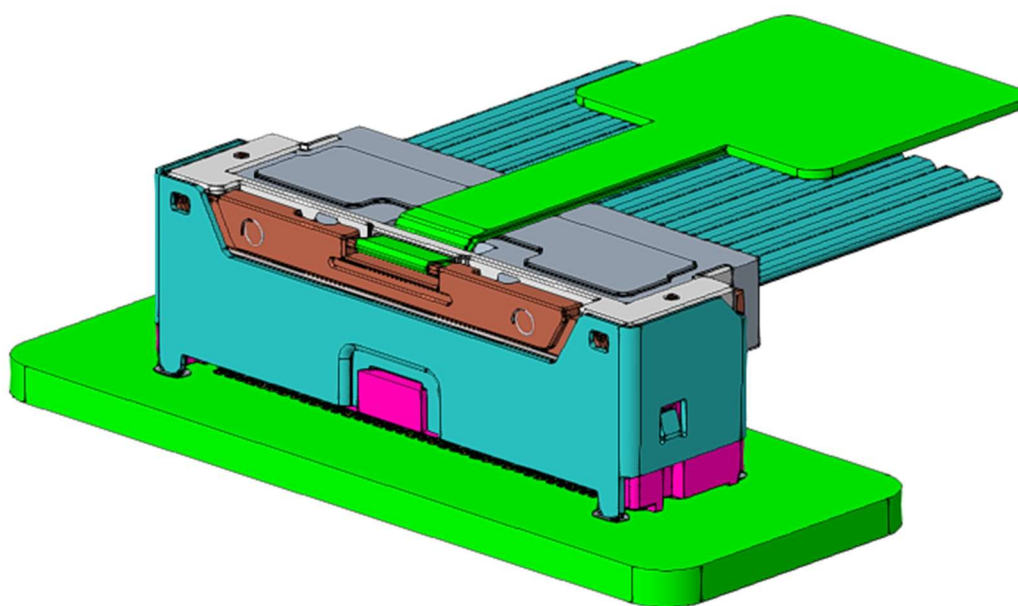


PADDLELESS CRE Cable Assembly



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Date:

08/25/23

Date:

08/25/23

Date:

08/25/23



TYPE

**PRODUCT APPLICATION
SPECIFICATION**SPEC. NO
ES-12-00Revision.
ADate
08/25/23Page
2 / 8**1 OBJECTIVE**

This specification provides information and requirements regarding customer application of the CRE. This specification is intended to provide general guidance for application process development. It is recognized that no single application process will work under all customer scenarios and that customers will develop their own application processes to meet their needs. However, if these application processes differ greatly from the one recommended, Luxshare cannot guarantee results.

2 SCOPE

This specification provides information and requirements regarding customer application of the CRE.

3 DRAWINGS AND APPLICABLE DOCUMENTS

- Luxshare Product Specification:
- Application Luxshare Customer Drawings;
- Luxshare Application Specification:

4 GENERAL INFORMATION

This document is meant to be an application guide. If there is a conflict between the product drawings and specifications, the drawings take precedence. Customers are advised to refer to the latest revision level of Luxshare product drawings for appropriate details

4.1 PRODUCT DESCRIPTION

CRE high-speed interconnect uses innovative latching system for increased reliability. Direct-attached wire-to-contact also increased the electrical performance of the connector, meeting PCIe gen 5 spec with ease.

4.2 PRODUCT CONFIGURATIONS

The CRE receptacles are currently offered in the right-angle configurations shown in Table 1 below.

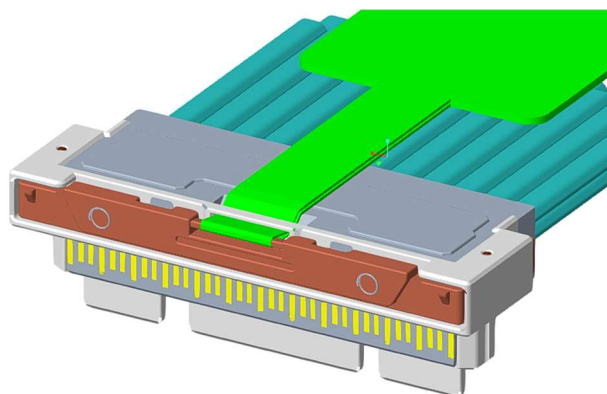


Table 1: Connector configuration offering – Right Angle Receptacles

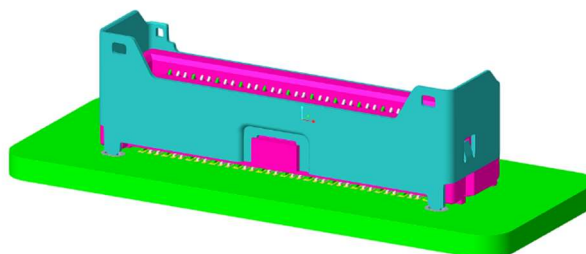
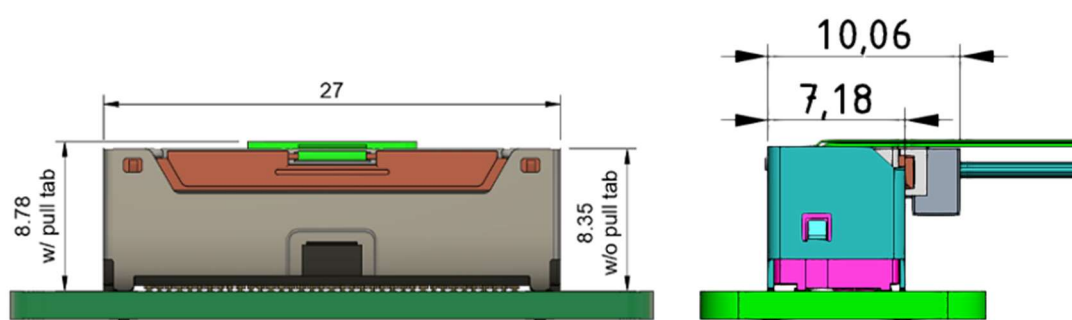


Table 1: Connector configuration offering – Right Angle Receptacles

4.3 COMPATIBILITY WITH HARD METRIC PRODUCTS

Mating height and external dimension



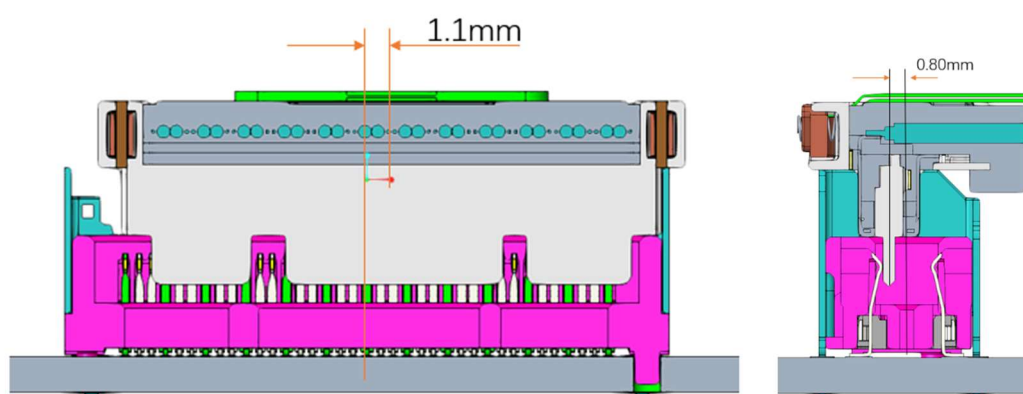
4.4 CONTACT WIPE DISTANCES

Table 7 shows the nominal contact wipe distances for both back panel and Orthogonal configurations. All values are at full normal force. All values assume there is no gap between connector mating faces.

Product Configuration	Header Type	Signal Pin Mate	GND pin Mate
Plug	RA	0.8mm	1.0mm
Receptacle	VT	0.8mm	1.0mm

Table 7: Nominal Contact Wipe Distances

4.5 SIGNAL CONNECTOR GUIDING FEATURES:



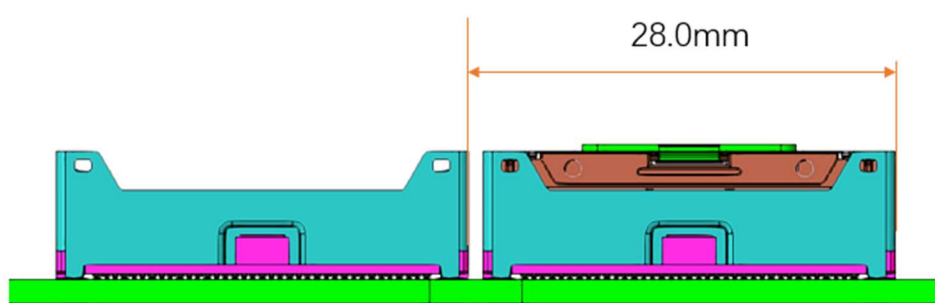
5 PCB LAYOUT INFORMATION

5.1 BOARD THICKNESS

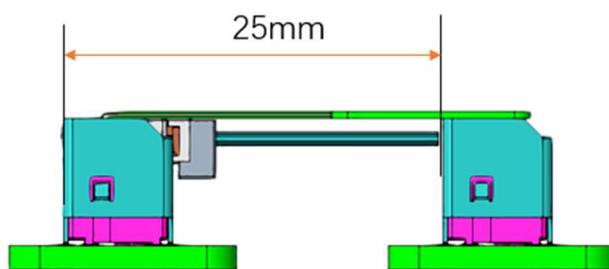
The minimum nominal PCB thickness recommendation for daughter cards is 1.40mm. There is no maximum thickness requirement.

5.2 CONNECTOR TO CONNECTOR SPACING

Side-by-side minimum spacing



Minimum distance



5.3 PCB SCREEN PRINTING RECOMMENDATIONS:

It is recommended to print the outline of the receptacle onto the PCB to insure proper placement of the connector. Detailed information of the recommended outline is provided on the customer drawing.

5.4 KEEP-OUT ZONES FOR APPLICATION

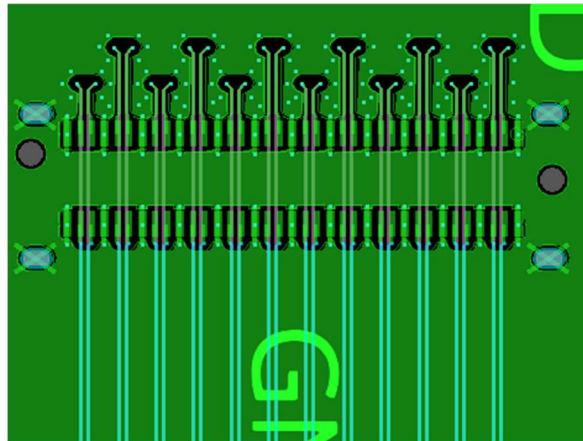
There are no keep-out zones necessary for application tooling because these tools fit within the outside envelope of the connector assemblies.

There may be a need for keep-out zones for connector removal tooling.

In general, the need for keep-outs will depend on the specific PCB layout. To be more specific, factors such as pitch definition between adjacent daughter cards, selection of headers with end walls or without, and location and type of any nearby connectors all affect the requirements. It is possible to design a system so that no extra keep-out zones are needed.

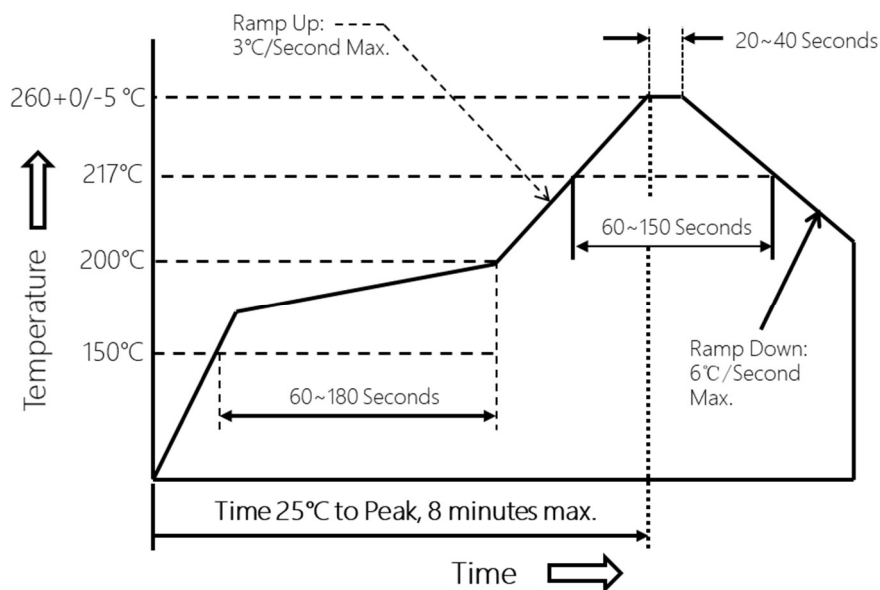
5.5 PCB TRACE ROUTING

The connector uses JL SMT lead pattern. Layout Suggestion: 1. Breakout will be on the outside of the SMT lead, not in-between. Breaking out in-between will create electric stub. 2. Signal via needs to be surrounded by ground via to dampen crosstalk and maintain good return loss.



6 APPLICATION TOOLING

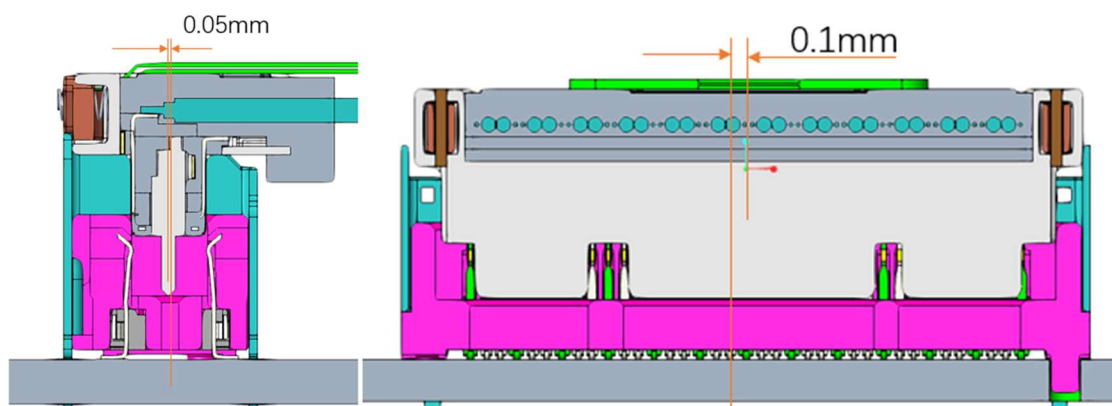
Reflow profile recommendation. Deviation will lead to soldering issues and ill effects to the product.



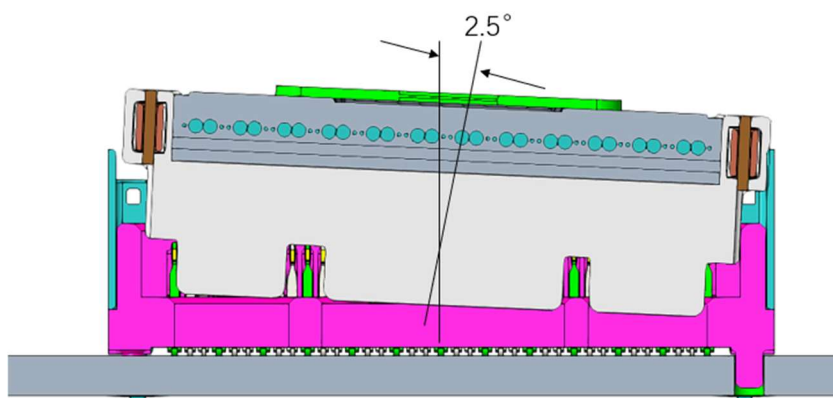
Recommended Reflow Curve Pb-Free Process

7 RECOMMENDED INSERTION FORCES

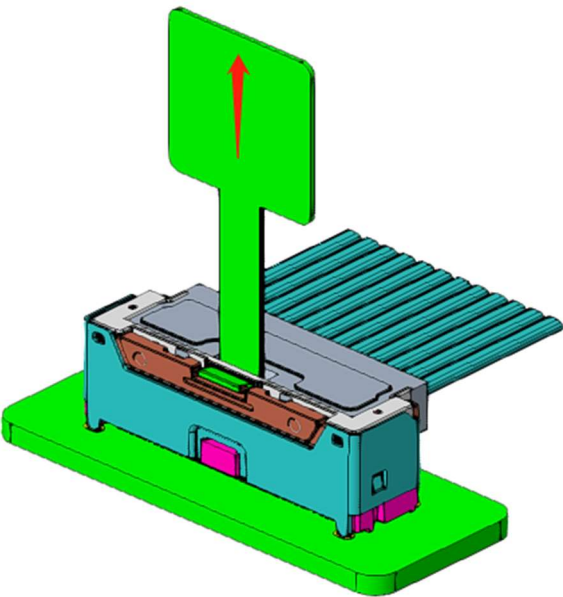
The connector system is designed with lead-in chamfers on the fixed-side and free-side to allow the parts to mate without stubbing when not perfectly aligned. This gatherability works when the mating receptacle is allowed to “float” and find its way to the center of the free-side slot when fully mated. These features are designed for easier mating, but the connector system is not intended for blind mate applications. If the fixed-side connector is rigidly held in place, then it must be well-aligned.



To prevent damage to the connectors from over rotation proper care should be taken when mating and unmating connectors. The connector system is not intended for blind mate applications. Minimizing angular mating is critical to avoid any damage caused during mating, which can occur at angles larger than 2.5° mating. Insertion force should not exceed 42N. Otherwise, damage to the receptacle and/or plug will happen.

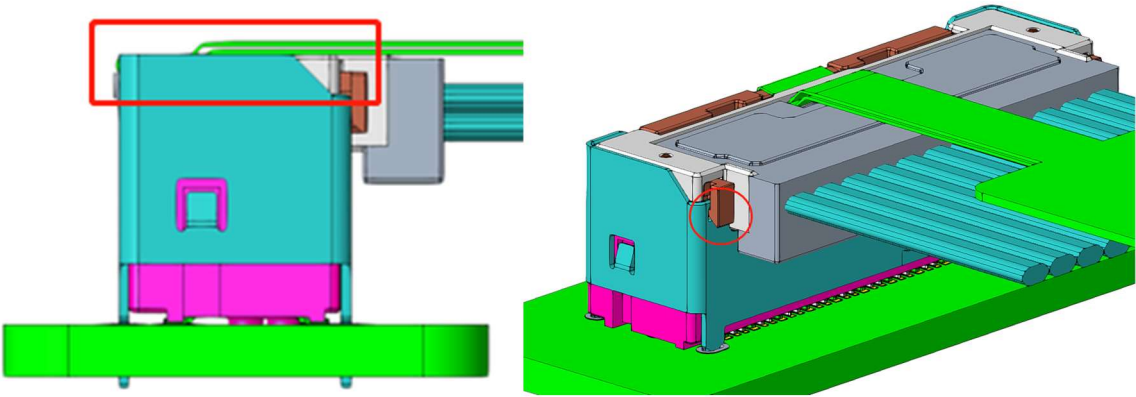


Plug extraction can be achieved by pulling the pull-tab upwards. Once the plug de-latches, the cable will be freely removed. The upward force on the pull-tab should not exceed 35N. If exceed, damage to the plug and receptacle could occur. If de-latch was not successful for any reason, we suggest pushing the plug back into the receptacle and trying again.



8 POST-APPLICATION INSPECTION PROCEDURES

If the plug is fully mated, the plug top surface should be in-line with the receptacle top surface. All four latch will be engaged into the receptacle latch-points on the shell.



9 REVISION RECORD

REVISION RECORD

Rev	Page	Description	EC#	Date
A	All	Release specification		20230825