

56 Position LGA/LGA Connector, 1.0mm pitch

Neoconix P/N: BDX0056DMMSXAU00

FEATURES

- High density 1mm x 1mm area-array pitch
- Low profile BtB application, 1.3mm mated height
- PCBeam[™] high reliability LGA / LGA spring contacts
- 15u" Hard gold-plated contact interface
- RoHS 2011/65/EU (RoHS2) compliant



OVERVIEW

The PCBeam[™] 56 Position Connector is an interconnect solution for the Texas Instruments S247 DMD. Featuring Neoconix's patented PCBeam[™] interconnect technology, this product offers high performance and high reliability in an extremely compact form factor, a heat-sink opening, and features for precise alignment of the connector to the DMD and main PC Board.



PCBeam™ Technology

DOCUMENT NUMBER:	REV . 2	EC nin Interneser	AUTHOR:	Page
AS-000057	5/5/2020	56-pin interposer	Gary H	1 of 7



CROSS REFERENCE INFO:

- TI Interposer Drawing: 2516672
- TI DMD Interface Drawing: 2516674

ORDERING INFORMATION:

- Part Number:
- Production Packaging:
- Minimum Production Order Quantity: 2,000
- Lead Time:

Vacuum formed Low Profile Matrix Trays 2,000 8 weeks ARO

BDX0056DMMSXAU00

4. PRODUCT SPECIFICATIONS

MECHANICAL

ITEM	DESCRIPTION	REQUIREMENT	COMMENT
M1	Contact Pitch	1 mm x 1 mm	56 pos
M2	Contact Normal Force	45 +/-15g	
M3	Contact Deflection	0.25 mm typical per side	
M4	Contact retention force	100 g	Pull contact from top direction
M5	Durability	25 mating cycles	Functional OK

ELECTRICAL

ITEM	DESCRIPTION	REQUIREMENT	COMMENT
E1	Resistance Per Position (LLCR)	< 50 m-ohm	
E2	Resistance variance (Delta R)	< 20 m-ohm	After test
E3	Current rating	0.5 A for 1 contact	PCB trace width layout & copper THK per EIA364-70
E4	Insulation Resistance	>1000 M-Ohm	Per EIA364-21
E5	Dielectric Withstanding Voltage	100VDC	
E6			
E7			
E8			

ENVIRONMENTAL

ITEM	DESCRIPTION	REQUIREMENT	COMMENT
EN1	Operating Temperature	-55C to 105C	
EN1- 1	Storage Temperature	-40C to 85C	
EN2	Thermal shock	-55C to 105C, Ramp times should be 10C per min and dwell times be 0.5 hour. Perform 25 cycles.	Test Condition II of EIA-364-32

DOCUMENT NUMBER:	REV . 2	E6 nin Internecor	AUTHOR:	Page
AS-000057	5/5/2020	So-pin interposer	Gary H	2 of 7



56-Position PCBeam™ Connector

		-	
EN3	High temperature life	105C x 250 hours	according to EIA-364-17
EN4	Cyclic Temperature & Humidity	minimum requirement is 250 hours of humidity exposure at 25 °C to 65 °C and 80% relative humidity	the required dwell time at Tmin and Tmax is 2 hours with 2 hour ramps for a total of 8 hours of test time per cycle
EN5	Salt Spray	48hrs, 5% mist	
EN6	Random Vibration	No signal discontinuities of more than 1 u-sec during the test.	Per EIA364-28, test condition VII, letter D, Duration: 10 minutes per axis for all 3 axes. Frequency Range: 5 ~ 500 Hz. 5 to 20Hz (slope): $(0.01g^2/Hz)@5Hz$, $(0.02g^2/Hz)@20Hz$; 20 to 500Hz (flat): Input acceleration is 3.10 g RMS;,
EN7	Mechanical Shock	No signal discontinuities of more than 1 u-sec during the test.	Per EIA364-27 Acceleration: 40G, half-sine wave Shock duration: 11 ms. Shocks in each of 3 directions.
EN8	Thermal disturbance	Cycle the connector between 15°C and 85°C, Ramp should minimum of 2C per minute	Perform 10 such cycle
EN9	Steady-State Temperature and Humidity	no evidence of corrosion products at the connector contact area,	Per EIA364-113 tested at 40 °C±3 °C, 93%±5% RH for 14 days

MATERIALS

ITEM	DESCRIPTION	REQUIREMENT	COMMENT
MA1	Connector body	FR4	
MA2	Contact Elements	High performance copper alloy	
MA3	Contact Plating	Min 15u" hard Au over Ni (70+/- 30 u")	
MA4	Surface insulator	Polyimide, PI	
MA5			
MA6			

NOTE: Specifications are subject to change without notice.

DOCUMENT NUMBER:	REV . 2	EC nin Interneser	AUTHOR:	Page
AS-000057	5/5/2020	56-pin interposer	Gary H	3 of 7



DIMENSIONAL INFORMATION



Note: This example information is for reference only. Please refer to the latest product drawing.

DOCUMENT NUMBER:	REV . 2	EC nin Interneser	AUTHOR:	Page
AS-000057	5/5/2020	So-pin interposer	Gary H	4 of 7



RECOMMENDED PCB LAYOUT



Note: This information is for reference only. Please refer to the latest product drawing.

DOCUMENT NUMBER:	REV . 2	EC nin Interneser	AUTHOR:	Page
AS-000057	5/5/2020	So-pin interposer	Gary H	5 of 7



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 edges per the attached photo.
- 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 low profile vacuum formed trays. Each tray holds 50 pcs at 40 trays per carton, Total= 2000PCS/Carton



DOCUMENT NUMBER:	REV . 2	E6 pip Interposer	AUTHOR:	Page
AS-000057	5/5/2020	56-pin interposer	Gary H	6 of 7



ORDERING INFO

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

Custom interposers and hardware are also available from Neoconix.

Corporate Headquarters:

Neoconix, Inc. 4020 Moorpark Ave., #108 San Jose, CA 95117 USA

 Phone: +1 (408) 530-9393

 Fax:
 +1 (408) 530-9383

 Email:
 sales@neoconix.com

 UR:
 http://www.neoconix.com

China Contact: David Chen Phone: +1 (408) 768-4135 Email: <u>sales@neoconix.com</u>

REVISION HISTORY

Rev 1	03/05/2020	preliminary
Rev 2	05/05/2020	Update environment test spec to compliant with PCBeam spec

DOCUMENT NUMBER:	REV . 2	56-pin Interposer	AUTHOR:	Page
AS-000057	5/5/2020		Gary H	7 of 7