57 -Position LGA/LGA PCBeam™ Connector

Neoconix P/N: BDX0057CMMF4AU00

FEATURES
- High density 0.7424mm area-array pitch
- Low profile, 1.60 mm mated height
- PCBeam™ high reliability LGA spring contacts
- Hard gold-plated contact interface
- Compressible foam protective outer layers
- IPC-4101B compliant (halogen-free)
- ROHS 2011/65/EU compliant

OVERVIEW
Featuring Neoconix’s patented PCBeam™ interconnect technology, this one-piece connector product offers high performance and high reliability in an extremely compact form factor. Compressible foam is used on the top and bottom side of the part to protect the contact beams at the unmated state, and foam flaps are used for part for alignment.

Interposer Features – Mated State
DESCRIPTION

At the unmated state, the PCBeam contacts sit below the surface of the compressible foam. The foam will protect the contact beams from potential damage during handling and assembly. On either end of the part are slotted holes used for alignment. Foam flaps protruding from the bottom side of the alignment holes are used to center the part snugly against the alignment pins. When the clamping system is engaged, the foam will compress ~75% on each side allowing sufficient pin contact to PCB/FPC mating pads. The recommended total compression force is 40N-120N.

Contacts Recessed Below Foam Surface (Unmated State)

Top View – Slotted Holes with foam flaps used for part alignment

Side View - Unmated State

Side View - Mated State

~2.06 mm

~1.60 mm
CROSS REFERENCE INFO:

- TI Interposer Drawing: 2513242
- TI DMD Drawing: 2512014

ORDERING INFORMATION:

- Part Number: BDX0057CMMF4AU00
- Production Packaging: Anti-static vacuum formed trays
- Minimum Production Order Size: 2000 units

SPECIFICATIONS

MECHANICAL

- Contact Configuration: single-beam
- Contact Pitch: 0.7424mm x 0.7424mm
- Contact Count: 57 (19x3)
- Recommended Total Compression Force: 40N-120N
- Durability Cycles: 50 mate/un-mate cycles min.
- Min Gold Thickness: 0.38µm (15µ-in)

ELECTRICAL

- Resistance per position: < 50mΩ
- Current Capacity: 0.5A per position min. Insulation
- Resistance: 100MΩ
- Dielectric Withstanding Voltage: 100VDC Operating
- Frequency: <1GHz

ENVIRONMENTAL

- End Product Environment: Mobile
- Operating Temperature: -20°C t75°C
- Storage Temperature: -40°C to 85°C
- Durability: 50 Cycles, mate-demate
- Heat Soak: 72 hrs., 90% RH, 65°C
- Temp Life: 96 hrs., 85°C, 10A(P), 0.5A(G)
- Temperature Cycling: -40°C to 85°C, 100 cycles
- Salt Spray: 48 hrs., 5% salt mist & air Mechanical
- Shock: 50G, 3 per axis
- Mechanical Vibration: 6 hrs. per 3 axis, 10-55-10Hz

MATERIALS

- Core Dielectric: MCL E-75G or equivalent Contact
- Elements: Copper alloy
- Contact Plating: hard Au over Ni
- Surface Insulator: Urethane foam composite

NOTE: Specifications are subject to change without notice.
DIMENSIONAL INFORMATION

NOTES (UNLESS OTHERWISE SPECIFIED):
1. INTERPRET DRAWING PER ASME Y14.5-94.
2. COMPLIANT WITH ROHS DIRECTIVE 2002/95/EC.
3. CENTER MARKS OF CONTACT POSITIONS ARE FOR COMPRESSED STATE.

DIMENSIONS ARE IN

_MM [INCH]

.X ± 0.13 [0.05]
.XX ± 0.08 [0.03]
.XXX ± 0.025 [0.01]

ANGLE: NO DEC ± 1°

.X ± 0.5°
.XX ± 0.25°
RECOMMENDED FPC or PCB LAYOUT

Note: If FPC is used, a 1.5mm thick FR4 (or similar) stiffener is recommended on backside of FPC to provide rigidity and reduce warp.
ASSEMBLY & HANDLING GUIDELINES

• The use of latex gloves is recommended when handling interposers. As with any normal force connector, avoid touching contact tips and handle the product only by its short edges. For example:

![Image of interposer handling](image)

• When clamping the module, PCB, or FPC onto the connector, please ensure that the force is applied uniformly. Force should be applied vertically through the z-axis and not in an angled direction.

• Cleaning is typically not needed if the product is kept in original packaging. When necessary, cleaning can be employed with the use of compressed air. Direct the flow of air in the direction that the contact elements are pointing. Cleaning can also be performed with an ultrasonic bath of isopropyl alcohol (IPA). A 5 minute soak can be followed by a 10 minute bake at 65°C.

• When not in use, please keep product stored in original packaging.
PACKAGING INFO
Production parts are provided in Anti-Static vacuum formed trays with 100 pockets per tray. Detailed drawings are available upon request.
ORDERING INFO

To obtain a quotation, please contact the Neoconix sales office at sales@neoconix.com or 408-530-9393. Please include the part number(s) of interest.

Custom interposers and hardware are also available from Neoconix

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REVISION HISTORY

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<th>Date</th>
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<td>10/1/2014</td>
<td>Production Release</td>
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<tr>
<td>Rev B</td>
<td>02/11/2015</td>
<td>Update handling guide line</td>
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<td>Rev C</td>
<td>03/13/2018</td>
<td>Increased interposer length from 19.1 to 20mm</td>
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