

## CA Series Connectors & Interposers

### Description

Ardent's CA Series™ high performance 32 Gbps compression mount connectors & interposers offer exceptional signal integrity and high density for applications like high speed backplane, mezzanine, edge card, and optical at a 0.4mm pitch in a pure vertical interface – no offset required. Reliable under extreme conditions CA Series™ connectors can stand up to the most demanding environmental factors. Custom configurations are available in a wide array of pitch, density, stack height, and orientation.

### Key Benefits

#### Density & Flexibility

- › Area array to 0.4mm pitch
- › Compression mount or solder down (dual and single compression)
- › Pure vertical interface – no offset required

#### Bandwidth & Performance

- › 32 Gbps+
- › Twisting CA Series™ action ensures good electrical contact

#### Cost Savings

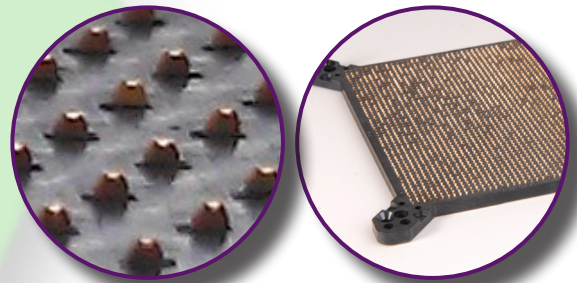
- › Stamped contact set available for OEM Applications
- › Contact sets for 1000 or 10,000 cycles

### Applications

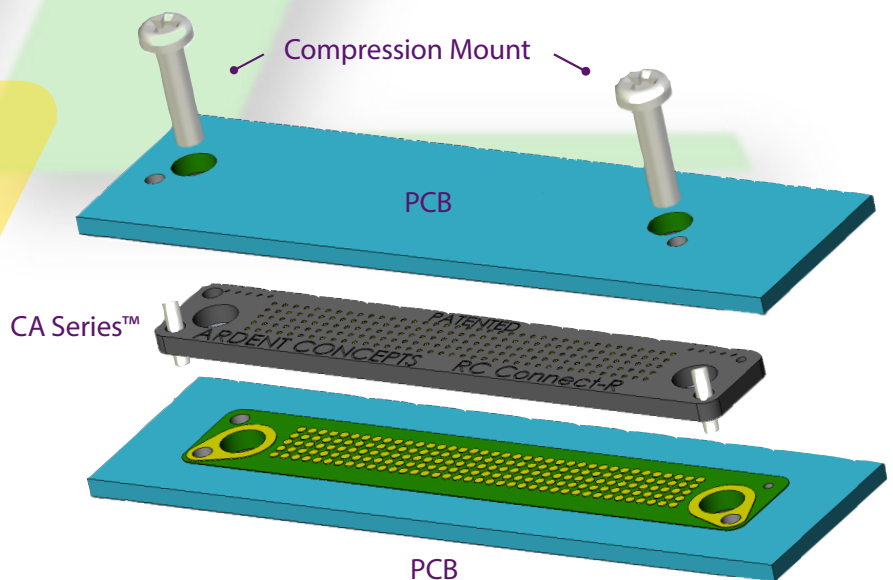
CA Series connectors are ideal for use in/with:

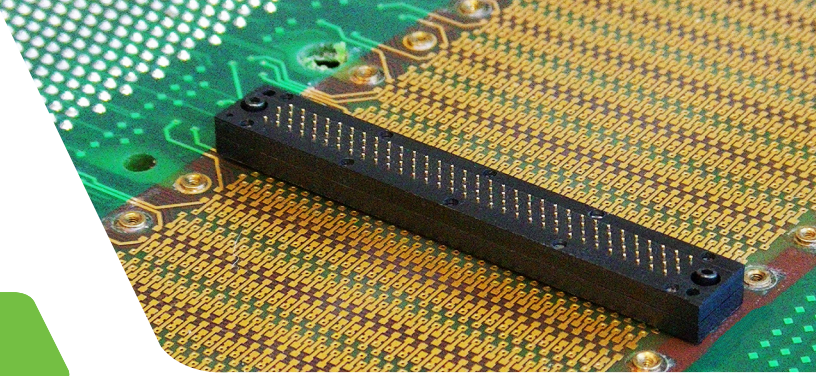
- › Optical Engines
- › Phased Array Radar
- › Probe Card Assemblies
- › High Speed Mezzanines
- › Backplanes
- › Defense/Aerospace
- › Medical Device s
- › Custom Applications

### High Density



### Example Application





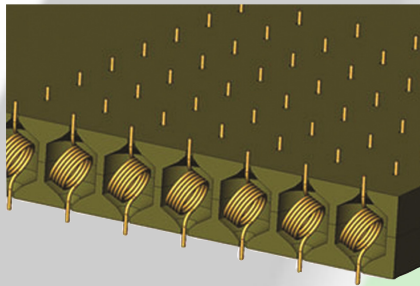
## CA Series Connectors & Interposers

Choose the Right Contact for your Application



Spring Probe™

Our proprietary wire-form contact provides scalable solutions for connectors down to .4 mm Pitch. Spring Probe™ (SP™) interconnect technology was born of a simple concept; What if we could eliminate the barrel and the plunger from a traditional “pogo” style spring pin and make the spring inside behave like an electrical contact instead of like an inductor. The key to keeping it simple? The patented “wipe action” of the coils. Instead of behaving like an inductor, the wire-form shorts and acts like a solid element. This concept allows us to design systems capable of up to 37 GHz @ < -1dB. The result is exceptionally clean AC performance in an exceptionally simple mechanical connector design.

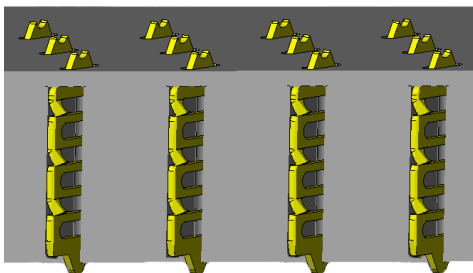


Specifications	
Pitch	.4 mm and above
Frequency	32 Gbps+
Insertion Loss	-1 dB at 37 GHz
Self-Inductance	.5 nH
Mated Height	.9 mm and above
Footprint	Microstrip & Stripline compatible

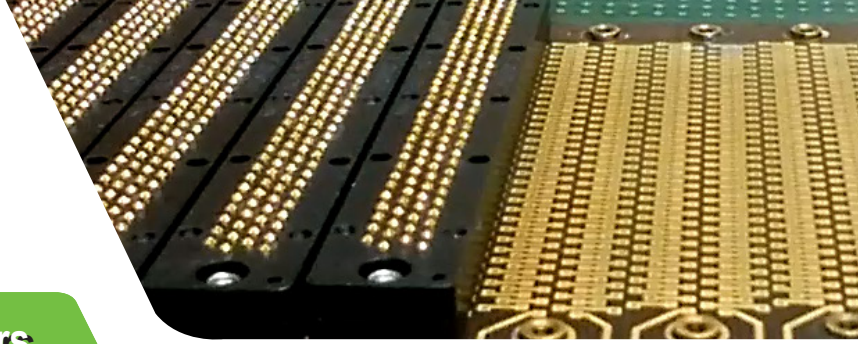
Connect-R™



Cost-Effective High Performance Stamped Contact for Area Array Applications Down to .8mm Pitch. Connect-R™ (CR™) is a logical leap forward in compression mount connector solutions for advanced applications and is designed to fill the gap between higher priced spring pin solutions and unreliable elastomeric contact sets. Capable of providing exceptional AC performance in a highly configurable design, CR™ can be used for LGA and BGA applications, and is available in both compression mount and solder down configurations. The flexibility of CR™ allows engineers to design reliable interfaces for thermal applications with an all-metal contact interface for optimal reliability. CR can be used in applications down to .8mm pitch in area array, and is available in small volumes machined or large volumes molded.

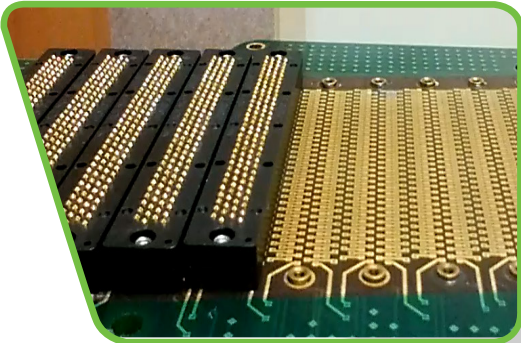


Specifications	
Pitch	.8 mm and above (area), .6 mm and above (linear)
Frequency	32 Gbps+
Insertion Loss	-1 dB at 37 GHz
Self-Inductance	.5 nH
Mated Height	1.6 mm and above
Footprint	Microstrip & Stripline compatible



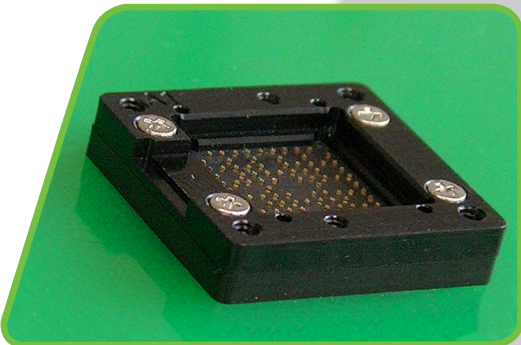
## CA Series Connectors & Interposers

### Configurations



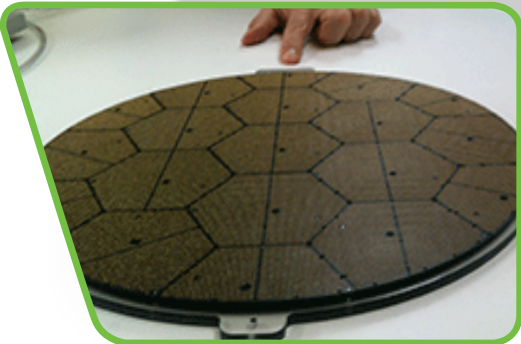
#### Board to Board

Designed to your needs and delivered with short lead times. Our proven technology satisfies extremely high node count requirements without extreme force. A mezzanine connector from Ardent can be designed to work with <math><10</math> grams of force per node to maintain electrical connectivity. With contact heights as low as .030", stack ups can be reduced without sacrificing signal integrity.



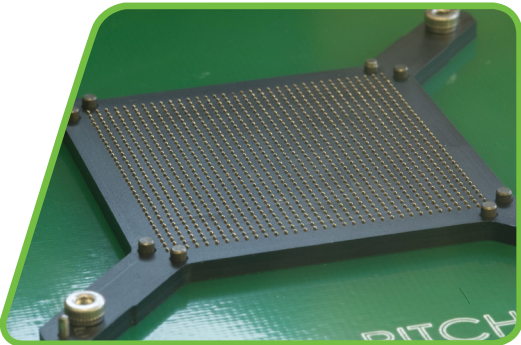
#### Optical

High speed input data rates in cost effective and real-estate friendly form factors. Ardent optical connectors have been extensively tested at 32 Gbps transmission speeds, and provide the critically low loss interface between backplane. The scalability of CR™ connector technology allows for solder-less high speed optical Electrical Module replaceability systems and the optical transceivers which are capable of pushing those signals out to 100 Gbps at the fiber.



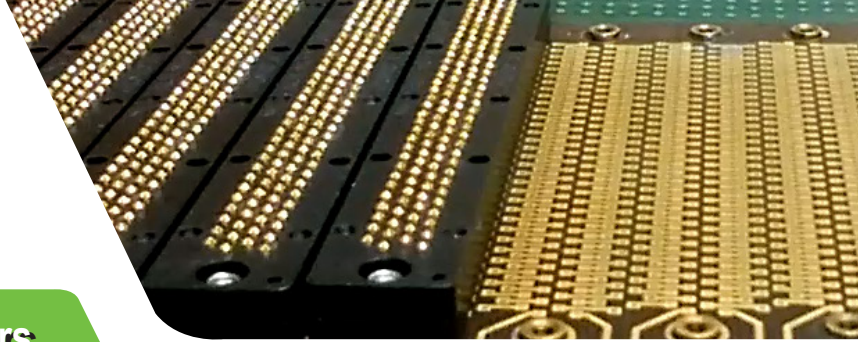
#### Ardent RC Space Transformer

Available in modular designs and is a lower force drop-in replacement for massively parallel spring-pin connectors and conductive elastomeric contact sets. This space transformer interposer is a highly reliable discrete node z-axis interconnect solution for super-high-node-count applications. Extremely low force, consistent DC resistance and exceptional AC performance for Vertical Probe Card interface applications.



#### U1 Universal

Molded 1mm pitch available off the shelf to meet your immediate needs. These durable 40 GHz solutions offer low loss compression mount connection and can be modified for any package size up to 50 mm x 50 mm with short lead times. Interposers are MIL-STD-810G shock and vibration and temperature qualified making them perfect for RF applications with the most demanding environmental conditions. Consult our factory with your specific application requirements.



## CA Series Connectors & Interposers

### Ordering Information

Product	Number of Leads	Form Factor	Pitch (mm)
CA	e.g. 190, 321, 1184	LGA (LG), Connect-R™ (CR)	e.g. 0.8 mm (08), 1.0 mm (10), 1.27 mm(12)

CA

190

CR

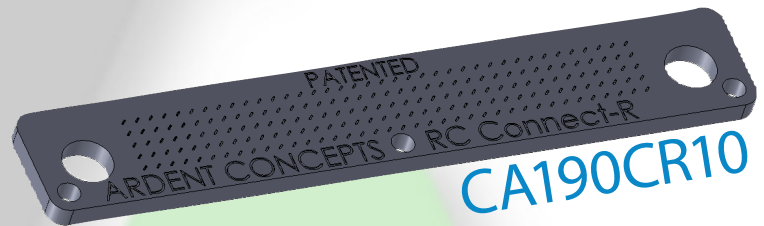
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For custom applications please consult factory

Specifications subject to change without notice

US Patent Numbers 6,787,709, 6,909,056, 7,126,062, 7,556,503, 8,926,342.

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### Related Products

#### TR Multicoax Series

TR Multicoax delivers superior signal integrity from multiple high speed analog or digital channels with a choice of 20 GHz, 40 GHz, or 70 GHz configurations. TR is the highest density high speed multicoax connector on the market. The interface is compression mount which drives lower total cost of testing by avoiding costly solder-down components that can't be recovered, and encouraging reuse across programs.

#### SK Series

More scalable and better performing socket option for high speed characterization and IC bring up. A thermal management ready, solderless, compression mount solution, SK sockets are custom tailored to your IC for optimal performance at multi-GHz speeds.

### More Information

For questions  
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