

# Board to Board Connectors

# B2B® High Density SMT Connectors .050/(1.27mm) Pitch



## Features:

- Robust, shrouded design with screw-machined terminals and multi-finger contacts can withstand the rigorous demands of blind mating and mating/unmating cycles.
- At 3 amps per pin, more contacts can be assigned to data/signal transfer (fewer pins needed to handle power and ground).
- High density - over 400 contacts per square inch.
- Industry standard footprints in four mated heights.
- Precision molded with integral polarization keying features.

## Specifications:

### Terminals:

Brass - Copper Alloy  
(C36000) ASTM-B-16

### Contacts:

Beryllium Copper  
(C17200) ASTM-B-194

### Solder Ball:

Standard: 63Sn/37Pb  
Lead-free: 95.5Sn/4.0Ag/0.5Cu

### Plating:

G - Gold over Nickel  
Gold per ASTM-B-488  
Nickel per QQ-N-290

## Table of Models

|        |  |  |
|--------|--|--|
| Female |  | <p>Description: <b>Molded B2B® Connector (BB)</b><br/>                 Material: High Temp. Liquid Crystal Polymer (LCP)<br/>                 Index: -40°C to 260°C (-40°F to 500°F)</p> |
| Male   |  | <p>Description: <b>Molded B2B® Connector (BA)</b><br/>                 Material: High Temp. Liquid Crystal Polymer (LCP)<br/>                 Index: -40°C to 260°C (-40°F to 500°F)</p> |

## Performance

| Mated Height | Differential Insertion Loss          | Differential Return Loss             |
|--------------|--------------------------------------|--------------------------------------|
| 6.00mm       | -20dB @ 1.70 GHz<br>-50dB @ 3.30 GHz | -10dB @ 3.30 GHz<br>-15dB @ 1.70 GHz |
| 8.00mm       | -15dB @ 1.30 GHz<br>-50dB @ 2.50 GHz | -10dB @ 2.50 GHz<br>-15dB @ 1.30 GHz |
| 12.70mm      | -20dB @ 1.70 GHz<br>-51dB @ 3.40 GHz | -10dB @ 3.40 GHz<br>-15dB @ 1.70 GHz |
| 19.05mm      | -60dB @ 2.20 GHz<br>-20dB @ 1.40 GHz | -10dB @ 2.20 GHz<br>-15dB @ 1.40 GHz |

**Insertion Force (6.00mm, 300 position):**  
50g average (per pin)

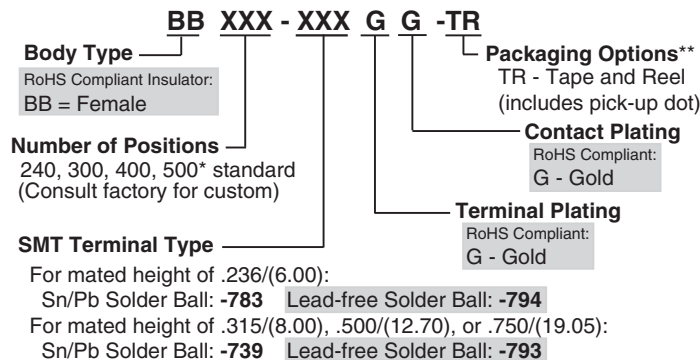
**Durability (mated cycles):**  
500 cycles (<10mΩ change in resistance)

**Extraction Force (6.00mm, 300 position):**  
45g average (per pin)

Additional performance and test data available online.

## How To Order

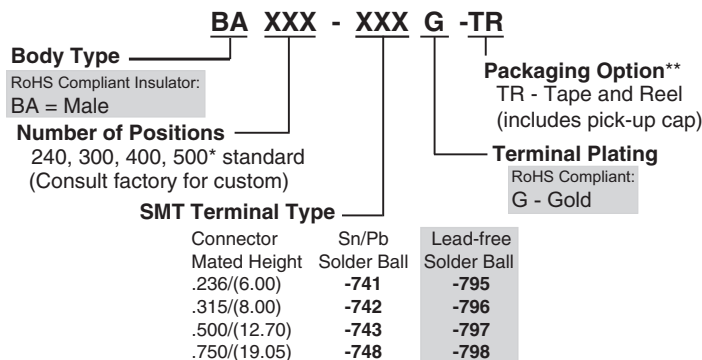
### Female



\*500 pos. available in 6mm mated height only.

\*\*If no packaging code is indicated, female connectors are supplied with pick-up dots in standard trays.

### Male



\*500 pos. available in 6mm mated height only.

\*\*If no packaging code is indicated, male connectors are supplied with pick-up caps in standard trays.



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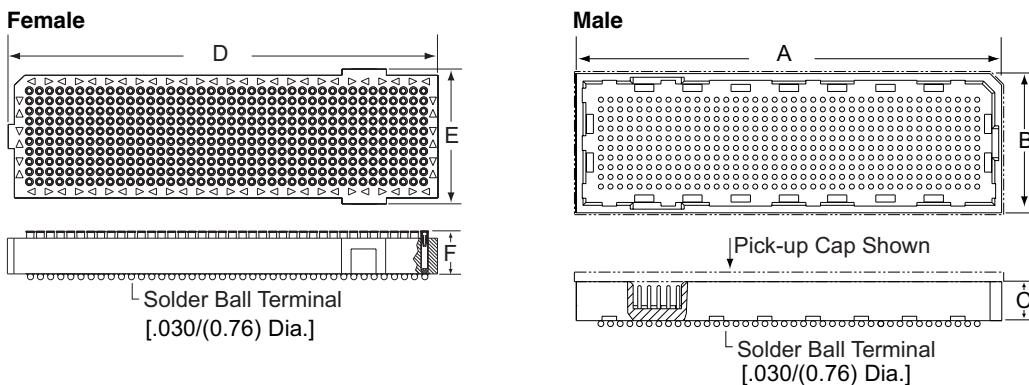
## Standard Footprints

1.27mm Pitch

|  |   |
|--|---|
|  | <ul style="list-style-type: none"> <li>• 240 Positions</li> <li>• 30x8 Rows</li> </ul>  |
|  | <ul style="list-style-type: none"> <li>• 300 Positions</li> <li>• 30x10 Rows</li> </ul> |
|  | <ul style="list-style-type: none"> <li>• 400 Positions</li> <li>• 40x10 Rows</li> </ul> |
|  | <ul style="list-style-type: none"> <li>• 500 Positions</li> <li>• 50x10 Rows</li> </ul> |

Consult factory for custom sizes.

## Dimensional Information



| Mated Board to Board Height* | A<br>in./(mm) | B<br>in./(mm) | C <sup>^</sup><br>in./(mm) | D <sup>^</sup><br>in./(mm) | E <sup>^</sup><br>in./(mm) | F <sup>^</sup><br>in./(mm) |
|------------------------------|---------------|---------------|----------------------------|----------------------------|----------------------------|----------------------------|
| .236/(6.00)                  | 1.704/(43.28) | .622/(15.80)  | .202/(5.13)                | 1.626/(41.30)              | .567/(14.40)               | .136/(3.45)                |
| .315/(8.00)                  | 1.704/(43.28) | .622/(15.80)  | .273/(6.93)                | 1.626/(41.30)              | .567/(14.40)               | .211/(5.36)                |
| .500/(12.70)                 | 1.704/(43.28) | .622/(15.80)  | .462/(11.73)               | 1.626/(41.30)              | .567/(14.40)               | .211/(5.36)                |
| .750/(19.05)                 | 1.704/(43.28) | .622/(15.80)  | .712/(18.09)               | 1.626/(41.30)              | .567/(14.40)               | .211/(5.36)                |
| .236/(6.00)                  | 1.704/(43.28) | .722/(18.34)  | .202/(5.13)                | 1.626/(41.30)              | .667/(16.94)               | .136/(3.45)                |
| .315/(8.00)                  | 1.704/(43.28) | .722/(18.34)  | .273/(6.93)                | 1.626/(41.30)              | .667/(16.94)               | .211/(5.36)                |
| .500/(12.70)                 | 1.704/(43.28) | .722/(18.34)  | .462/(11.73)               | 1.626/(41.30)              | .667/(16.94)               | .211/(5.36)                |
| .750/(19.05)                 | 1.704/(43.28) | .722/(18.34)  | .712/(18.09)               | 1.626/(41.30)              | .667/(16.94)               | .211/(5.36)                |
| .236/(6.00)                  | 2.204/(55.98) | .722/(18.34)  | .202/(5.13)                | 2.126/(54.00)              | .667/(16.94)               | .136/(3.45)                |
| .315/(8.00)                  | 2.204/(55.98) | .722/(18.34)  | .273/(6.93)                | 2.126/(54.00)              | .667/(16.94)               | .211/(5.36)                |
| .500/(12.70)                 | 2.204/(55.98) | .722/(18.34)  | .462/(11.73)               | 2.126/(54.00)              | .667/(16.94)               | .211/(5.36)                |
| .750/(19.05)                 | 2.204/(55.98) | .722/(18.34)  | .712/(18.09)               | 2.126/(54.00)              | .667/(16.94)               | .211/(5.36)                |
| .236/(6.00)                  | 2.704/(68.68) | .722/(18.34)  | .202/(5.13)                | 2.626/(66.70)              | .667/(16.94)               | .136/(3.45)                |

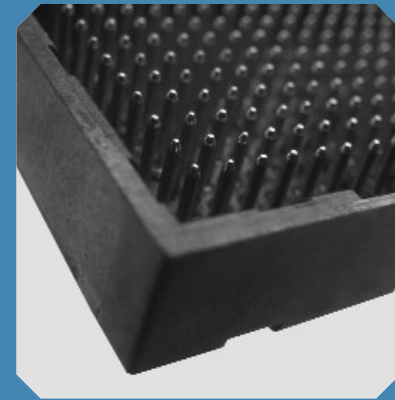
Additional mated heights coming soon. Consult factory.

\*Approximate dimension after soldering. <sup>^</sup>Dimensions do not include solder ball height.

inch/(mm)

Products shown covered by patents issued and/or pending. Specifications subject to change without notice.

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## Packaging & Options:

**Male connectors** - supplied with a pick-up cap to protect male pins and facilitate automated pick-and-place. Pick-up cap remains in place during reflow.



**Female connectors** - supplied with a polyimide dot to facilitate automated pick-and-place.

**Tape and Reel** - Add -TR to end of part number for Tape and Reel packaging.

**Standard Trays** - If no packaging code is indicated, connectors are shipped in standard trays (Note: Trays are not suitable for automated pick-and-place processes.)

## Available Online:

- RoHS Qualification Test Report
- Product Specification
- Test data
- Signal Integrity Data
- CAD Drawings



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