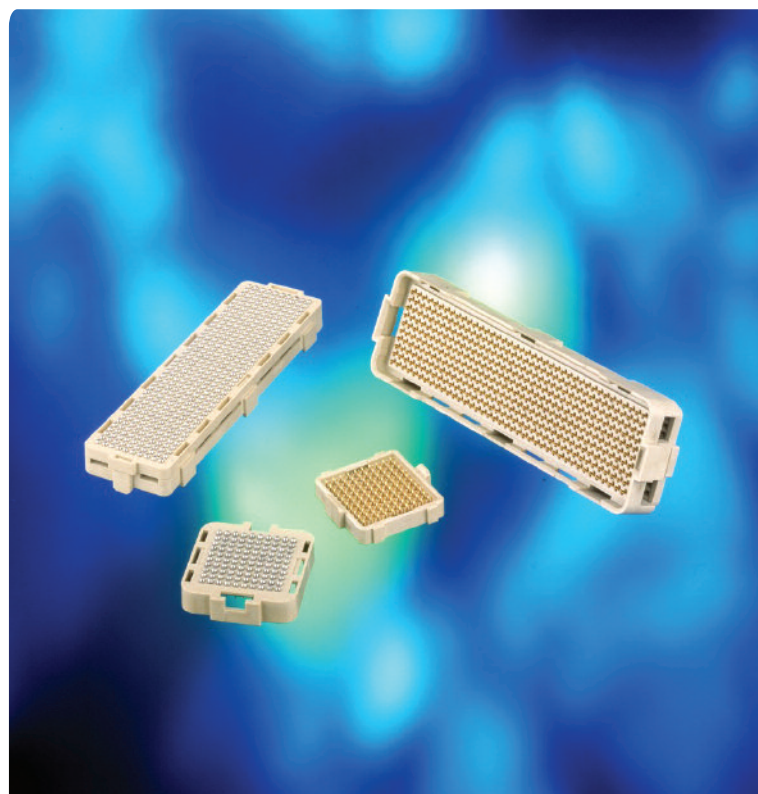


## MEG-ARRAY® CONNECTOR SYSTEM

### DESCRIPTION

The MEG-Array® connector is designed to meet the needs of 10Gb/s applications requiring up to 528 signal pins per connector. The combination of multiple stack heights (4mm to 14mm) and multiple sizes (81 signals to 528 signals) allows for optimal design flexibility while yielding less than 1% cross-talk performance when configured differentially. FCI has produced the MEG-Array® Connector System since 1996, shipping over 10 billion BGA contact interfaces illustrating FCI's extended tradition as the premier BGA interconnect innovator and supplier. FCI's patented BGA design is supported by fully automated quality control systems featuring 100% inspections of assembly coplanarity, solder sphere size and location, as well as critical-to-function terminal component attributes. Multiple in-line vision systems, quality control product audits, and statistical process controls are all a part of our state-of-the-art manufacturing facility.



### FEATURES & BENEFITS

- RoHS Compliant (Lead-Free)
- Ball Grid Array (BGA) termination for process friendly attachment
- .050" x .050" BGA interface pitch optimizes routing and electrical performance
- Stack Heights available from 4mm to 14mm (2mm increments)
- Connector sizes of 81 signals to 528 signals providing 80 usable signals per linear cm (205 signals per linear inch) allow for optimization of board space and signal requirements
- 10 Gb/s differential pair performance at less than 1% cross-talk meets the needs of high speed mezzanine applications
- Meets Telcordia GR-1217-CORE and NPS-25298-2 specifications for utilization in telecom applications
- Demonstrated solder joint reliability of greater than 22 years life (per IPC-SM-785) is unmatched for a BGA mezzanine connector
- Polarized design assures proper mating of the connector
- Back to Back testing connector (Interposer) available upon special request

### TARGET MARKETS / APPLICATIONS

- Communications
  - Transmission
  - Access
  - Switching
  - Optics
  - Networking
- Data
  - Servers
  - Storage
- I & I
  - Industrial controls & equipment
  - Analytical & diagnostic
  - Medical

## MATERIALS

- Housing: Liquid Crystal Polymer
- Contact: Copper Alloy
- Plating: Au over Ni
- SnPb – Solderballs: 63Sn/37Pb Ø 0.76mm
- Pb-Free – Solderballs: 95.5 Sn/4 Ag/0.5 Cu

## MECHANICAL PERFORMANCE

- Durability: 50 Cycles  
Telcordia GR-1217-CORE, NPS-25298-2 Documents
- Contact Wipe: 0.80mm Nominal
- IPC-SM-785 Solder Joint Reliability: 22.1 year product end-of-life

## ELECTRICAL PERFORMANCE

- Current Rating:
  - 0.45 A / Contact  $\leq 30^{\circ}\text{C } \Delta T$  (100% Energized)
  - 2.0 A <  $30^{\circ}\text{C } \Delta T$  (Single Contact Energized)
- Low Level Contact Resistance: See product specification GS-12-100 for performance results of specific stack heights
- Dielectric Withstanding Voltage: 200 VAC max.
- Insulation resistance: 1000 m $\Omega$  min.
- Differential impedance ( $Z_0$ ), Propagation Delay, Near-End Cross-Talk, S21 (insertion loss) and S11 (return loss):  
For performance of various stack heights, please refer to the FCI high speed website.

## SPECIFICATIONS

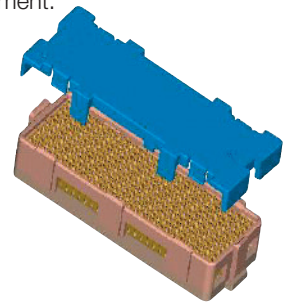
- Product specifications: GS-12-100
- Application specification: GS-20-033
- Meets requirements of Telcordia GR-1217-CORE issue I
- Meets requirements of NPS-25298-2 (25 year life expectancy) (supporting test reports can be obtained at: [www.fciconnect.com/highspeed](http://www.fciconnect.com/highspeed))

## PACKAGING

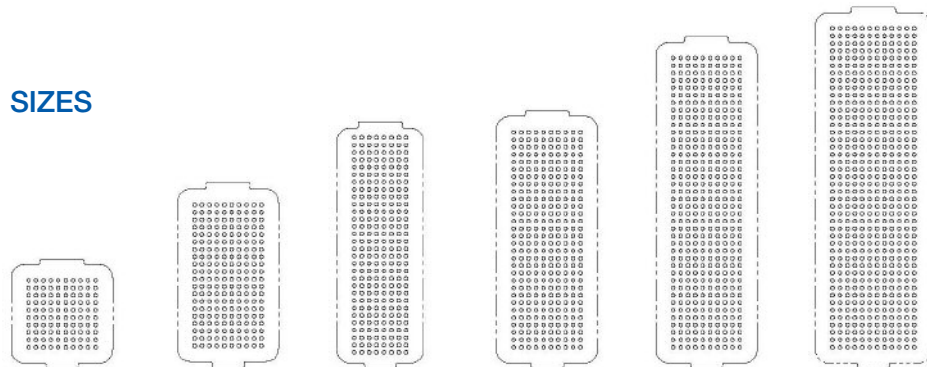
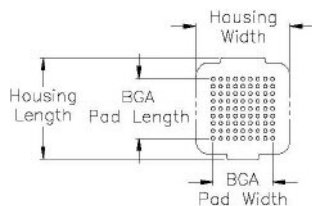
- Tape and Reel

## MORE DATA

- Spice files, IGES and ProE files, signal integrity data and additional information available at: [www.fciconnect.com/highspeed](http://www.fciconnect.com/highspeed)
- Standard MEG-Array® plugs and receptacles shipped with a cap for product protection as well as for use by automated pick and place equipment. (Actual cap color: natural)



## MEG-ARRAY® CONNECTOR SIZES



Feature Description	81 Position (9x9)	100 Position (10x10)	200 Position (10x20)	240 Position (8x30)	300 Position (10x30)	400 Position (10x40)	528 Position (12x44)
Housing Length	17.43	18.7	31.4	42.3	44.1	56.8	61.88
Housing Width	16.07	17.34	17.34	14.8	17.34	17.34	19.88
BGA/Pad Length	10.16	11.43	24.13	36.83	36.83	49.53	54.61
BGA/Pad Width	10.16	11.43	11.43	8.89	11.43	11.43	13.97

All Dimensions in mm.

## MEG-ARRAY® MATED HEIGHTS - BASE PART NUMBER SELECTOR



Size	Type	4.0mm	6.0mm	8.0mm	10.0mm	12.0mm	14.0mm
81 Position (9x9)	Plug	55714 0mm					
	Receptacle	55715 4mm					
100 Position (10x10)	Plug	84512 0mm					
	Receptacle	84513 4mm					
200 Position (10x20)	Plug	84516 0mm	84516 0mm	84516 0mm	84530 6mm	84530 6mm	84530 6mm
	Receptacle	84517 4mm	55724 6mm	84535 8mm	84517 4mm	55724 6mm	84535 8mm
240 Position (8x30)	Plug	74213 0mm	74213 0mm				
	Receptacle	74217 4mm	55755 6mm				
300 Position (10x30)	Plug	84500 0mm	84500 0mm	84500 0mm	84578 6mm	84578 6mm	84578 6mm
	Receptacle	84501 4mm	84502 5.5mm (5.5mm)	84553 8mm	84501 4mm	84502 5.5mm (11.5mm)	84553 8mm
400 Position (10x40)	Plug	84740 0mm	84740 0mm	84740 0mm	84520 6mm	84520 6mm	84520 6mm
	Receptacle	74221 4mm	74388 6mm	74390 8mm	74221 4mm	74388 6mm	74390 8mm
528 Position (12x44)	Plug		1002671 0mm				
	Receptacle		10026846 6mm				

## MEG-ARRAY® INTERCONNECT PART NUMBERS – PLUGS

# of Positions	Description	Contact Area Finish (in microinches)	Part Numbers	
			SnPb BGA	RoHS Compliant Pb-Free BGA
81	0mm	15 Au	55714-002	55714-002LF
		30 Au	55714-102	55714-102LF
		50 Au (Telcordia)	55714-202	55714-202LF
100	0mm	15 Au	84512-002	84512-002LF
		30 Au	84512-102	84512-102LF
		50 Au (Telcordia)	84512-202	84512-202LF
200	0mm	15 Au	84516-002	84516-002LF
		30 Au	84516-102	84516-102LF
		50 Au (Telcordia)	84516-202	84516-202LF
	6mm	15 Au	84530-002	84530-002LF
		30 Au	84530-102	84530-102LF
		50 Au (Telcordia)	84530-202	84530-202LF
240	0mm	15 Au	74213-002	74213-002LF
		30 Au	74213-102	74213-102LF
		50 Au (Telcordia)	74213-202	74213-202LF
300	0mm	15 Au	84500-002	84500-002LF
		30 Au	84500-102	84500-102LF
		50 Au (Telcordia)	84500-202	84500-202LF
	6mm	15 Au	84578-002	84578-002LF
		30 Au	84578-102	84578-102LF
		50 Au (Telcordia)	84578-202	84578-202LF
400	0mm	15 Au	84740-002	84740-002LF
		30 Au	84740-102	84740-102LF
		50 Au (Telcordia)	84740-202	84740-202LF
	6mm	15 Au	84520-002	84520-002LF
		30 Au	84520-102	84520-102LF
		50 Au (Telcordia)	84520-202	84520-202LF
528	0mm	15 Au	1002671-002	1002671-002LF
		30 Au	1002671-102	1002671-102LF
		50 Au (Telcordia)	1002671-202	1002671-202LF

## MEG-ARRAY® INTERCONNECT PART NUMBERS

## RECEPTACLES

# of Positions	Description	Contact Area Finish (in microinches)	Part Numbers		
			SnPb BGA	RoHS Compliant Pb-Free BGA	
81	4mm	15 Au	55715-001	55715-001LF	
		30 Au	55715-101	55715-101LF	
		50 Au (Telcordia)	55715-201	55715-201LF	
100	4mm	15 Au	84513-001	84513-001LF	
		30 Au	84513-101	84513-101LF	
		50 Au (Telcordia)	84513-201	84513-201LF	
200	4mm	15 Au	84517-001	84517-001LF	
		30 Au	84517-101	84517-101LF	
		50 Au (Telcordia)	84517-201	84517-201LF	
	6mm	15 Au	55724-001	55724-001LF	
		30 Au	55724-101	55724-101LF	
		50 Au (Telcordia)	55724-201	55724-201LF	
	8mm	15 Au	84535-001	84535-001LF	
		30 Au	84535-101	84535-101LF	
		50 Au (Telcordia)	84535-201	84535-201LF	
240	4mm	15 Au	74217-001	74217-001LF	
		30 Au	74217-101	74217-101LF	
		50 Au (Telcordia)	74217-201	74217-201LF	
	6mm	15 Au	55755-001	55755-001LF	
		30 Au	55755-101	55755-101LF	
		50 Au (Telcordia)	55755-201	55755-201LF	
300	4mm	15 Au	84501-001	84501-001LF	
		30 Au	84501-101	84501-101LF	
		50 Au (Telcordia)	84501-201	84501-201LF	
	5.5mm	15 Au	84502-001	84502-001LF	
		30 Au	84502-101	84502-101LF	
	8mm	15 Au	84553-001	84553-001LF	
		30 Au	84553-101	84553-101LF	
		50 Au (Telcordia)	84553-201	84553-201LF	
400	4mm	15 Au	74221-001	74221-001LF	
		30 Au	74221-101	74221-101LF	
		50 Au (Telcordia)	74221-201	74221-201LF	
	6mm	15 Au	74388-001	74388-001LF	
		30 Au	74388-101	74388-101LF	
		50 Au (Telcordia)	74388-201	74388-201LF	
	8mm	15 Au	74390-001	74390-001LF	
		30 Au	74390-101	74390-101LF	
		50 Au (Telcordia)	74390-201	74390-201LF	
528	6mm	15 Au	10026846-001	10026846-001LF	
		30 Au	10026846-101	10026846-101LF	
		50 Au (Telcordia)	10026846-201	10026846-201LF	

\*All connectors are supplied with a pre-installed pickup cap.

Use web link [www.fciconnect.com/megarray](http://www.fciconnect.com/megarray) to obtain product drawings and additional technical information