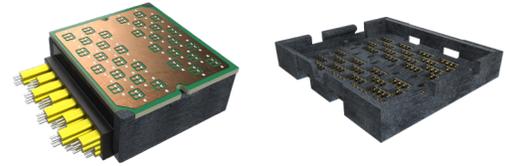


Twinax Grid Array (TGA) Socket Connectors and Cable Assemblies >

TGA Socket Connectors and Cable Assemblies use a dense grid-based connector to optimize board space while delivering superior signal integrity and 112+ Gbps data rates



TGA Cable Assembly (Left) and Socket Connector (Right)

FEATURES AND ADVANTAGES

Designed to work with standard industry practices

- Die/MCM attached to substrate using bumps in the traditional fashion
- ASIC soldered to the motherboard in the traditional fashion (optional LGA socket attachment available)

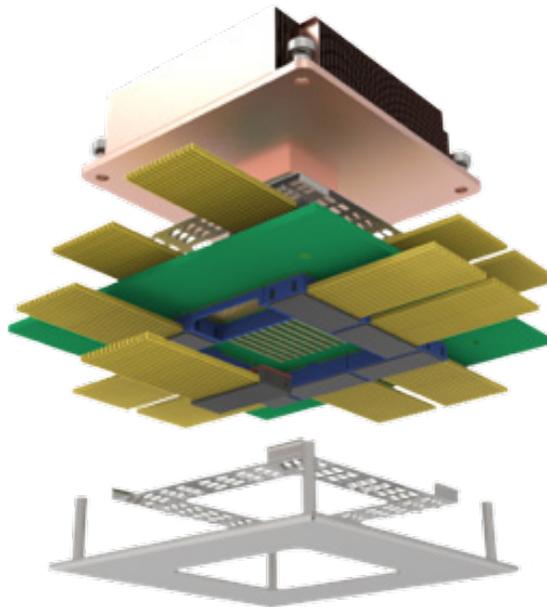
Easier, smaller, cheaper PCB design

- Results in smaller motherboards
- Requires fewer engineering hours for high-speed PCB design
- Easier to route the high-speed signals from the die
- Uses less space on the motherboard than near-ASIC solutions
- Delivers high-density twinax connections



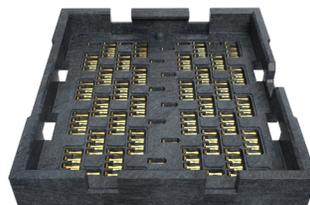
Universal manufacturing automation

- Needs only one machine type for multiple TGA applications
- Speeds up time to market due to automated processes



Grid-based connector specified in rows and columns

- 32 differential pairs initially
- 24 DP is being prototyped
- Likely popular members of the product family include 16, 24, 32, 48, 64 DPs



Lower overall system cost

- Avoids optics in the rack
- Eliminates re-timers, equalizers, amplifiers, etc.
- Avoids the need for 112-Gbps PCB traces
- Results in ultra-simple, low-cost motherboards

Create channels with the best signal integrity margin

- Offers cutting-edge performance
- Capable of 112+ Gbps PAM-4 protocol

Enables new kinds of interconnect architectures

- Entails a modular switch and compute cards (custom for the workload)
- Enables a multiplicity of designs using one motherboard design
- Allows for the creation of compute node building blocks to configure at system level
- Reduces engineering hours spent to create a family of switch, compute, router, storage products

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MARKETS AND APPLICATIONS

Data Center Solutions

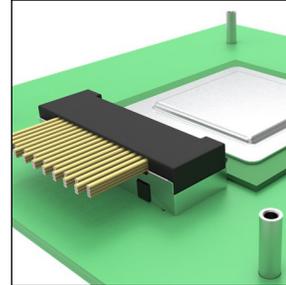
Switches
Routers
Servers

Telecommunications/Networking

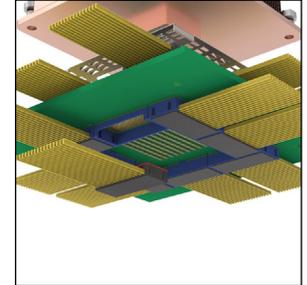
Core routers
Top-of-the-rack switches



On the Substrate



Near ASIC



Under ASIC

SPECIFICATIONS

REFERENCE INFORMATION

Packaging: Bagged and boxed
UL File No: TBD
CSA File No: TBD
Mates With: ?????
Use With: ????
Terminal Used: CuBe Spring Pin
Designed In: Millimeters
RoHS: Yes
Halogen Free: Yes

ELECTRICAL

Voltage (max.): 30V
Current (max.): 0.5A/pin
Contact Resistance: TBD
Dielectric Withstanding Voltage: TBD
Insulation Resistance: TBD

MECHANICAL

Contact Insertion Force: 15 grams/pin
Contact Retention to Housing: N/A
Insertion Force to PCB: N/A
Mating Force: 45 grams/pin
Unmating Force: None
Durability (min.): 20 cycles

PHYSICAL

Housing: High-temp Thermoplastic, UL94V-0
Contact: HIGH PERFORMANCE COPPER ALLOY
Contact Plating: 0.127 μ m" GOLD
Solder Ball: LEAD FREE SAC SOLDER ALLOY
Underplating: 1.27 μ m" MIN. Nickel overall
PCB Thickness: various allowed
Operating Temperature: -20°C to +125°C inside the chassis and touching heat sinks. 55°C Ambient max.

Note: Molex reserves the right to delay or cancel production of the depicted product without additional notice. Please contact your Molex customer service representative for product availability.

www.molex.com/link/TGASocket.html