

Edge Mount Processing

Samtec edge-mount connectors have been designed for perpendicular (90°) and coplanar (180°) board-to-board applications. Samtec offers edge-mount variations of High Speed Board-To-Board, Micro Pitch Board-To-Board, Rugged/Power, Edge Card, Micro Backplane, and RF connectors.

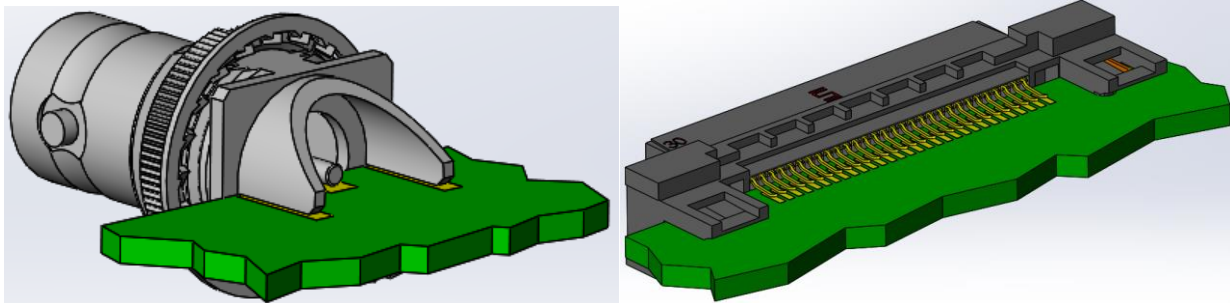


FIG 1: Edge Mounted RF Connector (Left); Edge Mounted Rugged High-Speed Socket Strip (Right)

General Processing Equipment and Conditions:

- Thermal profile should adhere to solder paste manufacturer recommendations
- An inert (nitrogen) reflow environment is recommended for Pb-free applications
- Edge-mount connectors are most commonly placed by hand
- Samtec recommended footprint and stencil designs should be closely followed
- PCB thickness and tolerance should match Samtec's recommendation shown on the footprint drawing
- Stencil thickness should match Samtec's recommendation shown on the footprint drawing

The processing procedure for edge-mount connectors will depend on the application.

For a Single-Sided PCB (SMT components populated on one side of the PCB):

1. Print solder paste on side one using the Samtec recommended stencil aperture design
2. Print solder paste on side two using the Samtec recommended stencil aperture design
3. Populate PCB, including the edge-mount connector
4. Reflow PCB

For a Double-Sided PCB (SMT components populated on both sides of the PCB):

1. Print solder paste on side one using the Samtec recommended stencil aperture design
2. Populate side one, excluding the edge-mount connector
3. Reflow PCB
4. Flip PCB
5. Print solder paste on side two using the Samtec recommended stencil aperture design
6. Apply tacky flux to edge-mount solder mounds on side one
7. Populate side two
8. Place the edge-mount connector
9. Reflow PCB

Special Considerations:

- Due to tail design and fine pin pitch, some connector stencil designs deposit the solder-paste off-set from the solder pad to prevent 'plowing' or displacement of the solder paste as the connector leads slide into their final position. 'Plowing' can increase the risk of solder bridging.

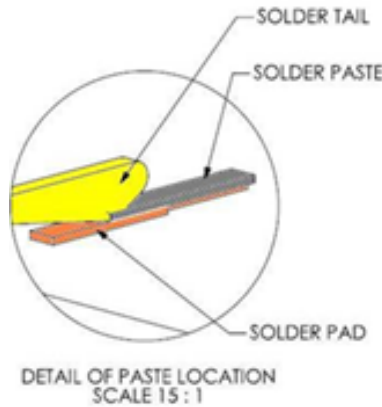


FIG 2: Solder-Paste Off-set from the Solder Pad

- For connectors that include an edge mounted ground plane (QSE/QTE, QSS/QTS, QSH/QTH), apply solder paste to the solder pad on the edge of the PCB using a solder gun, syringe or other direct application method. For a double-sided PCB this step can be performed after printing side two, prior to the application of tacky flux to the edge-mount solder mounds on side one.

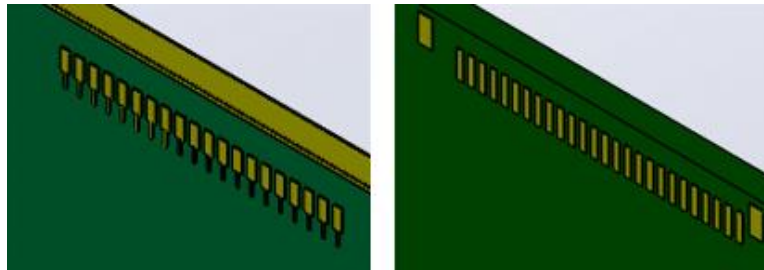


FIG 3: PCB for Connector **With** Edge Mounted Ground Plane (Left); PCB for Connector **Without** Edge Mounted Ground Plane (Right)

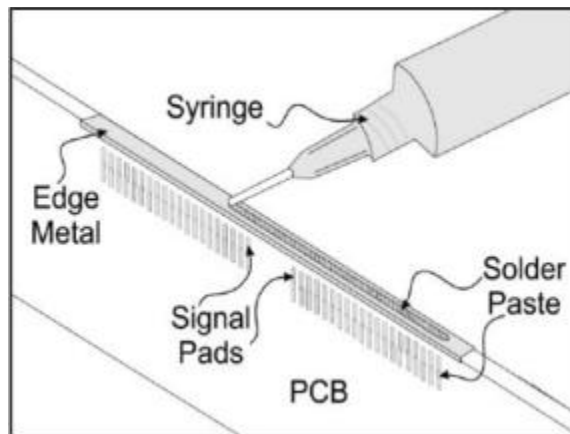


FIG 4: Solder Paste Application for Edge Mounted Ground Plane

- Due to PCB tolerances, component tail design and component tolerances a fixture may be required to hold the connector parallel to the PCB during reflow.

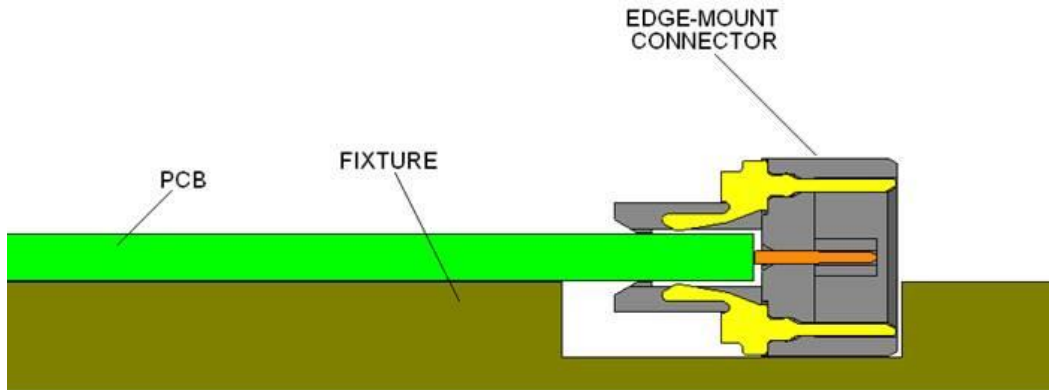


FIG 5: Example Reflow Fixture for Edge Mounted Connector

- A fixture may be necessary if automatically placing the components.

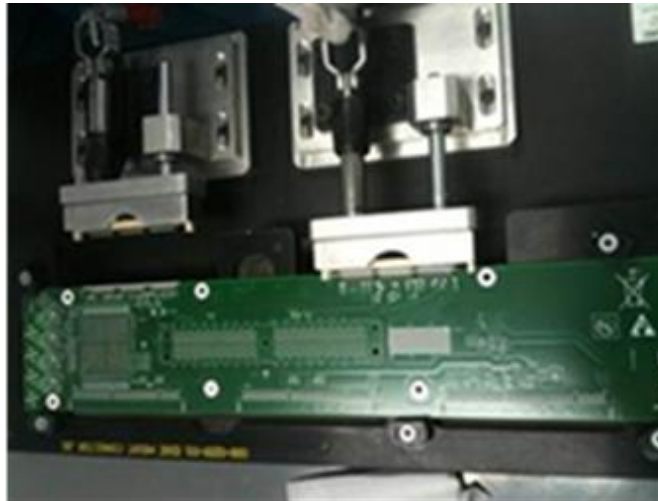


FIG 6: Example of Automatic Placement of Edge Mounted Connector

These guidelines and suggestions should not be considered design requirements for all applications. Samtec highly recommends testing the edge-mount connectors on your boards and in your process to achieve optimum results.

For more information, please contact the Samtec Interconnect Processing Group at IPG@Samtec.com.