited to 50 insertion/desertions, per manufacturer's specifications.

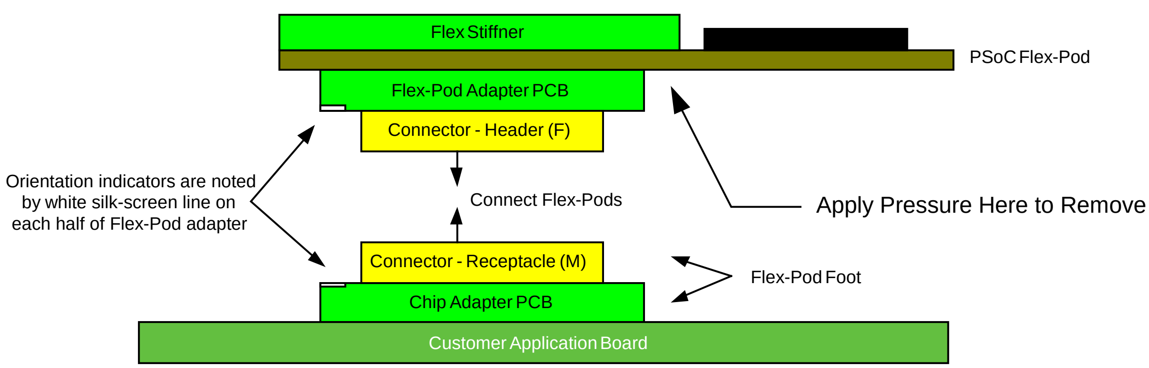

Figure 4. Connecting the Flex-Pod to the Flex-Pod Chip Adapter (Foot)

MLF Flex-Pod Soldering Instructions

Step 1: Solder Flex-Pod Standoff to Customer Application Board

1. Position the MLF Flex-Pod Standoff on the PSoC pad layout on the customer application board; the small standoff side should be sitting on the Customer Application Board.
2. The standoff is symmetrical, so orientation does not matter.
3. Note where pin 1 is so that this can be aligned with the Flex-Pod in step 2.
4. Re-flow solder or using a microscope, hand solder the adapter to the board.

To Hand Solder

1. Apply flux liberally.
2. Under a microscope, touch each pad of the application board solder pad. Note that the solder will wick underneath the MLF Flex-Pod Standoff.
3. If required, add more solder.
4. Wash off flux.
5. To test continuity, touch the application board solder pad and the top of the standoff using a multi-meter.

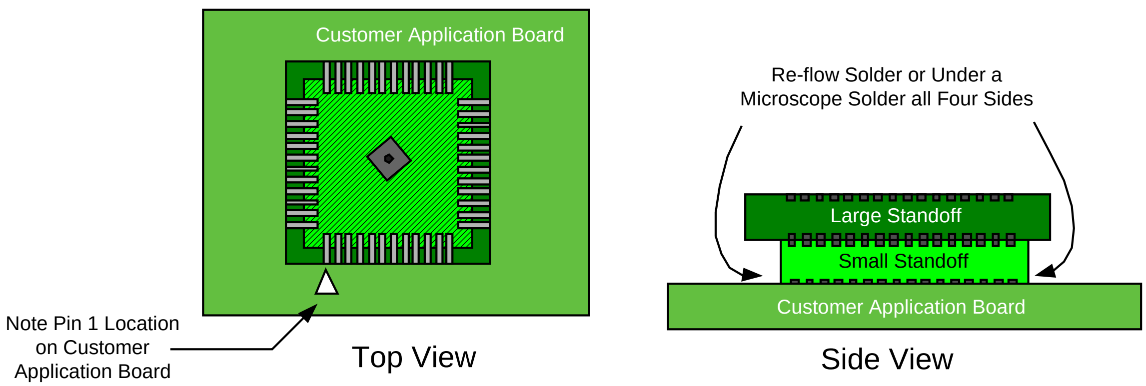

Figure 5. MLF Flex-Pod Standoff on Customer Application Board

Step 2: **Solder Flex-Pod-to-Flex-Pod Standoff**

1. Apply Flux.
2. Note where pin 1 is on the MLF pads on the Customer Application Board.
3. Orient the Flex-Pod over the Standoff, aligning pin 1 with the Flex-Pod pin 1 marker (a white triangle).
4. Under a microscope, align the Flex-Pod over the pads of the Standoff.
5. Apply head to the pads of the Standoff. Note that solder will wick under the Flex-Pod.
6. Care must be taken due to minimal strain relief.

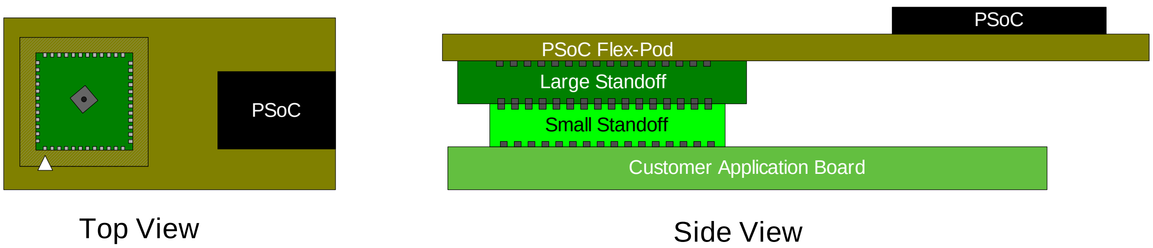

Figure 6. Soldering the Flex-Pod to the Standoff

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