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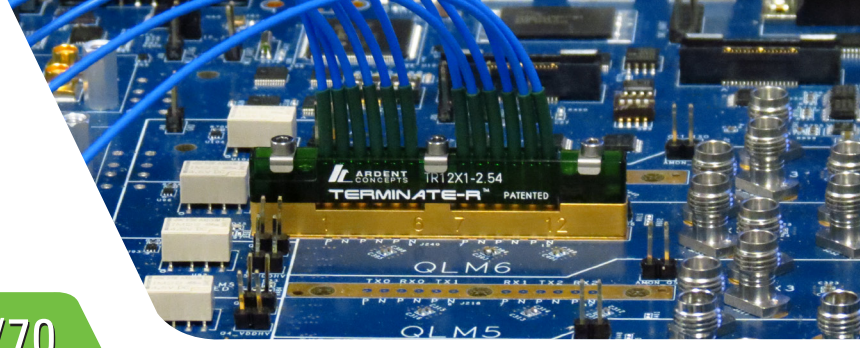


TR Multicoax Series 20/40/70

Description

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, users can upgrade their connectors as bandwidth requirements on their applications increases. 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.

Key Benefits

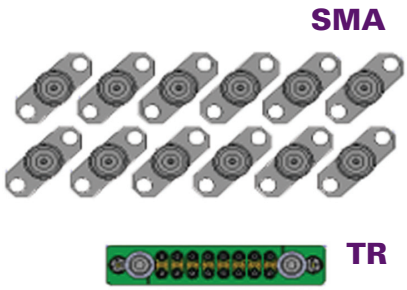
- Superior signal integrity up to 70 GHz
- Better long term repeatability of connector performance
- Solderless system eliminates signal distortion for clean signal integrity
- Quick connection of multiple signals to PCB
- 80% space savings over SMPs
- High density gets TR closer to the DUT
- No more failing of snap-in connectors
- Reusable across programs promotes exponential cost savings

Applications

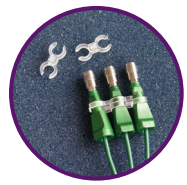
TR Multicoax connectors are ideal for use in:

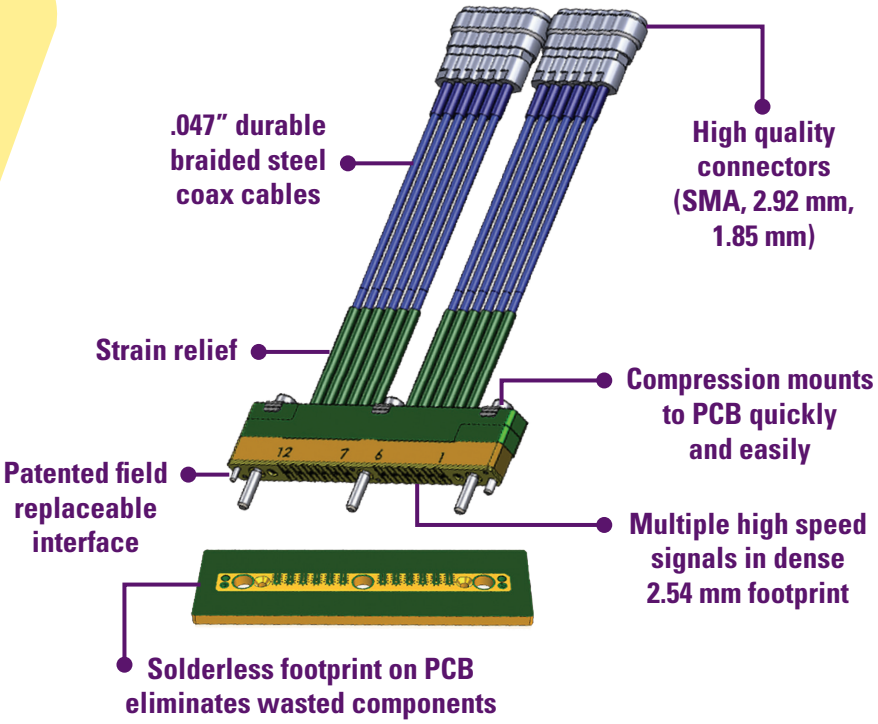
- **Semiconductor Design & Test**
  - PCIe
  - Pam4
  - High Speed SerDes
- **Automated Test & Measurement**
- **Communications**
  - Clock/Data Recovery (CDR)
  - Backplane Connector Characterization
- **Quantum Computing**
  - Shielding Can Connector
  - Cryogenic testing
- **Defense/Aerospace**
- **Server/Data**
- **Medical**
- **Custom Applications**

Unmatched real estate savings



New Cable Management Clips





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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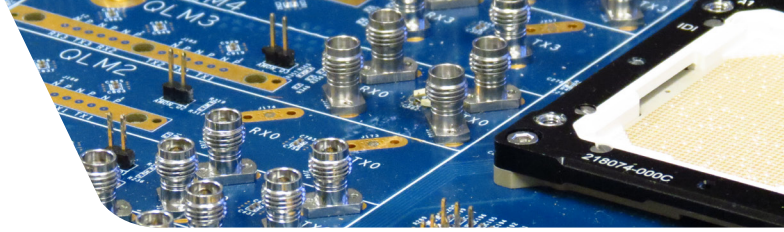


TR Multicoax Series 20/40/70

Specifications

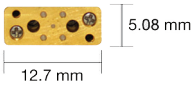
Electrical Specifications	
Frequency Range	DC to 70 GHz
Return Loss[1]	-18 dB through 70 GHz
Insertion Loss[2]	-1.5 dB through 40 GHz, -3 dB through 70 GHz
Crosstalk	-70 dB through 70 GHz
Impedance[1]	50 Ω +/- 2.5 Ω
Phase Matching	+/- 2 ps standard

Mechanical Specifications	
Pitch	2.54 mm
Cables	.047" diameter cables[3]
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

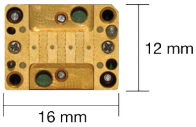
Notes: [1]Largely a function of PCB design. [2]Measurement includes 3" of cable.
[3]Consult factory for additional cable options.

Footprints

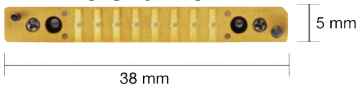
1 Channel



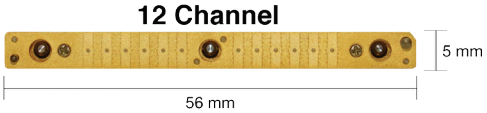
4 Channel



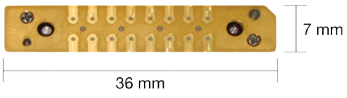
8 Channel



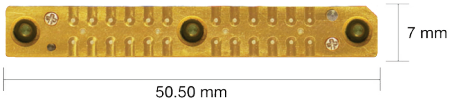
12 Channel



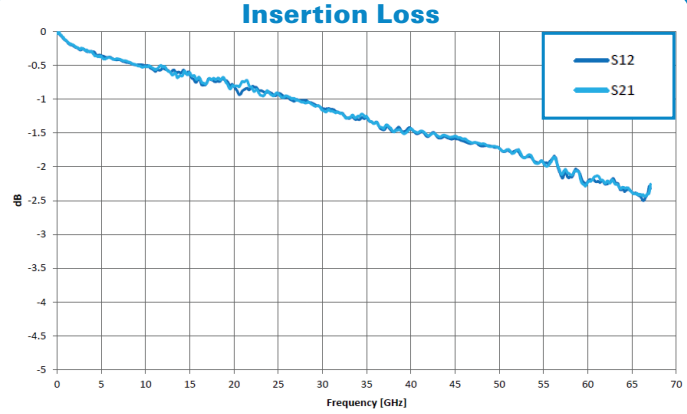
16 Channel



24 Channel

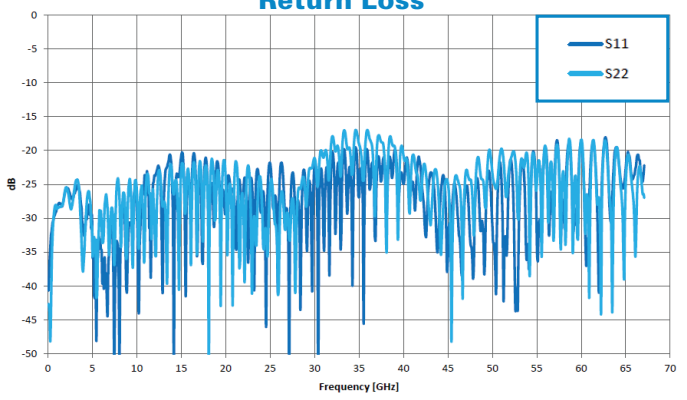


Insertion Loss



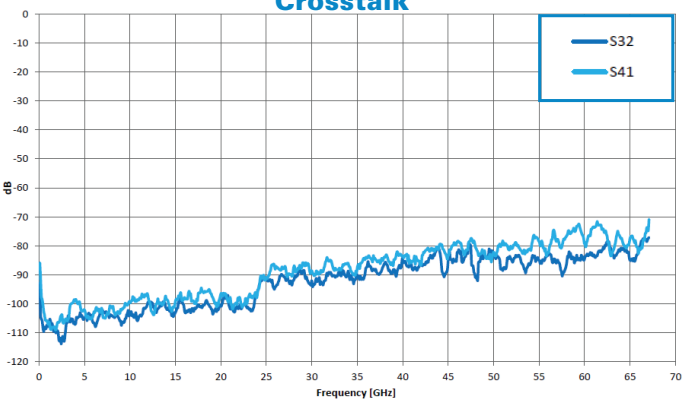
❖ Measurement of the TR interface and one 3 inch V connector assembly.

Return Loss



❖ Measurement of the TR interface between two 3 inch V connector assemblies.

Crosstalk



❖ Transmission measurement of two coaxial channels spaced 100 mils apart.

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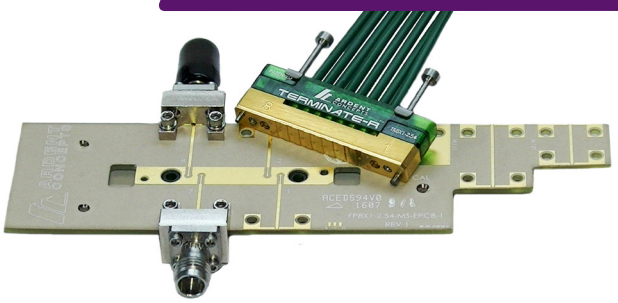
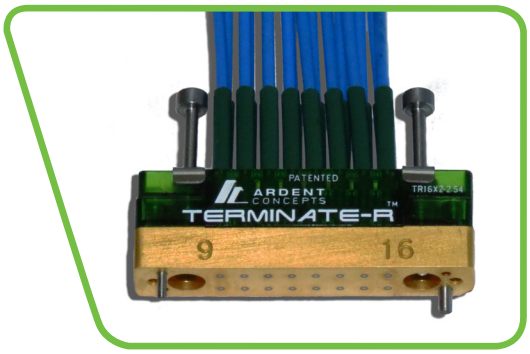
Evaluation Kit Available

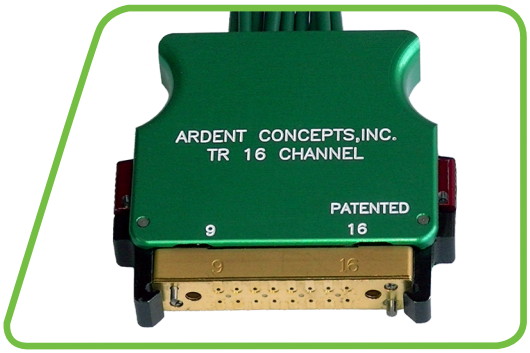


TR Multicoax Series 20/40/70

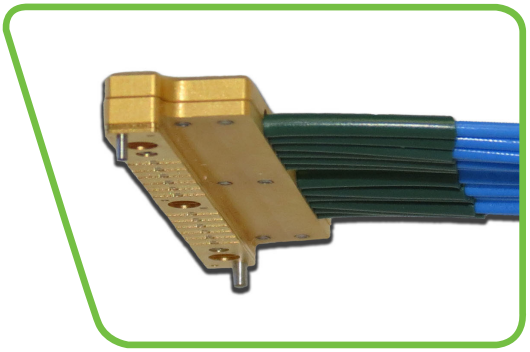
Mounting Configurations



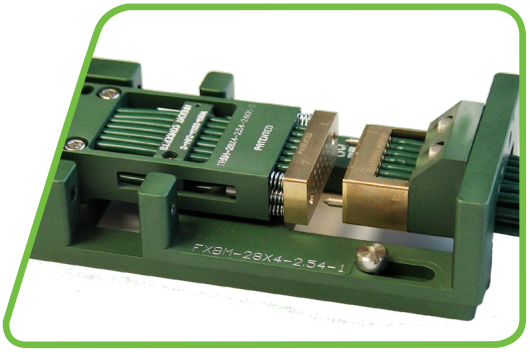
Straight Mount allows users to mount to a solderless footprint on your PCB with two or three screws, ensuring a reliable and repeatable connection up to 70 GHz for over 1000 mates and demates.



Quick Latch provides the same high standard of electrical performance as our Straight Mount configuration but adds the ability to mate and de-mate the TR quickly from the board by activating the red latches on either side. In a test & measurement environment, this makes the product much more user-friendly.



Right Angle adds the ability to get high speed signals off the board in situations where you are Z-height limited. For example, to take signals from underneath the board, to go from board to board, or to get the cables out under a thermal shroud.



Blind Mate Test Head Interface

Blind Mate solutions are ideal for applications where engineers need superior signal integrity with multiple reliable and repeatable connections up to 70 GHz. With precision designed interconnect solutions from Ardent, these connections can be designed into an automated mate/de-mate process capable of thousands of insertions with no degradation. Connectors can be cable to cable or cable to PCB.

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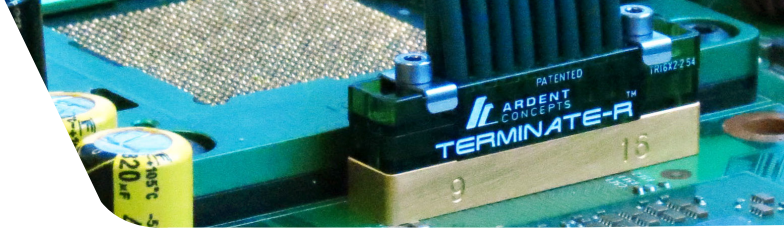

TR Multicoax Series 20/40/70

Ordering Information

TR 20	Mounting Option	# of channels (Form Factor)	Pitch (mm)	Cable Length & Connector Type	
	Straight Mount (SM)	1 (1X1), 4 (4X1), 8 (8X1), 12 (12X1), 16 (16X2), 24 (24X2)	2.54 mm	6" SMA Female (06AF) OR 24" SMA Male (24AM)	
TR 40	**Mounting Option**	**# of channels (Form Factor)**	**Pitch (mm)**	**Cable Length**	**Connector Type**
	Straight Mount (SM)	1 (1X1), 4 (4X1), 8 (8X1), 12 (12X1), 16 (16X2), 24 (24X2)	2.54 mm	6" (06), 12" (12), 24" (24)	SMK 2.92 mm Female (KF), SMK 2.92 mm Male (KM)
	Quick Latch (QL)	8 (8X1), 16 (16X2)	2.54 mm	6" (06), 12" (12), 24" (24)	SMK 2.92 mm Female (KF), SMK 2.92 mm Male (KM)
	Right Angle (RA)	4 (4X1), 8 (8X1), 12 (12X1)	2.54 mm	6" (06), 12" (12), 24" (24)	SMK 2.92 mm Female (KF), SMK 2.92 mm Male (KM)
TR 70	**Mounting Option**	**# of channels (Form Factor)**	**Pitch (mm)**	**Cable Length**	**Connector Type**
	Straight Mount (SM)	1 (1X1), 4 (4X1), 8 (8X1), 12 (12X1), 16 (16X2), 24 (24X2)	2.54 mm	6" (06), 12" (12), 24" (24)	V 1.85 mm Female (VF), V 1.85 mm Male (VM)
	Quick Latch (QL)	8 (8X1), 16 (16X2)	2.54 mm	6" (06), 12" (12), 24" (24)	V 1.85 mm Female (VF), V 1.85 mm Male (VM)
	Right Angle (RA)	4 (4X1), 8 (8X1), 12 (12X1)	2.54 mm	6" (06), 12" (12), 24" (24)	V 1.85 mm Female (VF), V 1.85 mm Male (VM)

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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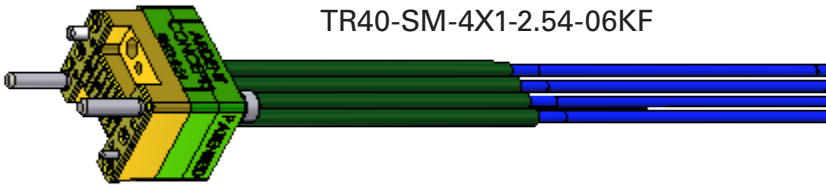
Example Part Number:
TR40-SM-4X1-2.54-06KF



Related Products

IC Footprint Probe Series

50ohm access to IC contact pads and signal paths on an IC circuit footprint, this solution is a simple to manipulate, cost effective and time saving alternative to expensive X-Y tables and fragile planar probes for Engineers who may need to probe multiple signals at once.

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.

CA Series

Offering Exceptional AC performance up to and beyond 40 GHz/28 Gbps and infinitely scalability in height, pitch and force, our CA series connectors let you go from prototype to production easily and effectively. With true vertical design no offset is required, ensuring a quick and precise design for your application.

More Information

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For our full product portfolio, datasheets, additional resources/videos, case studies and app notes please visit our website at: www.ardentconcepts.com