

## 0.5mm Fine Pitch Hermaphroditic BTB Connector

### 1. SCOPE

#### 1.1. Contents

This specification covers the requirements for mount of 0.5mm Fine Pitch Hermaphroditic Board-to-Board Connector.

### 2. RELATED SPECIFICATIONS

- A. 108-115057 Product Specification
- B. 501-115065 Test Report

### 3. PRODUCT FEATURES

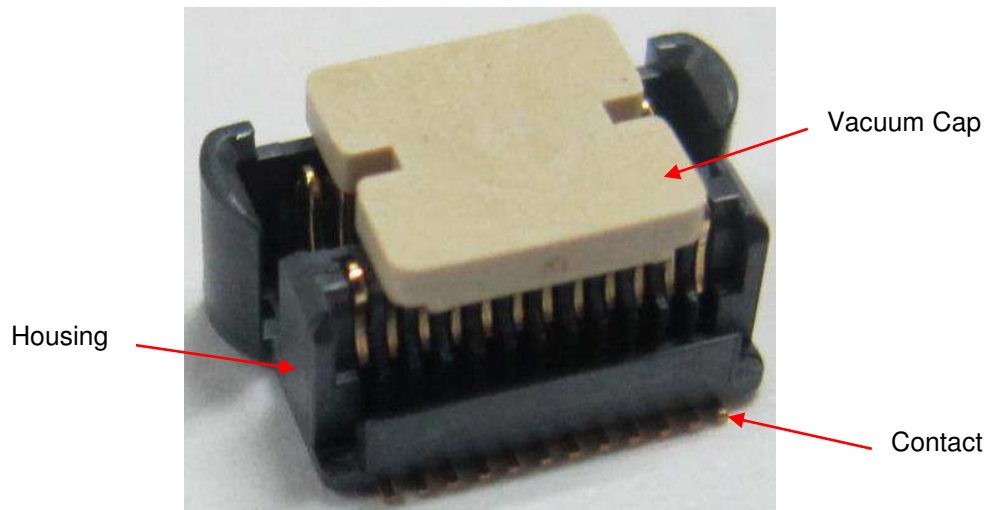


Fig 1

- A. Vacuum cap was added for picking up.
- B. 0.5mm fine pitch hermaphroditic BTB connector is a hermaphroditic, can mates to itself type connector. Connectors are suitable for portable & mobile electronics, medical & instrumentation, hand-held terminals, automatic identification & data capture, sensors, military, communication & networking, motor vehicle and metering.

- C. The contacts are all lead-free. The connector can withstand exposure to 260°C peak temperature for 10~30 seconds in IR re-flow soldering application.
- D. Date code to be printed on the packaging reel.

#### 4. APPLICATION INFORMATIONS

##### 4.1. Storage

- A. This connector is packaged and shipped in an emboss tape packaging. It is recommended that the connector remain in the container to prevent contamination and/or dust accumulation. Also, it shall be stored in an environment of temperature of 5~35°C, humidity of 45~75%, and please free from poisonous gases.
- B. If this connector is stored in the middle of operation, it shall not remain naked.
- C. It is recommend that this connector shall not be stored for a long time after opening its package and that it is used within three months.

##### 4.2. Printed Circuit Board

The PC board shall be glass epoxy. If a thin board is used, it is recommended that ample support is provided underneath to prevent bowing of board during mating.

##### 4.3. PC Board Layout

Please refer to TE's Customer Drawing 2199070 and 2291283

##### 4.4. Solder Techniques

###### A. Recommended Solder Paste

Alloy type shall be either 63Sn/37Pb or 60Sn/40Pb for leaded application, or SAC 405 for lead-free application.

Flux shall be RMA type

###### B. Solder Mask

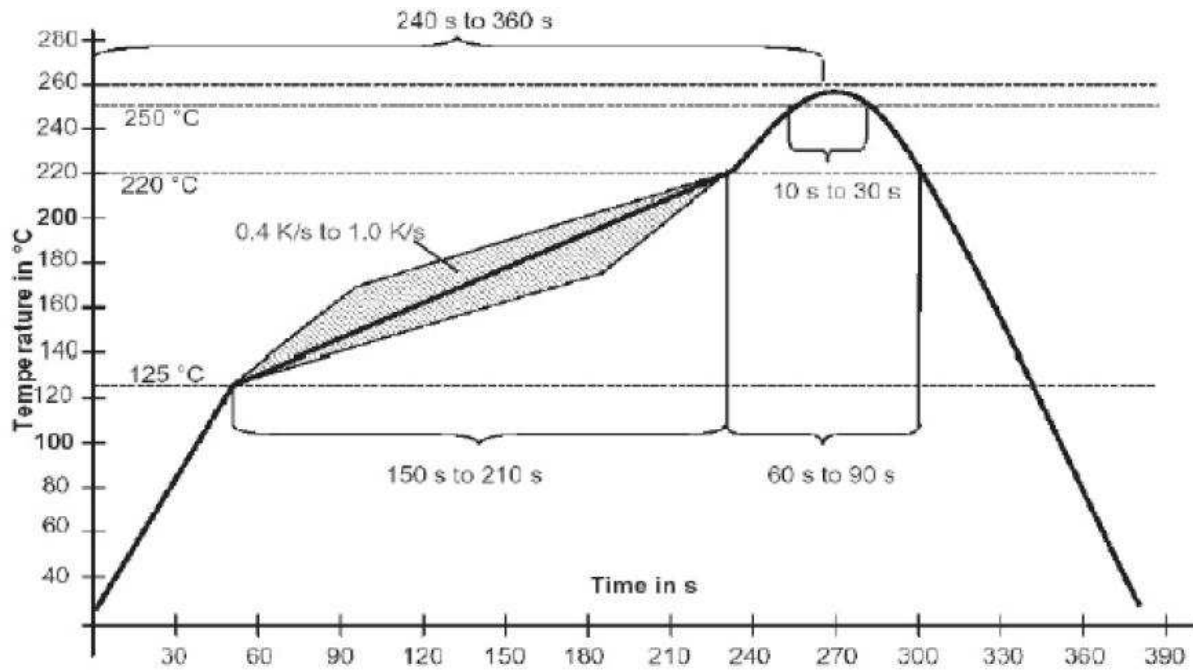
Refer to IPC 7525-A for stencil creation; recommended solder paste stencil thickness to be 0.15mm. Solder mask is recommended between all pads to prevent bridging

C. Connector Placement

This connector has adopted the form of automatic mounting and the surface mount match. Therefore, please mount the connector to PCB with the automatic mounting machine.

D. Recommended IR re-flow profile

Picture below are recommended profiles for 0.5mm fine pitch hermaphroditic BTB connector mounting onto PC board.



Preheat	125°C to 220°C 150 s to 210 s @ 0.4K/s to 1.0K/s
Time at T > 217°C	60 s to 90 s
Peak Temperature	260°C -5/0/°C
Peak Time	10 s to 30 s (>250°C)
Cooling Rate	< 6 K/s
Time form 25°C to peak	240 s to 360 s

Fig 1

#### 4.5. Cautions

- A. Due to the extremely small size of the connectors, handling it with bare hands shall be avoided.
- B. Mating and un-mating of the connectors when not soldered on the boards is not recommended as this may cause deformation of the terminals, or damage to the contacts and housing.
- C. Mated connectors should not carry weight of the board by themselves. Provide some other support of the boards.
- D. It is recommend that this connector should not be stored for a long time after opening its package and that it is used within three months. When mating/un-mating do not twist or lift by the corners. Apply the forces evenly across the entire

#### 4.6. Recommended method for removing vacuum cap

- A. Lift the both ends or both sides of the vacuum cap, and keep the vacuum cap parallel to the PCB to remove it

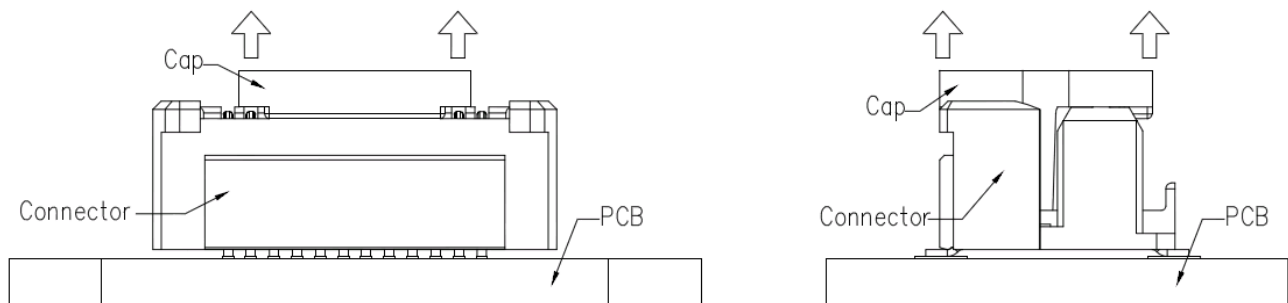


Fig 2

- B. DO NOT attempt the start of the removing vacuum cap from one end or one side

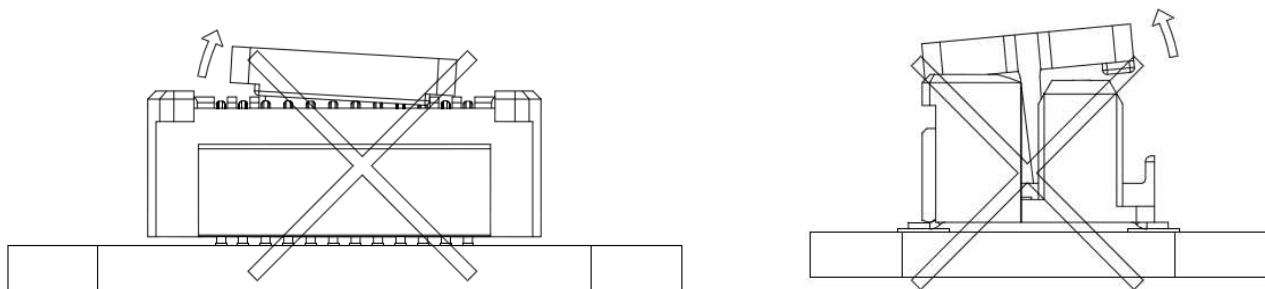


Fig 3

#### 4.7. Recommended method for mating connectors

- A. Keep the connectors parallel to each other and positioning accurately when mating connectors as

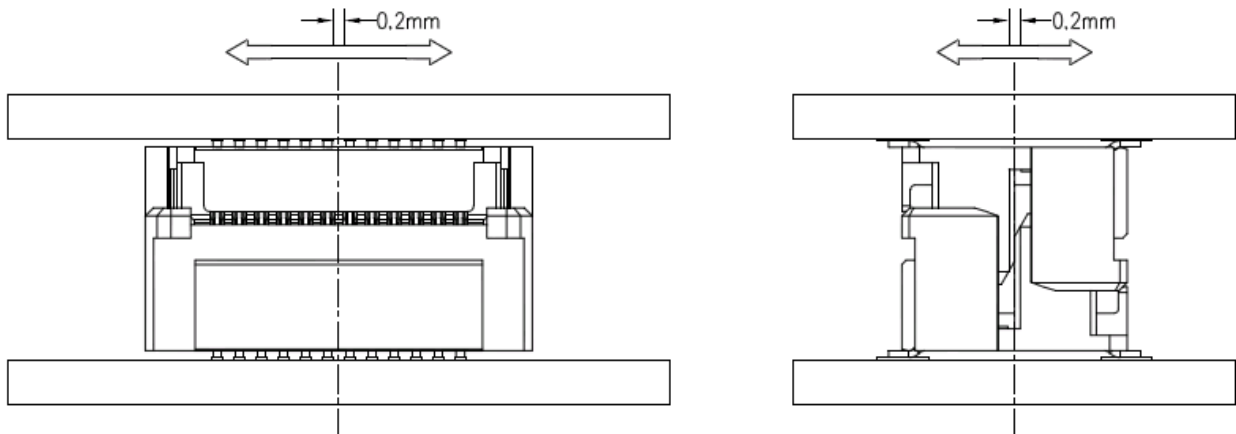


Fig 4

- B. DO NOT attempt to mate the connectors starting at one end or one side

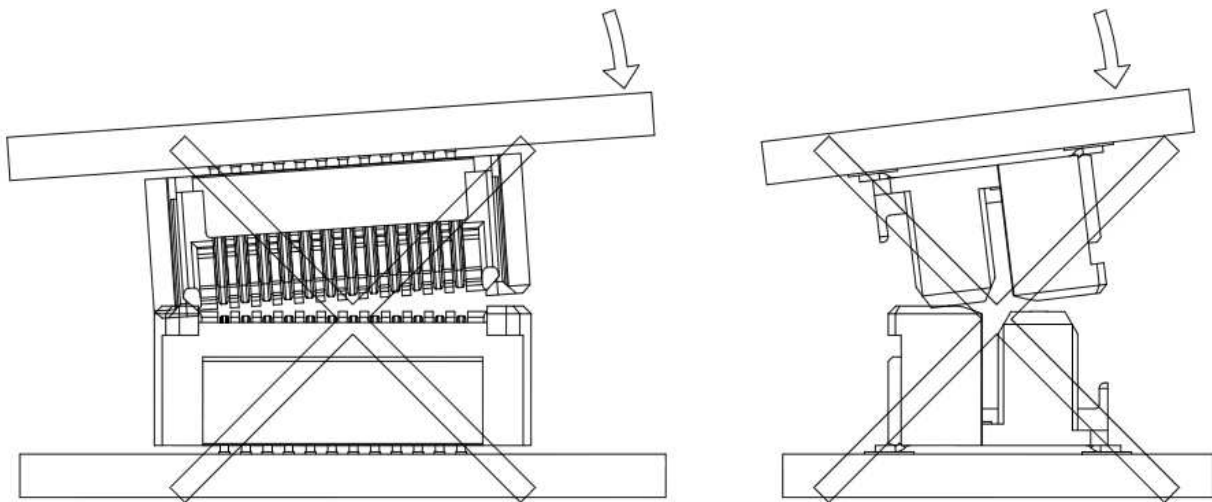


Fig 5

#### 4.8. Recommended method for un-mating connectors

- A. Lift the both ends or both sides, and keep the two PC Boards parallel to each other

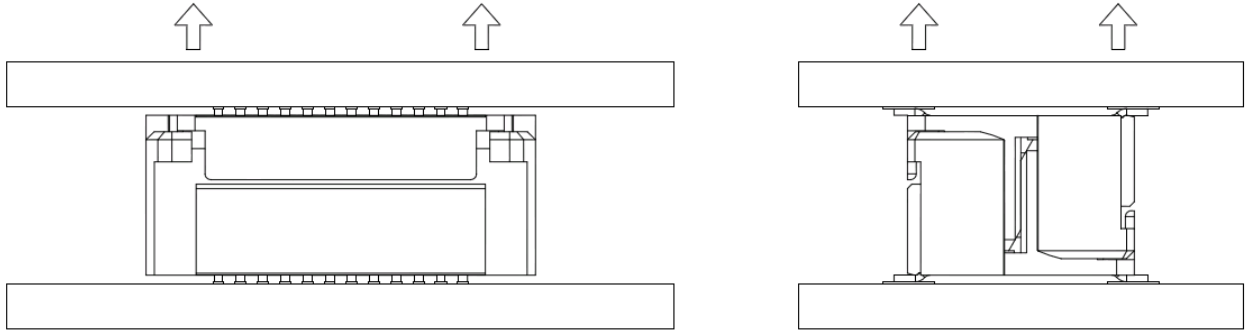


Fig 6

- B. DO NOT attempt the start of the un-mating of the connectors from one end or one side

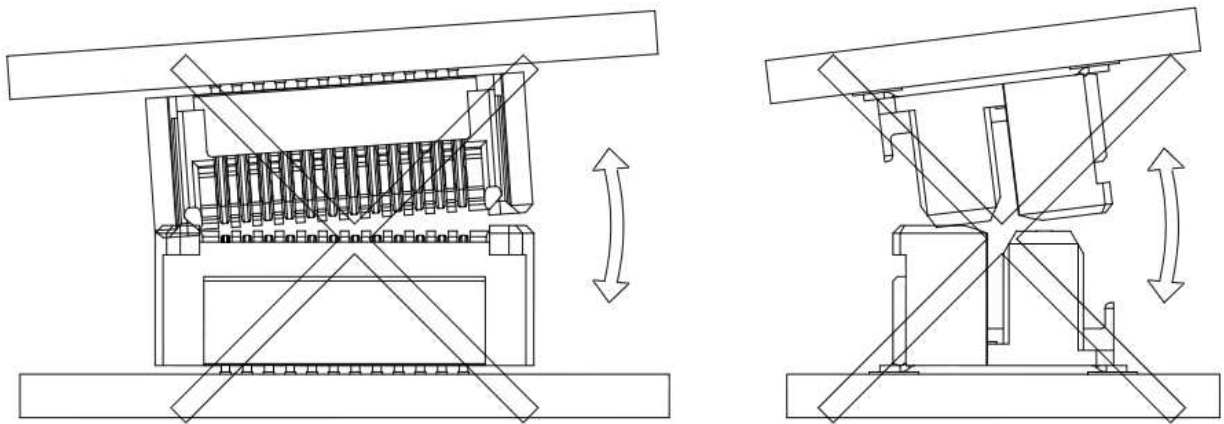


Fig 7