

3.4mm Coeur CST High Current Connector System and Application Tools

SERIES:

SOCKETS;

204313	PRESS FIT option with 1.0mm of float
204365	SMT option with 1.0mm of float
204318	SMT standard
204316	PRESS FIT standard

MALE PINS;

203263	Male SMT and PRESSFIT PIN options
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1.0 SCOPE:

This specification applies to the 3.4mm Coeur CST connector system for function, assembly and use of this product.

2.0 PRODUCT DESCRIPTION:

The CST connector system is a single circuit high current power connector for busbar and PCB applications. Connectors available with or without 1.0mm of float. Also available in crimp contacts for cable applications.

3.0 REFERENCE DOCUMENTS:

- 3.1 2043130018-SD 3.4MM CST PRESS FIT WITH 1.0mm FLOAT
- 3.2 2043650018-SD 3.4MM CST SMT WITH 1.0mm FLOAT
- 3.3 2043160018-SD 3.4MM CST STANDARD PRESS FIT
- 3.4 2043180018-SD 3.4MM CST STANDARD SMT
- 3.5 2032630018-SD 3.4MM Pressfit pin
- 3.6 2032631134-SD 3.4MM SMT pin
- 3.7 2043130018-PS Product Specification
- 3.8 2043139018-PK Packaging Specification

4.0 GENERAL REQUIREMENTS:

The CST male pin requires mounting to a PCB via SMT or PRESS FIT into a busbar

4.1 SMT (PCB)

- a. Min board thickness is **1.6mm**
- b. Board layers shall be as such to handle needed current
- c. Copper OSP plating is recommended, other plating types acceptable
- d. Allow for proper fixturing under board to allow part to protrude during reflow

4.2 Pressfit (Busbar)

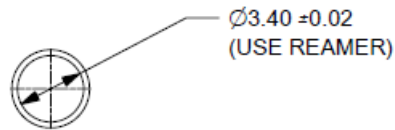
- a. Minimum busbar thickness is **1.5mm**
- b. Reem all holes
- c. Verify hole sizes prior to install
- d. Allow for proper fixturing under press in holes to avoid hole deformation especially in thin busbars

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5.0 INSTALLATION OF CST

5.1 CST single male terminal (2032630018-SD) Press in Steps

1. Follow recommended hole size and drill hole in busbar per sales drawing (example layout shown below)



HOLE REQUEST ON BUS BAR

2. Verify hole with gage pin
3. Create fixture to allow for CST features and other components protruding through bottom of busbar.
 - a. Hole for clearance should be 0.25mm larger in diameter maximum
 - b. Fixture and hole to be aligned within the 0.25mm difference to prevent stubbing
4. Hand place male terminal into tool (contact molex for insertion tooling information)



5. Place tool with terminal into center of above verified hole

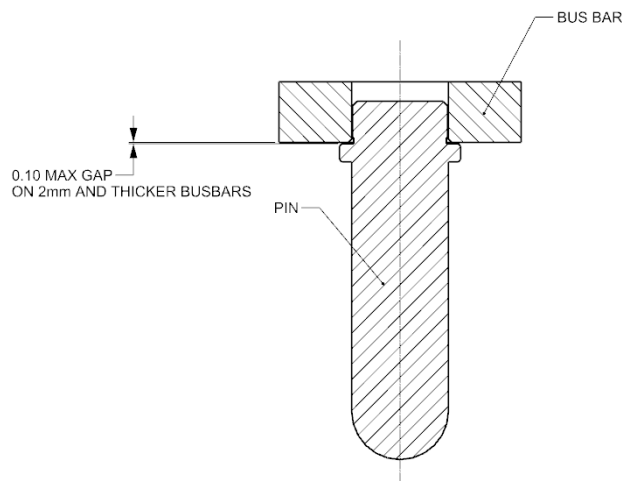
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6. Press head can be used to hold tool and terminal in place until press



7. Press on top of tool until bottom of positive stop on the part is flush with the top of busbar
 a. Do not under press connector



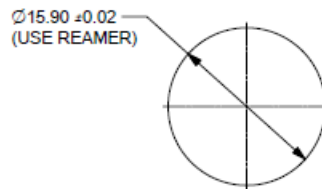
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- b. Do not over press connector
 - i. Max insertion force of 3000N
- 8. Inspect pressed in part looking for damage and straightness

5.2 CST PRESS FIT Socket with 1.0mm of float (2043130018-SD) Press in Steps

1. Follow recommended hole size and drill hole in busbar per sales drawing (example layout shown below)

RECOMMENDED DRILL(ON BUSBAR)

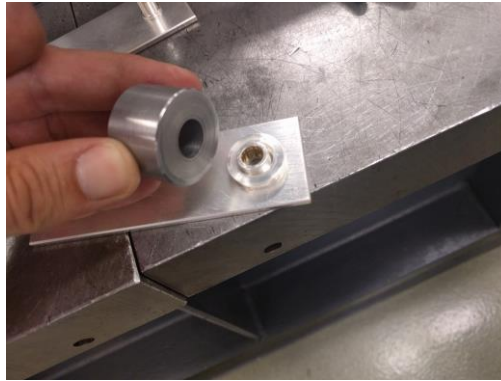


2. Verify hole with gage pin
3. Create fixture to allow for CST features and other components protruding through bottom of busbar
 - a. Hole for clearance should be no larger than 0.25mm in diameter from press in hole
 - b. Fixture and hole to be aligned within the 0.25mm difference to prevent stubbing
4. Hand place CST socket into center of above verified hole



1. Place tool onto top of placed socket, aligning hole over the protruding socket. DO NOT PRESS ON TOP OF CONNECTOR (contact molex for insertion tooling information)

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2. Press head can be used to hold tool and terminal in place until press

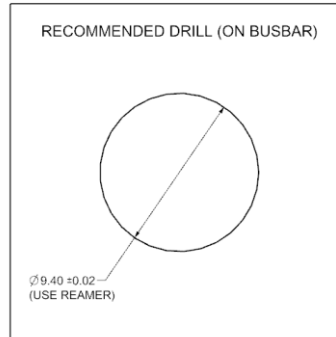


3. Press on top of tool until bottom of positive stop on the part is flush with the top of busbar
 - c. Do not under press connector
 - d. Do not over press connector
 - i. Max insertion force of 7500N
4. Inspect pressed in part looking for damage, straightness, and if socket still floats

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5.3 CST Standard PRESS FIT Socket (2043160018-SD) Press in Steps

1. Follow recommended hole size and drill hole in busbar per sales drawing (example layout shown below)

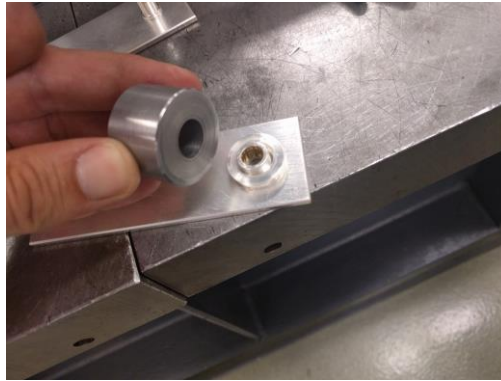


2. Verify hole with gage pin
3. Create fixture to allow for CST features and other components protruding through bottom of busbar
 - a. Fixture Hole for clearance should be no larger than 0.25mm in diameter from press in hole
 - b. Fixture and hole to be aligned within the 0.25mm difference to prevent stubbing
4. Hand place CST socket into center of above verified hole



5. Place flat rock tooling on top of product, this CST version can be pressed directly on the top of the part

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6. Press head can be used to hold tool and terminal in place until press



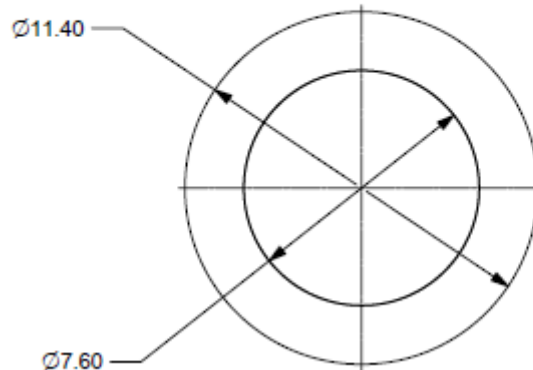
- 7. Press on top of tool until bottom of positive stop on the part is flush with the top of busbar
 - a. Do not under press connector
 - b. Do not over press connector
 - i. Max insertion force of 7500N
- 8. Inspect pressed in part looking for damage, straightness

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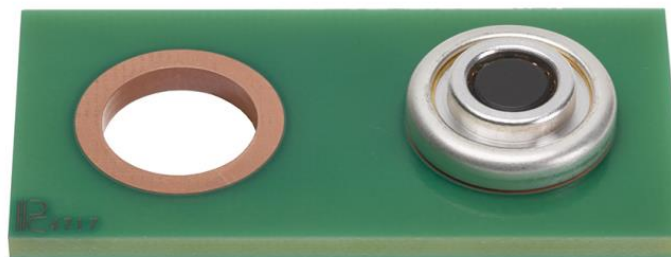
5.4 CST Standard SMT Socket (2043180018-SD) solder Steps

1. Hole pattern in 1.6mm min board per the sales drawing (example shown below)

RECOMMENDED PCB LAYOUT



2. Verify hole with gage pin, as shown above in male terminal steps
3. Apply solder paste for above hole pattern using a 6 mil stencil thickness
 - a. Standard SAC 305 lead free paste was used in testing
4. Create fixture to allow for protruding features of CST and other components during installation if needed.
 - a. Fixture Hole for clearance should be a minimum of 0.25mm in diameter from solder hole
 - b. Fixture and hole to be aligned within the 0.25mm difference to prevent stubbing
5. Lightly hand place CST socket into center of above verified hole making sure to not press the solder out of the way



6. Verify part is centered properly on hole pattern

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7. Solder part (s) using a recommended standard convection oven reflow technique

a. Parts tested with zone temperatures below and a conveyor speed of 12 in/min

Zone Heater Temperatures

	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
Top	160 deg. C	168 deg. C	200 deg. C	230 deg. C	270 deg. C
Bottom	160 deg. C	168 deg. C	200 deg. C	230 deg. C	270 deg. C

Zone Airflow

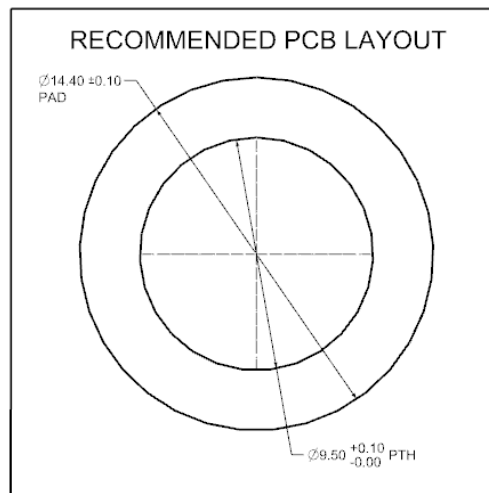
	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
Top	50 L/min	30 L/min	30 L/min	70 L/min	20 L/min
Bottom	50 L/min	30 L/min	30 L/min	70 L/min	20 L/min

8. Inspect soldered in part looking for a good solder joint, damage, and straightness

- Solder process is highly dependent on customer application and set up. processing should be adjusted appropriately for each application

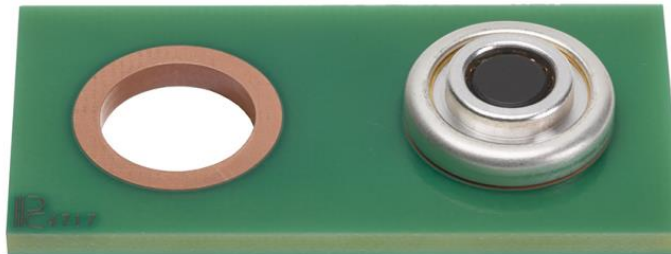
5.5 CST Standard Floating Socket (2043650018-SD) solder Steps

1. Hole pattern in 1.6mm min board per the sales drawing (example shown below)



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2. Verify hole with gage pin, as shown above in male terminal steps
3. Apply solder paste for above hole pattern using a 6 mil stencil thickness
 - a. Standard SAC 305 lead free paste was used in testing
4. Create fixture to allow for protruding features of CST and other components during installation if needed.
 - a. Fixture Hole for clearance should be a minimum of 0.25mm in diameter from solder hole
 - b. Fixture and hole to be aligned within the 0.25mm difference to prevent stubbing
5. Lightly hand place CST socket into center of above verified hole making sure to not press the solder out of the way



6. Verify part is centered properly on hole pattern
7. Solder part (s) using a recommended standard convection oven reflow technique
 - a. Parts tested with zone temperatures below and a conveyor speed of 12 in/min

Zone Heater Temperatures

	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
Top	160 deg. C	168 deg. C	200 deg. C	230 deg. C	270 deg. C
Bottom	160 deg. C	168 deg. C	200 deg. C	230 deg. C	270 deg. C

Zone Airflow

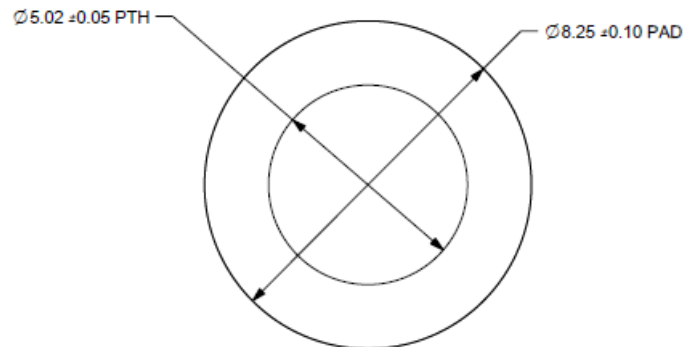
	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
Top	50 L/min	30 L/min	30 L/min	70 L/min	20 L/min
Bottom	50 L/min	30 L/min	30 L/min	70 L/min	20 L/min

8. Inspect soldered in part looking for a good solder joint, damage, and straightness
 - Solder process is highly dependent on customer application and set up. processing should be adjusted appropriately for each application

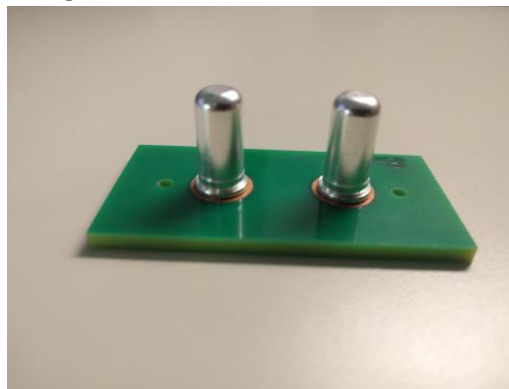
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5.6 CST Standard SMT (2032631134-SD) male terminal solder Steps

- a. Hole pattern in 1.6mm min board per the sales drawing (example shown below)



2. Verify hole with gage pin, as shown above in male terminal press in steps
3. Apply solder paste for above hole pattern using a 6 mil stencil thickness
 - a. Standard SAC 305 lead free paste was used in testing
4. Create fixture to allow for protruding features of CST and other components during installation if needed
 - a. Fixture Hole for clearance should be a minimum of 0.25mm in diameter from solder hole
 - b. Fixture and hole to be aligned within the 0.25mm difference to prevent stubbing
5. Lightly hand place CST terminal into center of above verified hole making sure to not press the solder out of the way
 - a. A SOLDER FIXTURE MAY BE NEEDED FOR STRAIGHTNESS OF LONGER SOLDERED PINS



6. Verify part is straight and centered properly on hole pattern
7. Solder part (s) using a recommended standard convection oven reflow technique

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a. Parts tested with zone temperatures below and a conveyor speed of 12 in/min

Zone Heater Temperatures

	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
Top	160 deg. C	168 deg. C	200 deg. C	230 deg. C	270 deg. C
Bottom	160 deg. C	168 deg. C	200 deg. C	230 deg. C	270 deg. C

Zone Airflow

	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
Top	50 L/min	30 L/min	30 L/min	70 L/min	20 L/min
Bottom	50 L/min	30 L/min	30 L/min	70 L/min	20 L/min

8. Inspect soldered in part looking for a good solder joint, damage, and straightness

- Solder process is highly dependent on customer application and set up. processing should be adjusted appropriately for each application

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