

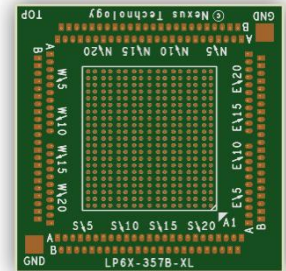
LP6-A-CDA-357-XL

LPDDR6 Xcelerate™ Series 357-Ball BGA Interposer | Oscilloscope

OVERVIEW

The LP6-A-CDA-357-XL Direct Attach BGA interposer enables probing of LPDDR6 components with an oscilloscope.

- LPDDR6-14400
- 357-ball
- Easy probing with an oscilloscope
- JEDEC Standard JESD209-6
- Xcelerate™ Series
- Small keep-out volume (KOV)
- Integrated riser
- S-Parameters for system simulation
- Oscilloscope de-embedding s-parameters
- Installs with standard BGA Rework
- Attachment and analysis services available
- Made in the USA



XCELERATE® SERIES INTERPOSER

This interposer is a member of the Xcelerate™ Series of interposers. Engineered for performance and precision, Nexus Technology's Xcelerate™ Series interposers support data rates exceeding 10 Gbps (14.4 Gbps for this LP6-A-CDA-357-XL interposer), enabling seamless signal access for oscilloscopes, logic analyzers, and other advanced test equipment. The Xcelerate™ series of interposers empowers engineers to validate, debug, and optimize next-generation memory systems with unparalleled accuracy and efficiency.

Xcelerate™

KEY FEATURES

LPDDR6-14400: Supports LPDDR6 speeds up to LPDDR6-14400 (14.4GT/s).

Robust Signal Access: Provides low-loss, high-fidelity probing points for critical signals, including data (DQ), command/address (CA), and clock lines, ensuring minimal impact on system performance during testing.

Xcelerate™ Series Member: Xcelerate® Series interposers are available in multiple configurations to accommodate various package types (e.g., BGA, PoP) and test setups, offering compatibility with industry-standard oscilloscopes and logic analyzers.

Enhanced Durability: Built with high-quality materials to withstand repeated mating cycles and maintain signal reliability in demanding lab environments.

Streamlined Integration: Designed for easy installation between memory modules and host systems, reducing setup time and complexity for test engineers.

TECHNICAL SPECIFICATIONS

For a complete datasheet, including all technical specifications, please contact us.

BGA INTERPOSER ADVANTAGES

The LP6-A-CDA-357-XL interposer with an integrated riser enables probing at the highest speeds of LPDDR6 with an oscilloscope. This enables complete signal access to the LPDDR6 bus for visibility and compliance analysis. The interposer is easy to install using standard BGA rework practices. Or take advantage of Nexus' attachment and testing services.

DIRECT ATTACH – CONVENIENT AND ACCURATE

Optimal LPDDR6 validation requires analysis of the LPDDR6 signals as seen by the memory components. This allows for the highest confidence that the signals captured are representative, contain little interference, and present the maximum possible data eye size. This LPDDR6X Direct Attach interposer enables oscilloscope probing of the LPDDR6 signals.

SIMULATION AND DE-EMBEDDING

S-Parameters are included for target simulation and the creation of oscilloscope de-embedding filters.

SOLDER BALLS

The interposer comes with solder balls installed.

RISER

The riser is integrated into the interposer.

ATTACHMENT AND TESTING SERVICES

The following services are available for this interposer.

ATTACHMENT SERVICE

For each interposer, the *Attachment Service* will install a component to the interposer and the interposer to the target. Other accessories may also be attached (risers, sockets, etc.).

TARGET BOOT & BASIC FUNCTIONALITY

For each target, this service will power on and ensure functionality of the target with the interposer(s) installed.

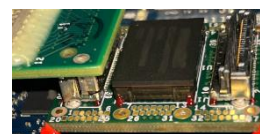


Figure 1 Attachment Service Example

DIMENSION DRAWINGS

For a complete datasheet, including mechanical dimensions, please contact us.

PROBE POINT LOCATIONS / SIGNAL LIST

For a complete datasheet, including mechanical dimensions, please contact us.

S-PARAMETERS

This interposer comes with scattering parameters (s-parameters) extracted directly from the interposer design. These parameters are used for target simulation and oscilloscope de-embedding filters.

S-Parameters for all channels are available. However, in many cases, signals in a shared class (CA, DQ, DQS, etc.), perform similarly and a single s-parameter for each class is adequate for de-embedding.

It is incumbent on the user to include the model correctly in the simulation environment or oscilloscope de-embedding software.

S-PARAMETER FILES

All s-parameter files are in Touchstone v1.0 format. Typical filenames are

- *InterposerName*-SEU.s2p: Simulation, single-ended, unloaded without oscilloscope probe attached.
- *InterposerName*-SEL.s2p: Simulation, single-ended, loaded with oscilloscope probe attached.
- *InterposerName* -DFU.s4p: Simulation, differential, unloaded without oscilloscope probe attached.
- *InterposerName* -DFL.s4p: Simulation, differential, loaded with oscilloscope probe attached.
- *InterposerName* -SDE3P.s3p: De-embedding file, single-ended.
- *InterposerName* -SDE6P.s6p: De-embedding file, differential.

SIMULATION PORT DEFINITIONS

The simulation s-parameter ports do not include the test equipment connection (oscilloscope pad or analyzer connection). However, these connections are accounted for internally in the s-parameter model.

Single-ended simulation models use 2-port s-parameters with *Port1* connected to the memory device and *Port2* connected to the target system.

Differential simulation models use 4-port s-parameters with *Port 1* and *Port 2* connected to the memory device *True* (*T*) and *Complement* (*C*), respectively. *Port 3* and *Port 4* are connected to the target system *T* and *C*, respectively.

OSCILLOSCOPE DE-EMBEDDING (SDE) PORT DEFINITIONS

The oscilloscope de-embedding (SDE) s-parameter ports include the oscilloscope connection as separate ports.

Single-ended de-embedding models use 3-port s-parameters with *Port 1* connected to the memory device, *Port 2* connected to the target system, and *Port 3* connected to the probe test point.

Differential de-embedding models use 6-port s-parameters with *Port 1* and *Port 2* connected to the memory device *True (T)* and *Complement (C)*, respectively. *Port 3* and *Port 4* are connected to the target system *T* and *C*, respectively. *Port 5* and *Port 6* are connected to the probe test points *T* and *C*, respectively.

Model Type	Signal Type	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6
Simulation	Single-Ended	Memory	Target	--	--	--	--
	Differential	Memory (T)	Memory (C)	Target (T)	Target (C)	--	--
SDE	Single-Ended	Memory	Target	Probe	--	--	--
	Differential	Memory (T)	Memory (C)	Target (T)	Target (C)	Probe (T)	Probe (C)

PRODUCT CONFIGURATION TABLE

Product Name	Description	Nexus Order Number
LP6-A-CDA-357-XL	LPDDR6 357-ball Xcelerate™ Series component interposer with integrated riser.	NEX-LP6-A-CDA-357-XL



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