



## TR Multicoax Series 20/40/70

Characterization of a Cross-point Switch

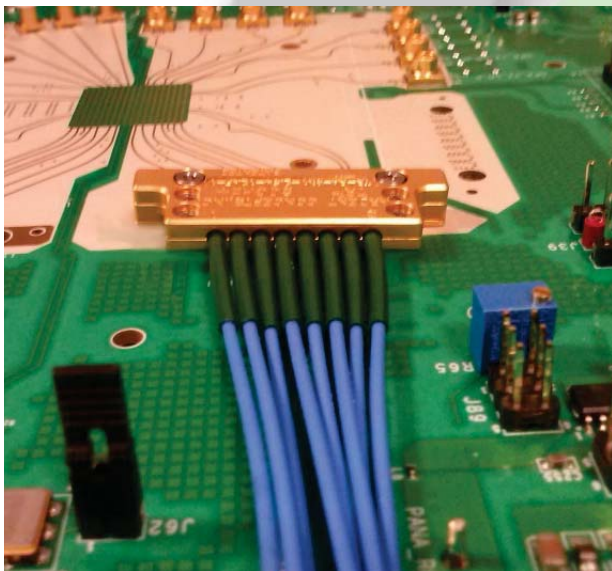
Market: Semiconductor  
Application: Functional Test

### Challenge

A Characterization Engineer needed an alternative to SMP Connectors for device characterization and design correlation—the device being tested is a Cross-Point Switch. For this particular application, the engineer was faced with taking 64 differential pairs from PCB to test instrumentation. With SMP connectors, this would have meant having to place 128 individual connectors on the board.

This posed two issues:

- The number of SMP connectors would require a prohibitively large/expensive/lossy PCB and present layout problems.
- They had Z-Height constraints due to the thermal head on the device and the engineers needed to get closer to the device than traditional straight up connectors would allow.



*"Getting out under our thermal head was of tantamount importance and TR Right Angle delivered!"*

- Project Manager

### Solution

The engineer elected to use Ardent's Right Angle TR™ Multicoax connector as it addressed both of the concerns. The connector allowed the team to pack multiple high speed signals into a high density connector.

### Benefits

- Get closer to the DUT—allowing for shorter trace lengths
- A Z-Height of 212 mils, allows for easy escape under a thermal head

### More Information

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## Specifications

### Electrical Specifications

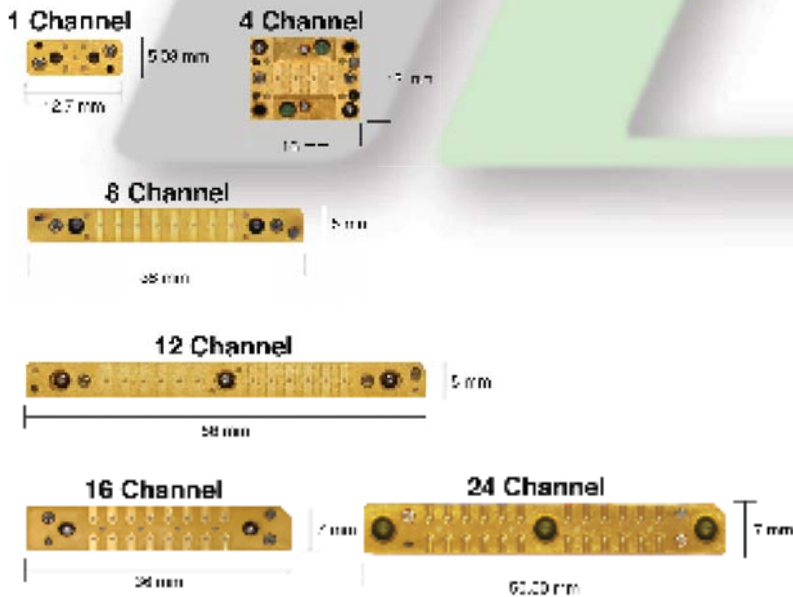
Frequency Range	DC to 70 GHz
Return Loss <sup>1</sup>	-18 dB through 70 GHz
Insertion Loss <sup>2</sup>	-1.5 dB through 40 GHz, -3 dB through 70 GHz
Crosstalk	-70 dB through 70 GHz
Impedance <sup>1</sup>	50 Ω +/- 2.5 Ω
Phase Matching	+/- 2 ps standard

### Mechanical Specifications

Pitch	2.54 mm
Cables	.047" diameter cables <sup>3</sup>
Connectors	SMA, SMK (2.92 mm), or V (1.85 mm)
Cable Length	6"/152 mm, 12"/304 mm, 24"/608 mm
Insertion Life	1,000+ mating cycles
Field Replaceable Interface	Yes
Footprint	Microstrip & Stripline compatible

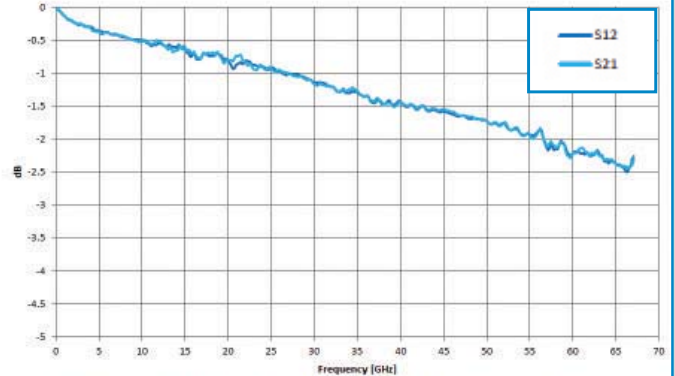
Notes: <sup>1</sup>Largely a function of PCB design. <sup>2</sup>Measurement includes 3" of cable. <sup>3</sup>Consult factory for additional cable options.

## Footprints

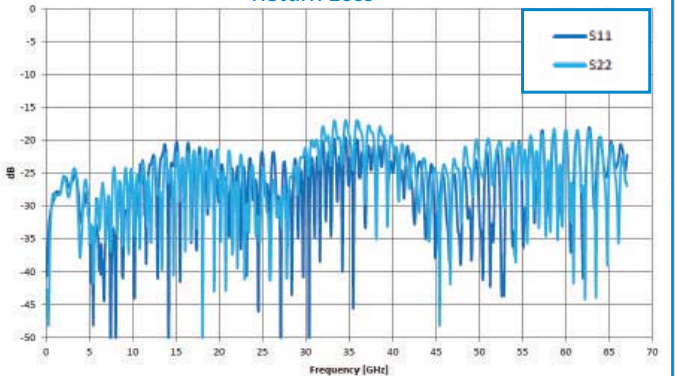


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### Insertion Loss



### Return Loss



### Crosstalk

