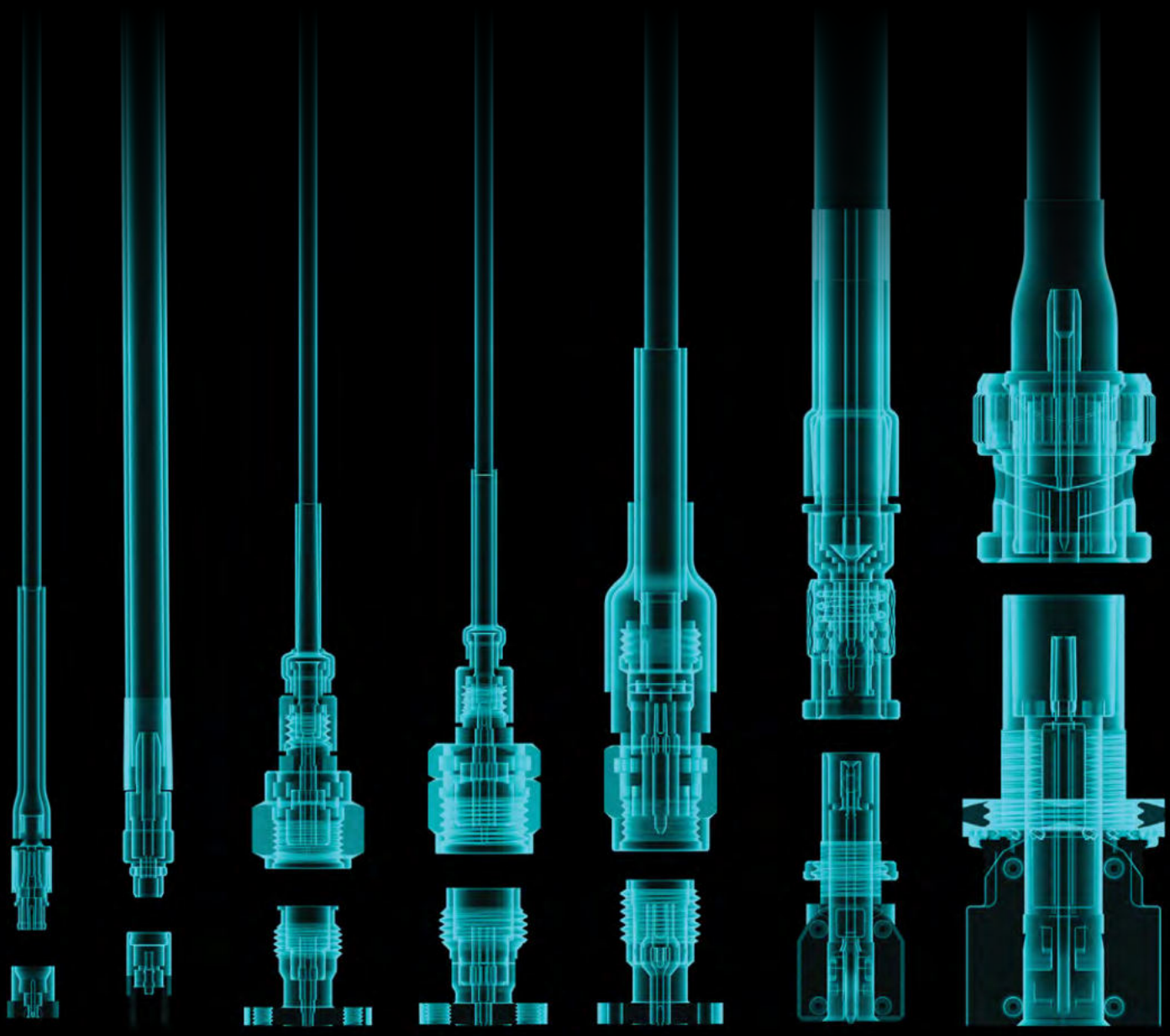
RF INTERCONNECT

FULL LINE SOLUTIONS CATALOG

PRECISION 50 Ω (18 TO 110 GHz) • STANDARD 50 Ω & 75 Ω (SUB-6 GHz & 12G-SDI) • TECH SUPPORT



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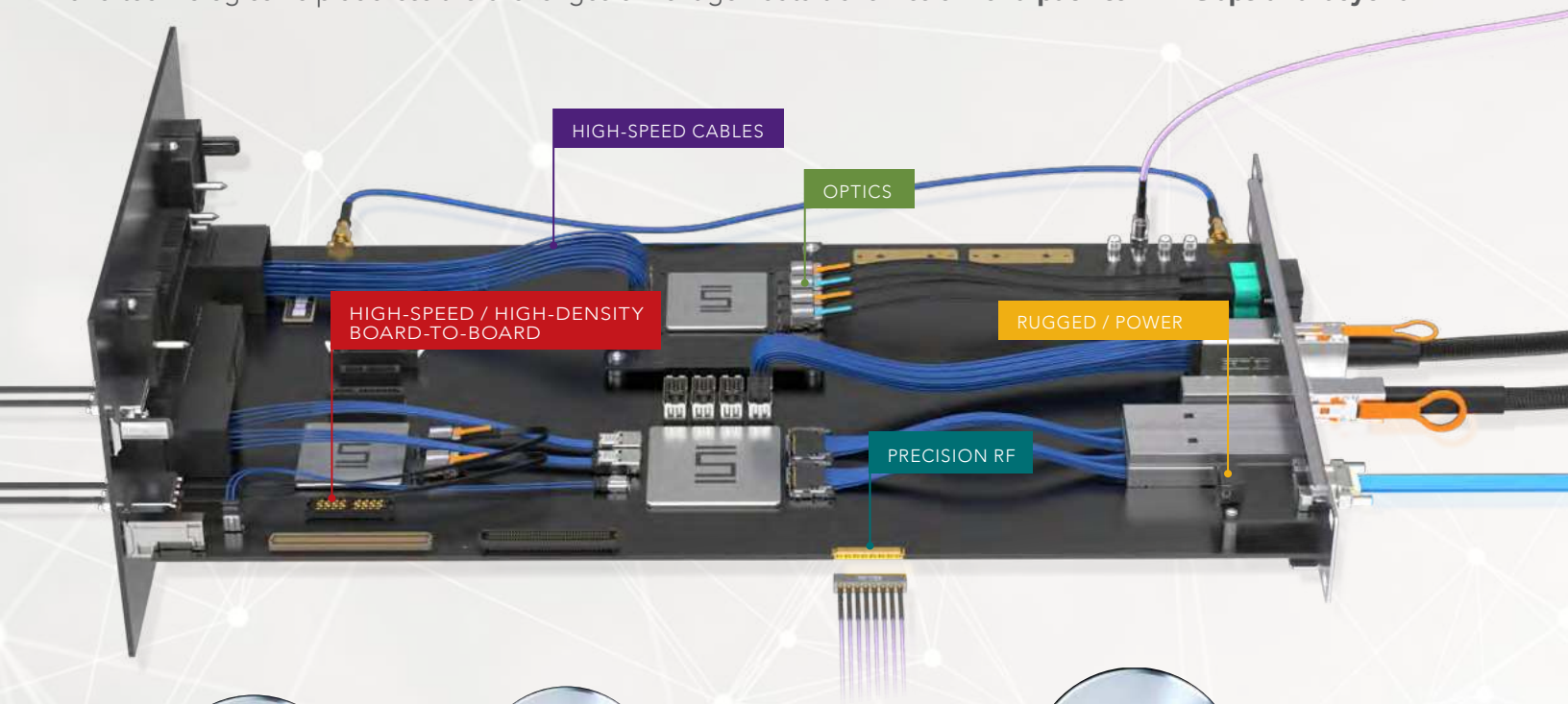
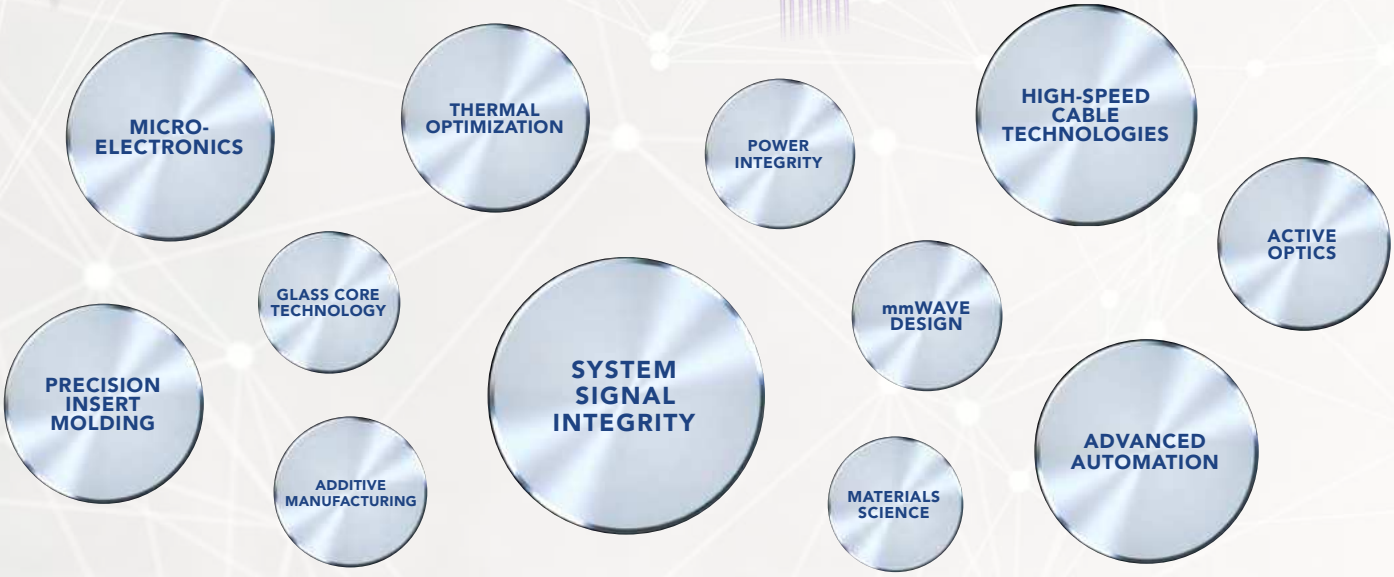
SILICON-TO-SILICON™ SOLUTIONS

SOLUTIONS EXCEEDING TODAY'S CONNECTIVITY DEMANDS

As bandwidth, scale and power requirements continue to challenge conventional engineering methods, we want to help **optimize the landscape of your entire system** – and develop solutions, together.

Samtec's industry-leading signal integrity expertise, full system optimization strategies and, innovative products and technologies help address the challenges of next gen data transmission for **a path to 224 Gbps and beyond**.





INTEGRATION LEADS TO INNOVATION

COMPLETE SYSTEM OPTIMIZATION FROM SILICON-TO-SILICON™

Samtec's integrated approach provides high-level design and development of advanced interconnect systems and **TECHNOLOGIES**, along with industry-leading expertise that allows us to offer effective strategies and support for **optimizing the entire signal channel of high-performance systems**.

Samtec is structured like no other company in the interconnect industry. We work in a fully integrated capacity that enables true collaboration and results in uniquely innovative **PRODUCTS** because **our technology teams are not limited by the boundaries of traditional business units**.

SUDDEN SERVICE®

Samtec's Sudden Service® provides unmatched global service, free access to data and industry leading tools, along with engineering support, to help you design, develop, test and deliver the best solution for any complex application.

GLOBAL OPERATIONS & SUPPORT NETWORK

AWARD-WINNING SERVICE

#1 in Bishop's Customer Survey of the Electronic Connector Industry.

Samtec has been consistently rated as the #1 connector company in North America, Europe and Asia. This is the highest overall rating in the Bishop & Associates' U.S., Europe and Asia Customer Surveys of the Electronic Connector Industry.

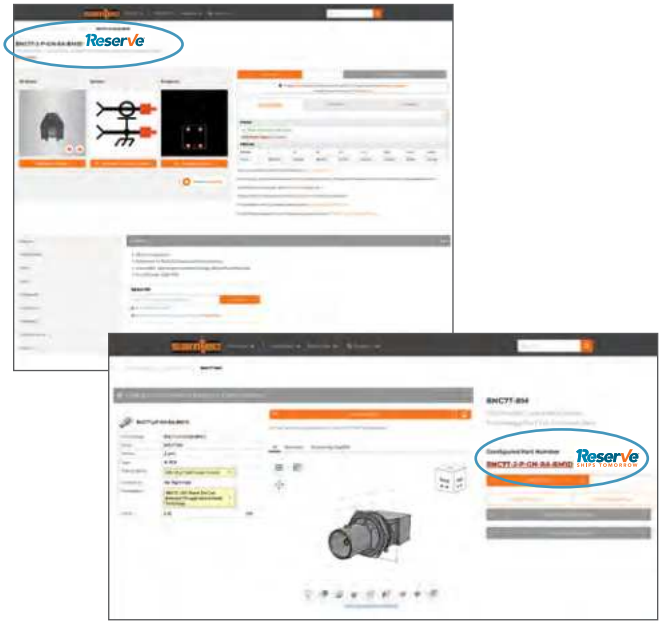
UNMATCHED LEAD-TIMES

Innovative Programs & Systems Enable Deliveries in Days, Not Weeks.

Reserve® SHIPS TOMORROW

This designation allows customers to **quickly and easily identify availability of over 200,000 of Samtec's most popular connectors and cables – guaranteed to ship in 1-day.**

Look for the **Reserve®** badge throughout **samtec.com** to quickly determine if your part number is eligible, along with current availability, quantity breaks and pricing. Hundreds of part numbers are being added daily!



24HOUR SUDDEN SAMPLE™

Free product samples, shipped in 24-hours or less have been a cornerstone of Samtec Sudden Service® since the company was founded. Visit **samtec.com** to quickly request your sample.

2DAYS WORLD DIRECT™

An innovative shipping program that **bridges the gap between manufacturing facilities and customers**, allowing for manufacturing flexibility without increased costs, and with even faster lead-times. Contact **ecustomerservice@samtec.com** to learn more.

24/7 WORLDWIDE ACCESS

Samtec is the Electronics Industry's Service & Technology Leader.

Technical Support

Signal Integrity Group: **sig@samtec.com**

Application Support Group: **asg@samtec.com**

Interconnect Processing Group: **ipg@samtec.com**

RF Group: **RFGroup@samtec.com**

Supply Chain Support

MySamtec™ Real-Time Account Access: **account.samtec.com**

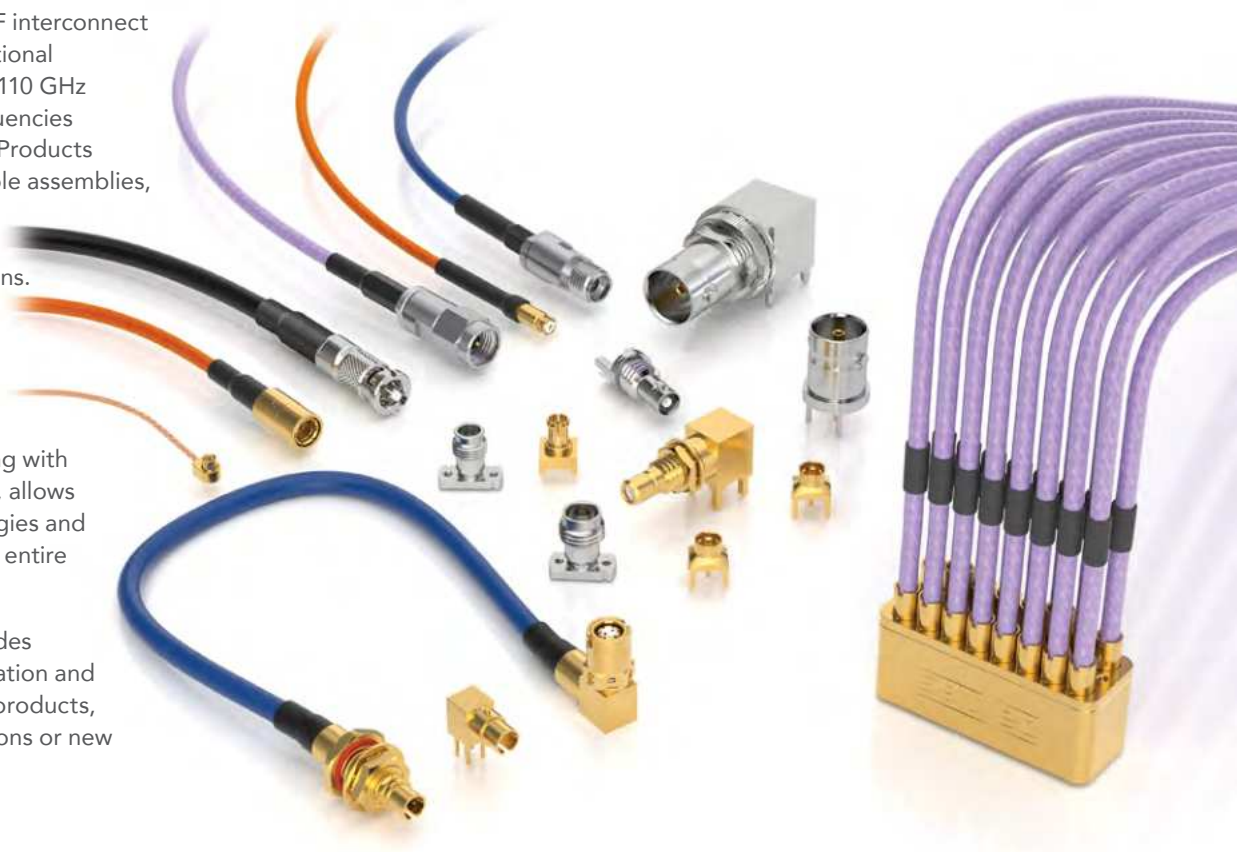
Personal Account Managers & CSRs: **ecustomerservice@samtec.com**

Upfront, Aggressive 24-Hour Quotes: **pricing@samtec.com**

COMPLETE RF INTERCONNECT SOLUTIONS

PRECISION 50 Ω (18 to 110 GHz) • STANDARD 50 Ω & 75 Ω (SUB-6 GHz & 12G-SDI) • TECH SUPPORT

Samtec offers complete RF interconnect solutions supporting traditional sub-6 GHz frequencies to 110 GHz microwave/mmWave frequencies (sub-Terahertz spectrum). Products include end-to-end RF cable assemblies, board connectors, cable connectors, adaptors and Samtec Original RF solutions.



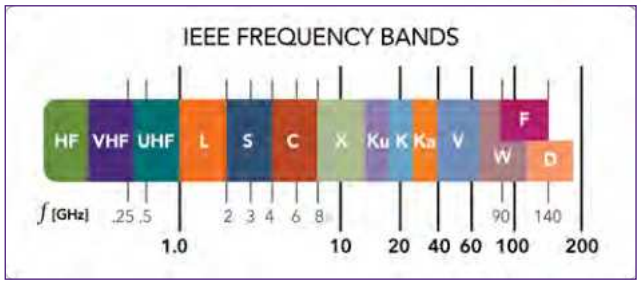
Technical Support

High-level design and development of advanced interconnect systems, along with industry leading expertise, allows us to offer effective strategies and support for optimizing the entire signal channel.

RF technical support includes launch optimization, simulation and testing. Customization of products, both quick-turn modifications or new designs, is also available.

Applications

- Test and Measurement
- Military, Aerospace, Satellite, Radar
- 5G/6G, Low Latency Wireless Communications
- Automotive, Telematics
- Broadcast & 12G-SDI
- Industrial, Monitoring, Instrumentation



PRECISION RF, 50 Ω

Interface	1.00 mm	1.35 mm	1.85 mm	2.40 mm	2.92 mm	3.50 mm	SSMA	SMA	Ganged SMPM	SMPM	SMP	N Type	TNCA
Frequency	110 GHz	90 GHz	65 GHz	50 GHz	40 GHz	34 GHz	34 GHz	18/26.5 GHz	65 GHz	65 GHz	40 GHz	18 GHz	18 GHz

STANDARD RF, 50 Ω & 75 Ω

Interface	MHF	SMA	MCX	MMCX	TNC	BNC (50 Ω)	SMB (50 & 75 Ω)	Ganged (50 & 75 Ω)	BNC (75 Ω)	HD BNC (75 Ω)	DIN 1.0/2.3 (75 Ω)
Frequency	6 GHz	6 GHz	6 GHz	6 GHz	6 GHz	4 GHz	4 GHz	5 GHz	12 GHz	12 GHz	12 GHz

CABLE ASSEMBLIES

- Precision, high frequency or standard, low frequency
- Assemblies available with the following cable types:
  - Low-loss microwave/millimeter wave from .047 to .277, semi-flexible
  - New **Nitrowave™** cable! Phase and amplitude stable with flexure, with an outer jacket colored in **distinctive Samtec orange**. Performance is optimized for next generation frequency targets.
  - RG type (316, 174, 178, 58, 179, 6)
  - 12G-SDI optimized
  - 0.81 mm and 1.13 mm Micro High Frequency (MHF)
- Discrete and ganged solutions
- Cable lengths standard up to 10 meters (> 10 meters as custom RSP)
- Phase matching in pairs down to 1 ps
- Cable management available
- **Mix & Match Solutions for Any Application:** Samtec offers a variety of end options for each product series; this blends application-specific customization with the simplicity and lead-time efficiencies of an off-the-shelf assembly

BOARD CONNECTORS, CABLE CONNECTORS & ADAPTORS

- Precision, high frequency or standard, low frequency solutions
- Board-to-board or cable-to-board applications
- Threaded, bulkhead, push-on or bayonet coupling
- Solderless compression mount: vertical & edge launch
- Soldered: through-hole, surface mount, edge mount or mixed technology
- Balanced connectors for high-volume pick-and-place automation
- 12G-SDI optimized broadcast video solutions (BNC, High-Density BNC, DIN 1.0/2.3)
- Cable connectors for use with industry standard cables: offer the flexibility to terminate to an industry-standard cable specified for your application
- Adaptors for 50 Ω precision RF applications: in-series and between-series

Ganged Solutions


Complete Mated Sets


50 Ω, 75 Ω & 12G-SDI Solutions


Precision Interconnects

PRECISION RF

MICROWAVE / MILLIMETER WAVE CABLE ASSEMBLIES & INTERCONNECTS

Samtec's RF product line includes 18 to 110 GHz High Frequency, Precision RF solutions for microwave and mmWave applications, including full cable assemblies, cable connectors and board level interconnects. Our focus is on delivering high-quality RF products that meet precision and performance expectations, blended with industry-leading system-level signal integrity expertise.

Vertical Integration
=
Full System Support

CABLES

Design & Fabrication of Raw Cable

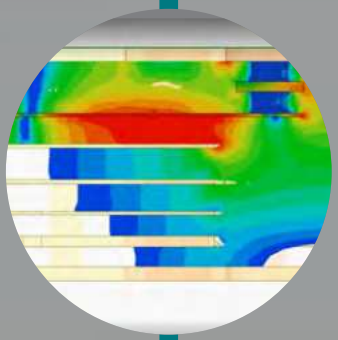
Cable Assemblies

CONNECTORS

Design & Fabrication

Cable Connectors

Board Connectors



TECH SUPPORT

Launch Optimization

Simulation & Testing

Full System Optimization

NITROWAVE™ CABLE TECHNOLOGY

HIGH-PERFORMANCE, PHASE & AMPLITUDE STABLE

DC TO **110** GHz

Samtec's new **Nitrowave™ Phase & Amplitude Stable RF Cable** offers improved stability with flexure over time. The coaxial structure – with an outer jacket colored in **distinctive Samtec orange** – is designed to meet the demands of aerospace, defense, datacom, computer/semiconductor, and instrumentation markets. Performance is optimized at frequencies beyond traditional industry targets to support emerging applications.

NITROWAVE™ CABLE TECHNOLOGY

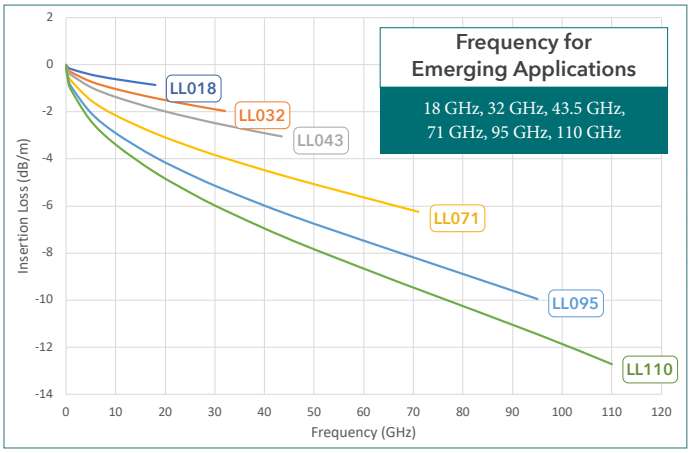
- High-performance, low-loss microwave cable assemblies
- Phase and amplitude stable with flexure
- Consistent contact resistance between layers
- Lower density dielectric minimizes loss
- State-of-the-art shielding techniques and interlayer
- Silver plating enhancements mitigate corrosion potential
- Electrical performance optimized at next gen frequencies (GHz): 18, 32, 43.5, 71, 95, 110
- Mechanical and environmental robustness
- Phase vs. Bending = < 0.2˚ x F(GHz)
- VSWR = 1.4:1 @ 43.5 GHz (LL043 Series)
- Typical phase vs. temp & power handling

LOW-LOSS CABLE CONSTRUCTION WITH INTERLAYER

Series	LL018	LL032	LL043*	LL071	LL095	LL110
Impedance (Ω)	50					
Max Frequency (GHz)	18	32	43.5	71	95	110
Outer Dia. (inches)	0.306	0.192	0.143	0.096	0.078	0.068
Min Static Bend Radius	1.25	0.375	0.25	0.25	0.125	0.125
Velocity of Propagation (%)	77					
Min Shielding Effectiveness (dB)	-100					
Temp Range (˚C)	-65 °C to +125 °C					
Insertion Loss	See Maximum IL Chart					
End 1/End 2	1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm, 2.92 mm, SMPM, SMP, SMA, N Type, TNCA					

*Visit **www.samtec.com?LL043** for more information about the LL043 Series.

MAXIMUM INSERTION LOSS (dB/m)



50 Ω µWAVE/mmWAVE CABLE SPECIFICATIONS

STANDARD OFF-THE-SHELF ASSEMBLIES

SERIES		RF047-A	RF25S	RF405	RF085	RF086	RF23C	RF23S	RF402	RF180	RF280
TYPE		.047 (29 AWG), low loss flexible	Samtec 25 AWG, flexible	RG 405, .086, (24 AWG), semi-flexbile	.085 (24 AWG), low loss flexible	.086 (23 AWG), low loss flexible	Samtec 23 AWG, flexible, copper shield	Samtec 23 AWG, flexible	RG 402, .141 (19 AWG), semi-flexbile	.178 (16 AWG), low loss flexible	.277 (11 AWG), low loss flexible
ELECTRICAL											
Max. Frequency (GHz)		110	40	20	50	67	50	35	20	27	18
Max. Insertion Loss (dB/m)	1 GHz	1.21	0.79	0.72	0.69	0.65	0.68	0.72	0.40	0.27	0.17
	26 GHz	7.43	3.80 @ 20 GHz	4.26 @ 20 GHz	4.28	3.90	4.27	3.71 @ 20 GHz	2.30 @ 20 GHz	1.23 @ 18 GHz	0.79 @ 18 GHz
	40 GHz	9.68	–		5.59	5.06	5.59	–	–		
	50 GHz	11.14	–		6.47	5.81	6.46	–			
Propagation Delay (ns/m)		4.76		4.79	4.75	4.20	4.76	4.72	4.79	4.17	4.02
Velocity of Propagation		70%				80%	70%		70%	80%	83%
Capacitance (pF/m)		95.00	96.80	104.97	88.20	83.37	97.80	95.45	98.07	82.00	
CONSTRUCTION											
Center Conductor	Material	Solid Silver Plated Copper									
	AWG (mm/in.)	29 (.2870 / .0113)	25 (.4570 / .0180)	24 (.5100 / .0200)		23 (.5740 / .0226)			19 (.9200 / .0362)	16 (1.3000 / .0512)	11 (2.2600 / .0889)
Dielectric	Material	PFA	Solid FEP	PTFE	Solid PTFE	Foam FEP	FEP	Solid FEP	PTFE	PTFE Tape	
	Dia. (mm/in.)	.9220 / .0363	1.4700 / .0578	1.6800 / .0660	1.6300 / .0640	1.6150 / .0636	1.8470 / .0727	1.8470 / .0727	2.9800 / .1170	3.6800 / .1450	6.3500 / .2500
Shield	Material	1) Ag Plated Cu 2) Ag Plated Cu		Tinned Cu	Spiral Strip Ag Plated Cu	1) Ag Plated Cu 2) Ag Plated Cu	1) Ag Plated Cu 2) Cu Tape 3) Ag Plated Cu	1) Ag Plated Cu 2) Ag Plated Cu	Tinned Cu	1) Flat Ag Plated Cu 2) Al Polyester 3) Round Ag Plated Cu	
Outer Braid	Dia. (mm/in.)	1.1700 / .0460	1.8600 / .0735	2.2000 / .0860	2.1300 / .0840	2.1080 / .0830	2.2730 / .0895	2.2480 / .0885	3.5800 / .1410	4.5200 / .1780	7.0400 / .2770
Jacket	Material	FEP		–	FEP				–	FEP	
	Dia. (mm/in.)	1.4200 / .0560	2.0600 / .0810	3.2000 / .1260	2.6400 / .1040	2.5400 / .1000	2.6670 / .1050	2.5900 / .1020	4.5800 / .1803	4.9500 / .1950	7.6200 / .3000
MECHANICAL											
Operating Temp		-65˚ C to 125˚ C	-40˚ C to 200˚ C	-40˚ C to 125˚ C	-65˚ C to 125˚ C	-55˚ C to 125˚ C	-65˚ C to 125˚ C	-40˚ C to 200˚ C	-40˚ C to 150˚ C	-55˚ C to 200˚ C	
Min. Bend Radius		3.18 mm	9.00 mm	6.35 mm	13.20 mm	8.90 mm	3.18 mm	8.89 mm	10.90 mm	24.80 mm	38.10 mm
Connector Options		1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm, 2.92 mm, SMA, SMP, SMPM, Ganged SMPM (Magnum RF®)	SMA, SMP		2.92 mm, 2.40 mm	1.85 mm, 2.40 mm, 2.92 mm, SMA, SMP, SMPM, Ganged SMPM (Magnum RF®)	2.40 mm, 2.92 mm, SMA, SMP, SMPM	3.50 mm	SMA	SMA, TNCA, N Type	SMA, TNCA, N Type

For complete specifications, visit samtec.com or contact RFGroup@samtec.com

ORIGINAL SOLUTIONS PRECISION RF

PRECISION ALIGNMENT FEATURES

DC TO 90 GHz

- Eliminates misalignment that can occur during board assembly
- Ensures repeatable peak connector performance
- Available on 135, 185, 240, 292 & GPPC Series

DIFFERENTIAL PAIR TEST & MEASUREMENT

DC TO 65 GHz

- Two-port SMPM ganged solution (GPPC Series)
- Solderless compression mount design
- Saves board real estate (2x the spacing savings)
- Cable-to-board or board-to-board

RIGHT-ANGLE, LOW PROFILE, GANGED SMPM

DC TO 65 GHz

- Extremely low profile, high-density, right-angle connector (GPPC Series, -RA-SM option)
- Belly-to-belly, surface mount PCB connection for maximum density
- Body height: 3.94 mm (.155")

COUNTERWEIGHT SOLUTIONS

DC TO 40 GHz

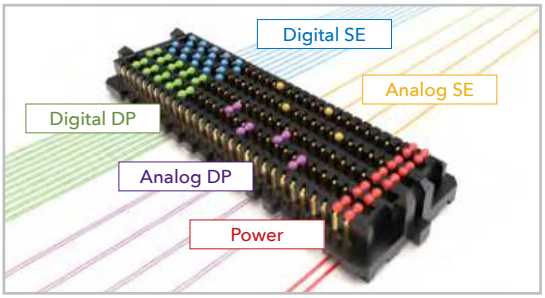
- Enables efficient board assembly (eliminates hand soldering)
- Balanced for automated, high-volume pick-and-place automation
- Edge mount SMA (26.5 GHz) or 2.92 mm (40 GHz)

ANALOG OVER ARRAY™ CONNECTORS

DC TO 15 GHz

- Enhanced open-pin-field arrays simultaneously run analog, digital, and power signals
- Reference designs and evaluation kits
- Industry-leading crosstalk and return loss performance

Precision Alignment Features



SERIES	135/185/240/292/GPPC	GPPC (-CMM)	GPPC (-RA-SM)	RSP (SMA/2.92 mm)	ANALOG OVER ARRAY™
Application	Precision Alignment	Differential Pair Testing	Extremely Low Profile	Balanced Edge Mount	Analog, Digital & Power
URL	**samtec.com/alignment**	**samtec.com?GPPC**	**samtec.com?GPPC**	**Contact: RFGroup@samtec.com**	**samtec.com/AOA**

PRODUCT FAMILY	BULLS EYE®	FLEXIBLE WAVEGUIDE	VNX+™	MAGNUM RF®
URL	**samtec.com/BullsEye**	**samtec.com/Waveguide**	**samtec.com/VNX-plus**	**samtec.com/magnumRF**

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1.00 mm Cable Assemblies
RF047-A

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF047-A = (1.2 mm) .047" overshield DIA 29 AWG milimeter wave cable	**-10BJ** = 1.00 mm Bulkhead Straight Jack **-10SP** = 1.00 mm Straight Plug		**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" minimum

ALSO AVAILABLE

1.35 mm, 1.85 mm, 2.40 mm, 2.92 mm, SMPM, SMP, SMA = RF047-A

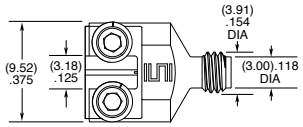
VSWR

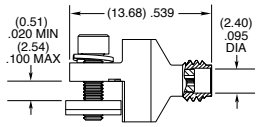
1.40 max. (DC to 90 GHz)
1.50 max. (90 GHz to 110 GHz)

1.00 mm Board Connectors
100

Cable Mates:
RF047-A

100	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	OPTION	PACKAGING
	–J = Jack	**–P** = PCB Mount	**–VP** = 50 µ" (1.27 µm) Gold center contact, Passivated outer body	**–ST** = Straight	**–EL** = Edge Launch	**–01** = .040" to .100" PCB thickness	Leave blank for Individually bagged **–B** = Bulk packaged



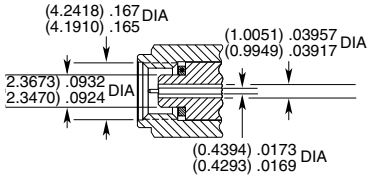


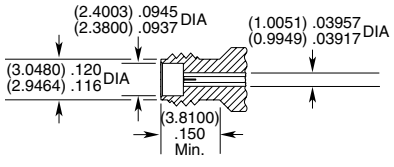
1.00 mm Cable Connectors
PRF10

CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF10-J-C-VP-047D-SS	.047 Semi-Rigid
PRF10-P-C-VP-047D-SS	.047 Semi-Rigid

For a complete list of 1.00 mm cable connectors, visit www.samtec.com?PRF10
J-C = Cable Jack
P-C = Cable Plug
VP = Plating (75 µ" Gold center contact, passivated outer contact)
SS = Straight, Solder Clamp

INTERFACE STANDARD





1.35 mm Cable Assemblies
RF047-A

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF047-A = (1.2 mm) .047" overshield DIA 29 AWG milimeter wave cable	**-13BJ** = 1.35 mm Bulkhead Straight Jack **-13SP** = 1.35 mm Straight Plug		**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" minimum

ALSO AVAILABLE

1.00 mm, 1.85 mm, 2.40 mm, 2.92 mm, SMPM, SMP, SMA = RF047-A

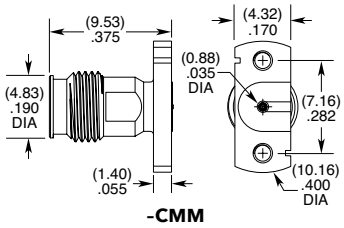
VSWR

RF047-A: 1.40 max.

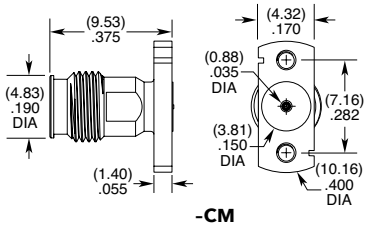
1.35 mm Board Connectors
135

Cable Mates:
RF047-A

135	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	OPTION	PACKAGING
	–J = Jack	**–P** = PCB Mount	**–VP** = 50 µ" (1.27 µm) Gold center contact, Passivated outer contact	**–ST** = Straight	**–CM** = Compression Mount Stripline **–CMM** = Compression Mount Microstrip	**–1** = Without screws **–2** = With screws	Leave blank for individually bagged. **–B** = Bulk packaged



-CMM



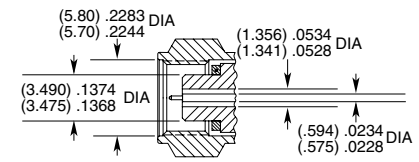
-CM

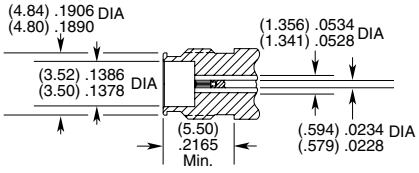
1.35 mm Cable Connectors
PRF13

CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF13-P-C-VP-047A-SS	Temp-Flex 1000671047
PRF13-J-C-VP-047A-BS	Temp-Flex 1000671047

For a complete list of 1.35 mm cable connectors, visit www.samtec.com?PRF13
P-C = Cable Plug
J-C = Cable Jack
VP = Plating (75 µ" Gold center contact, passivated outer contact)
SS = Straight, Solder Clamp
BS = Bulkhead, Solder Clamp

INTERFACE STANDARD





1.85 mm Cable Assemblies
RF047-A, RF086

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF047-A = (1.2 mm) .047" overshield DIA 29 AWG millimeter wave cable **RF086** = (2.18 mm) .086" overshield DIA 23 AWG millimeter wave cable	**–18SJ** = 1.85 mm Straight Jack **–18SP** = 1.85 mm Straight Plug		**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" minimum

ALSO AVAILABLE

1.00 mm, 1.35 mm, 2.40 mm, 2.92 mm, SMPM, SMP, SMA = RF047-A

2.40 mm, 2.92 mm, SMPM, SMP, SMA = RF086

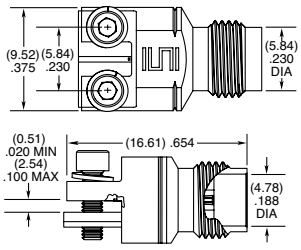
VSWR

RF047-A: 1.40 max.
RF086: 1.40 max.

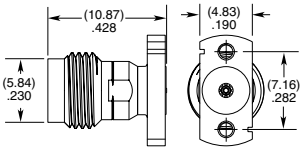
1.85 mm Board Connectors
185

Cable Mates:
RF047-A, RF086

185	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	OPTION	PACKAGING
	–J = Jack	**–P** = PCB Mount	**–EP** = 50 µ" (1.27 µm) Gold center contact, Passivated outer contact	**–ST** = Straight	**–CM** = Compression Mount Stripline **–CMM** = Compression Mount Microstrip **–EL** = Edge Launch	**–1** =Without Screws (–CM & –CMM only) **–2** = With Screws (–CM & –CMM only) **–01** = .040" to .100" PCB thickness (–EL only)	Leave blank for individually bagged. **–B** = Bulk packaged



–EL



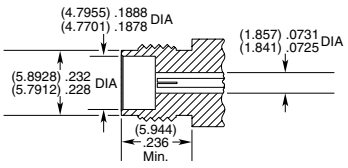
–CM

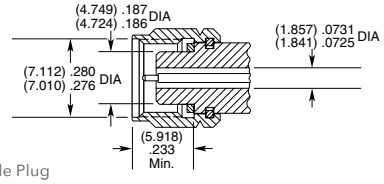
1.85 mm Cable Connectors
PRF18

CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF18-J-C-EP-085-BS	Harbour SS405
PRF18-P-C-EP-085-SS	Harbour SS405
PRF18-P C-EE-085-SD	Harbour SS405
PRF18-J-C-EP-086-SS	Temp-Flex 1001935086
PRF18-J-C-EP-047A-SS	Temp-Flex 1000671047
PRF18-P-C-EP-047A-SS	Temp-Flex 1000671047
PRF18-J-C-EP-047D-SS	.047 Semi-Rigid
PRF18-P-C-EP-047D-SS	.047 Semi-Rigid
PRF18-P-C-EE-047D-SD	.047 Semi-Rigid
PRF18-P-C-EE-047H-SD	EZ-47-LA Semi-Rigid
PRF18-P-C-EP-070-SD	EZ-70-LA Semi-Rigid
PRF18-J-C-EE-405-SD	RG 405 Semi-Rigid
PRF18-P-C-EE-405-SD	RG 405 Semi-Rigid
PRF18-P-C-EP-086E-SS	Dynawave DF165

For a complete list of 1.85 mm cable connectors, visit www.samtec.com?PRF18

INTERFACE STANDARD





P-C = Cable Plug
J-C = Cable Jack
EE = Plating (50 µ" gold center contact, & outer contact)
EP = Plating (50 µ" gold center contact, passivated outer contact)
SS = Straight, Solder Clamp
SD = Straight, Direct Solder
BS = Bulkhead, Solder Clamp

2.40 mm Cable Assemblies

RF047-A, RF085, RF086, RF23C

VSWR

RF047-A: 1.35 max.
RF086: 1.40 max.
RF085: 1.40 max.
RF23C: 1.40 max.

SERIES

RF047-A
= (1.2 mm) .047" overshield DIA 29 AWG millimeter wave cable

RF086
= (2.18 mm) .086" overshield DIA 23 AWG millimeter wave cable

RF085
= (2.16 mm) .085" overshield DIA 24 AWG millimeter wave cable

RF23C
= MWC-2350CU-01 millimeter wave cable with copper foil shield

END 1 CONNECTOR – END 2 CONNECTOR

–24SJ
= 2.40 mm Straight Jack

–24SP
= 2.40 mm Straight Plug

ALSO AVAILABLE

1.00 mm, 1.35 mm, 1.85 mm, 2.92 mm, SMPM, SMP, SMA = RF047-A

1.85 mm, 2.92 mm, SMPM, SMP, SMA = RF086

2.92 mm = RF085

2.92 mm, SMPM, SMP, SMA = RF23C

OVERALL LENGTH

–"XXXX"
= Overall Length in millimeters

–0100 (100 mm) 3.94" minimum

2.40 mm Board Connectors

240

Cable Mates:
RF047-A, RF086, RF085, RF23C

240 – GENDER – TYPE – PLATING – ORIENTATION – TERMINATION – OPTION – PACKAGING

–J
= Jack

–P
= PCB Mount

–EP
= 50 µ" (1.27 µm) Gold center contact, Passivated outer contact

–ST
= Straight

–CM
= Compression Mount Stripline

–CMM
= Compression Mount Microstrip

–EL
= Edge Launch

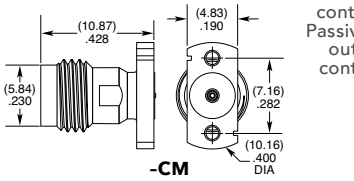
–1
= Without Screws (–CM & –CMM only)

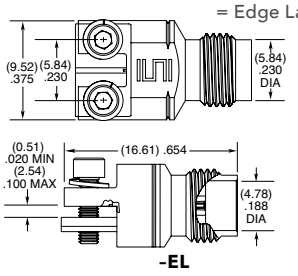
–2
= With Screws (–CM & –CMM only)

–01
= .040" to .100" PCB thickness (–EL only)

Leave blank for individually bagged

–B
= Bulk packaged





2.40 mm Cable Connectors

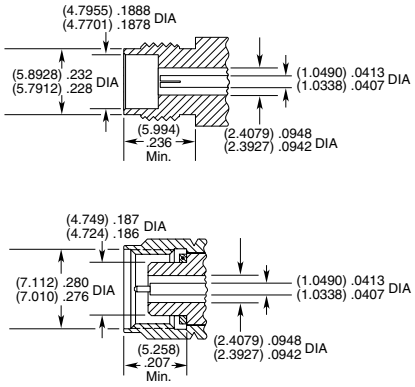
PRF24

CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF24-J-C-EP-085-SS	Harbour SS405
PRF24-J-C-EP-405-BS	RG 405
PRF24-P-C-EE-085-SD	Harbour SS405
PRF24-P-C-EP-120A-SS	Semflex HP120
PRF24-J-C-EP-160-SS	Semflex HP160
PRF24-P-C-EP-160-SS	Semflex HP160
PRF24-J-C-EP-140B-SS	IW 1401
PRF24-P-C-EP-140B -SS	IW 1401
PRF24-J-C-EP-150B-SS	IW 1501
PRF24-J-C-EP-150-SS	Dynawave DF150
PRR24-J-C-EP-086-SS	Temp-Flex 1001935086
PRF24-P-C-EP-086-SS	Temp-Flex 1001935086

For a complete list of 2.40 mm cable connectors, visit www.samtec.com?PRF24

P-C = Cable Plug
J-C = Cable Jack
EE = Plating (50 µ" gold center contact & outer contact)
EP = Plating (50 µ" gold center contact, passivated outer contact)
SS = Straight, Solder Clamp
SD = Straight, Direct Solder
BS = Bulkhead, Solder Clamp

INTERFACE STANDARD



2.92 mm Cable Assemblies

RF047-A, RF086, RF085, RF23C

VSWR

RF047-A: 1.35 max.
RF086: 1.40 max.
RF085: 1.40 max.
RF23C: 1.40 max.

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF047-A = (1.2 mm) .047" overshield DIA 29 AWG millimeter wave cable	**–92SJ** = 2.92 mm Straight Jack	**–92SJ** = 2.92 mm Straight Jack	**–"XXXX"** = Overall Length in millimeters
RF086 = (2.18 mm) .086" overshield DIA 23 AWG millimeter wave cable	**–92SP** = 2.92 mm Straight Plug	**–92SP** = 2.92 mm Straight Plug	–0100 (100 mm) 3.94" minimum
RF085 = (2.16 mm) .085" overshield DIA 24 AWG millimeter wave cable			
RF23C = MWC-2350CU-01 millimeter wave cable with copper foil shield			

ALSO AVAILABLE

1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm, SMPM, SMP, SMA = RF047-A

1.85 mm, 2.40 mm, SMPM, SMP, SMA = RF086

2.40 mm = RF085

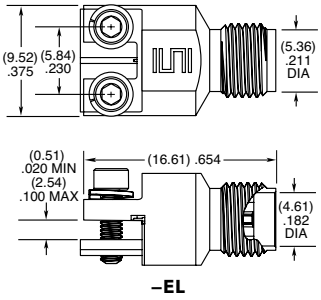
2.40 mm, SMPM, SMP, SMA = RF23C

2.92 mm Board Connectors

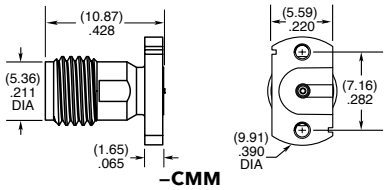
292

Cable Mates:
RF047-A, RF085, RF086, RF23C

292	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	OPTION	PACKAGING
	–J = Jack	**–P** = PCB Mount	**–EP** = 50 µ" (1.27 µm) Gold center contact, Passivated outer contact	**–ST** = Straight	**–CM** = Compression Mount Stripline **–CMM** = Compression Mount Microstrip **–EL** = Edge Launch	**–1** =Without Screws (–CM & –CMM only) **–2** = With Screws (–CM & –CMM only) **–01** = .040" to .100" PCB thickness (–EL only)	Leave blank for individually bagged. **–B** = Bulk packaged



–EL



–CMM

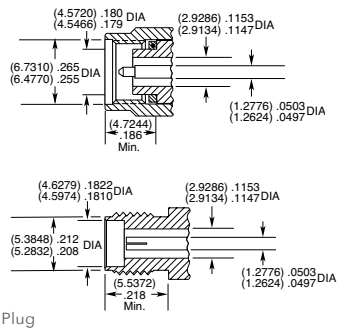
2.92 mm Cable Connectors

PRF92

CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF92-P-C-EE-405-SD	RG 405 Semi-Rigid
PRF92-P-C-EE-085A-SD	.085 Semi-Rigid
PRF92-P-C-EP-160-SS	Semflex HP160
PRF92-P-C-EP-150B-SS	IW 1501
PRF92-P-C-EP-142-SS	Harbour LL142
PRF92-J-C-EP-085-SS	Harbour SS405
PRF92-J-C-EP-085-BS	Harbour SS405
PRF92-P-C-EP-085-SS	Harbour SS405
PRF92-P-C-EE-402-SD	RG 402
PRF92-P-C-EP-190-SS	Semflex HP190
PRF92-J-C-EP-160-SS	Semflex HP160
PRF92-P-C-EP-120A-SS	Semflex HP120
PRF92-P-C-EP-140-SS	Dynawave DF140
PRF92-P-C-EP-047D-SS	.047 Semi-Rigid
PRF92-J-C-EP-047D-SS	.047 Semi-Rigid
PRF92-P-C-EP-150-SS	Dynawave DF150
PRF92-P-C-EE-118-SD	Haverhill HC35004
PRF92-J-C-EP-402-SS	RG 402
PRF92-J-C-EP-047D-4S	.047 Semi-Rigid
PRF92-P-C-EP-086-SS	Temp-Flex 1001935086
PRF92-P-C-EP-200-SS	Times Max Gain 200

For a complete list of 2.92 mm cable connectors, visit www.samtec.com?PRF92

INTERFACE STANDARD



P-C = Cable Plug
J-C = Cable Jack
EE = Plating (50 µ" Gold center contact & outer contact)
EP = Plating (50 µ" Gold center contact, passivated outer contact)
SS = Straight, Solder Clamp
SD = Straight, Direct Solder
BS = Bulkhead, Solder Clamp
4S = 4-hole flange, Solder Clamp

3.50 mm TO 34 GHz

3.50 mm Cable Assemblies
RF235

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF23S = MWC-2350-01 microwave cable with 23 AWG solid FEP Dielectric	**–35SJP** = 3.50 mm Straight Jack **–35SPP** = 3.50 mm Straight Plug		**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" min.

VSWR

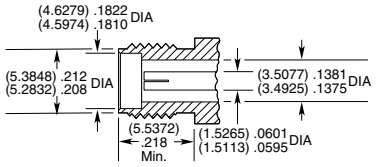
RF23S: 1.30 max

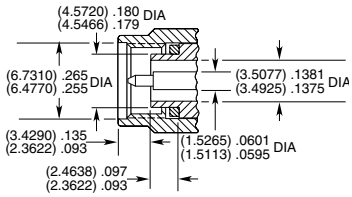
3.50 mm Cable Connectors
PRF35

CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF35-P-C-EP-405-SS	RG 405, Semi-Rigid
PRF35-J-C-EP-402-SS	RG 402, .141, Semi-Rigid
PRF35-J-C-EP-402-BS	RG 402, .141, Semi-Rigid
PRF35-P-C-EP-402-SS	RG 402, .141, Semi-Rigid
PRF35-P-C-EP-120A-SS	Semflex HP120
PRF35-J-C-EP-160-SS	Semflex HP160
PRF35-P-C-EP-160-SS	Semflex HP160
PRF35-P-C-EP-210A-SS	Micro-Coax UFA210A

For a complete list of 3.50 mm cable connectors, visit www.samtec.com?PRF35
P-C = Cable Plug
J-C = Cable Jack
EP = Plating (50 µ" Gold center contact, passivated outer contact)
SS = Straight, Solder Clamp
BS = Bulkhead, Solder Clamp

INTERFACE STANDARD





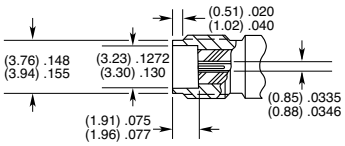
SSMA TO 34 GHz

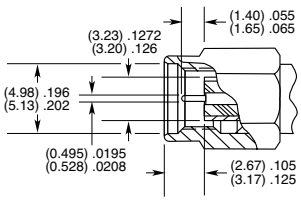
SSMA Cable Connectors
PRFS1

CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRFS1-J-C-EE-405-BD	RG 405, Semi-Rigid
PRFS1-P-C-EE-405-SD	RG 405, Semi-Rigid
PRFS1-P-C-EP-141A-SS	Harbour SS402

For a complete list of SSMA cable connectors, visit www.samtec.com?PRFS1
P-C = Cable Plug
J-C = Cable Jack
EE = Plating (50 µ" Gold center contact & outer contact)
EP = Plating (50 µ" Gold center contact, passivated outer contact)
SS = Straight, Solder Clamp
SD = Straight, Direct Solder
BD = Bulkhead, Direct Solder

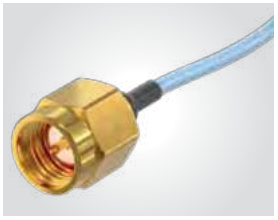
INTERFACE STANDARD





SMA Cable Assemblies

RF047-A, RF086, RF23C, RF25S, RF402, RF405, RF180, RF280



VSWR

RF047-A: 1.30 max.
RF086: 1.30 max.
RF23C: 1.30 max.
RF180: 1.35 max.
RF280: 1.35 max.

Additional connector options available.
Contact RFGroup@samtec.com

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH

RF047-A
= (1.2 mm) .047" overshield DIA 29 AWG millimeter wave cable

RF086
= (2.18 mm) .086" overshield DIA 23 AWG millimeter wave cable

RF23C
= MCW-2350CU-01 millimeter wave cable with copper foil shield

RF25S
= MWC-2550-01 microwave cable with 25 AWG solid FEP dielectric

RF402
=RG 402 (.141") 19 AWG semi-flexible microwave cable

RF405
= RG 405 (.086") 24 AWG semi-flexible microwave cable

RF180
= (4.52 mm) .178" overshield DIA, 16 AWG microwave cable

RF280
= (7 mm) .277" overshield DIA, 11 AWG microwave cable

–01SP1*
= SMA Straight Plug

–01RP1*
= SMA Right-angle Plug
(RF047-A, RF086, RF23C & RF25S not available)

–01BJ1*
= SMA Bulkhead Jack
(RF402 & RF405 not available)

-01SB
= Straight Bulkhead Jack, Sealed
(RF047-A, RF086 & RF23C only)

*Remove last "1" from end connector when specifying RF047-A, RF086, RF23C, RF180 & RF280.

–"XXXX"
= Overall Length in millimeters

–0100 (100 mm) 3.94" minimum
(RF047-A, RF086, RF23C, RF25S, RF402, & RF405)

–0152 (152 mm) 5.984" minimum
(RF180)

–0200 (200 mm) 7.87" minimum
(RF280)

ALSO AVAILABLE

1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm, 2.92 mm, SMPM, SMP = RF047-A

1.85 mm, 2.40 mm, 2.92 mm, SMPM, SMP= RF086

2.40 mm, 2.92 mm, SMPM, SMP = RF23C

SMP = RF25S, RF405

TNCA, N Type = RF180

TNCA, N Type = RF280

SMA Board Connectors

SMA-TH, SMA-SM, SMA-MT, SMA-EM

Cable Mates:
RF047-A, RF086, RF23C, RF25S, RF402, RF405, RF180, RF280

SMA	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION

–J
= Jack

–P
= PCB Mount

–H
= 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact

–GF
= 10 µ" (0.25 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact
(-SM1 only)

–ST
= Straight

–RA
= Right-angle

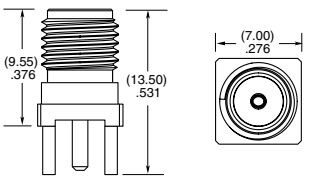
–TH1
= Through-hole

–SM1
= Surface Mount
(–GF–RA only)

–EM1
= Edge Mount
(–ST only)

–EM3
= Drop-in Edge Mount
(–ST only)

–MT1
= Mixed Technology
(–ST only)



-ST-TH1

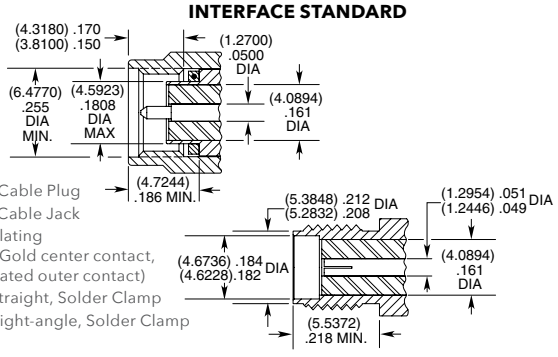
SMA Cable Connectors

PRF01

CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF01-P-C-EP-120C-SS	Harbour LL120
PRF01-J-C-EP-142-SS	Harbour LL142
PRF01-P-C-EP-142-SS	Harbour LL142
PRF01-P-C-EP-142-RS	Harbour LL142
PRF01-P-C-EP-142A-SS	Harbour SB142
PRF01-P-C-EP-335-SS	Harbour LL335
PRF01-P-C-EP-335A-SS	Harbour LL335i
PRF01 P-C-EP-190-SS	Semflex HP190
PRF01-P-C-EP-190-RS	Semflex HP190
PRF01-P-C-EP-305-SS	Semflex HP305
PRF01-P-C-EP-290-SS	Semflex LA290

For a complete list of SMA cable connectors, visit www.samtec.com?PRF01

INTERFACE STANDARD



P-C = Cable Plug
J-C = Cable Jack
EP = Plating
(50 µ" Gold center contact, passivated outer contact)
SS = Straight, Solder Clamp
RS = Right-angle, Solder Clamp

SMPM Cable Assemblies

RF047-A, RF086, RF23C

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF047-A = (1.2 mm) .047" overshield DIA 29 AWG millimeter cable	**–M0SP** = SMPM Straight Plug, Full Detent	**–M0SP** = SMPM Straight Plug, Full Detent	**–"XXXX"** = Overall Length in millimeters
RF086 = (2.18 mm) .086" overshield DIA 23 AWG millimeter cable	**–M0SJ** = SMPM Straight Jack	**–M0SJ** = SMPM Straight Jack	–0100 (100 mm) 3.94" minimum
RF23C = MWC-2350CU-01 millimeter wave cable with copper foil shield	**–M0RJ** = SMPM Right-angle Jack (RF047-A only)	**–M0RJ** = SMPM Right-angle Jack (RF047-A only)	
	–M0BJ = SMPM Straight Bulkhead Jack (RF047-A only)	**–M0BJ** = SMPM Straight Bulkhead Jack (RF047-A only)	

VSWR

RF047-A: 1.40 max.
RF086: 1.40 max.
RF23C:
1.20 max. (DC to 26.5 GHz)
1.40 max. (26.5 GHz to 50 GHz)

ALSO AVAILABLE

1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm, 2.92 mm, SMP, SMA = RF047-A

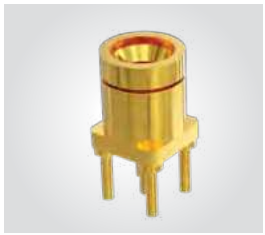
1.85 mm, 2.40 mm, 2.92 mm, SMP, SMA = RF086

2.40 mm, 2.92 mm, SMP, SMA = RF23C

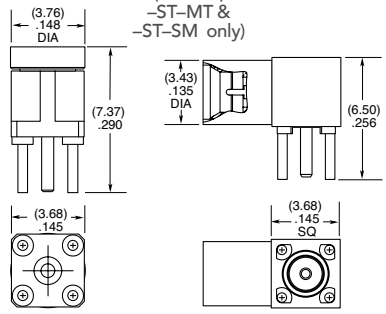
SMPM Board Connectors

SMPM-SM, SMPM-TH, SMPM-RA, SMPM-MT, SMPM-EM

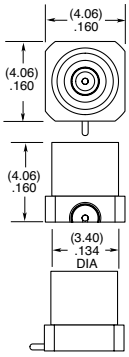
Cable Mates:
RF047-A, RF086, RF23C



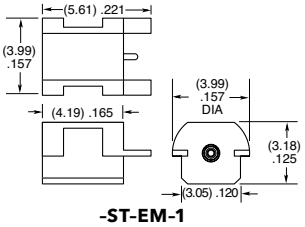
SMPM	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	OPTION
	–PF = Full Detent	**–P** = PCB Mount	**–HG** = 30 µ" (0.76 µm) Gold center contact, 10 µ" (0.25 µm) Gold outer contact (–ST only)	**–ST** = Straight	**–EM** = Drop-in Edge Mount (–ST only)	**–1** = Standard
	–PS = Smooth Bore		**–HF** = 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact (–RA only)	**–RA** = Right-angle (–TH required)	**–TH** = Through-hole	**-2** = Reverse Mount (–EE and –SM only; see website for print)
	–PC = Catcher's Mitt (–ST–TH, –ST–MT & –ST–SM only)		**–EG** = 50 µ" (1.27 µm) Gold center contact, 10 µ" (0.25 µm) Gold on body (–MT & –SM only)		**–SM** = Surface Mount (–ST only)	
			–EE = 50 µ" (1.27 µm) extra heavy Gold center contact and outer body (SM-2 only)		**–MT** = Mixed Technology (–ST only)	



-ST-TH-1 -RA-TH-1



-ST-SM-1



-ST-EM-1

SMPM Cable Connectors

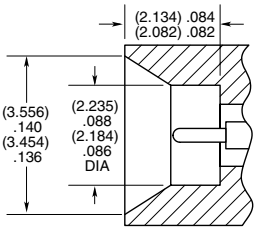
PRFM0

CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRFM0-J-C-EE-085-BD	Harbour SS405
PRFM0-J-C-EE-047A-BD	Temp-Flex 1000671047
PRFM0-J-C-HG-047A-SD	Temp-Flex 1000671047
PRFM0-J-C-EE-047A-RD	Temp-Flex 1000671047
PRFM0-P-C-HG-047A-SD	Temp-Flex 1000671047
PRFM0-J-C-EE-047B-SD	Temp-Flex 1001935047
PRFM0-J-C-EE-086-SD	Temp-Flex 1001935086
PRFM0-P-C-EE-086-SD	Temp-Flex 1001935086

For a complete list of SMPM cable connectors, visit www.samtec.com?PRFM0

P-C = Cable Plug
J-C = Cable Jack
EE = Plating (50 µ" Gold center contact, & outer contact)
HG = Plating (30 µ" Gold center contact, 10 µ" Gold outer contact)
SD = Straight, Direct Solder
BD = Bulkhead, Direct Solder
RD = Right-angle, Direct Solder

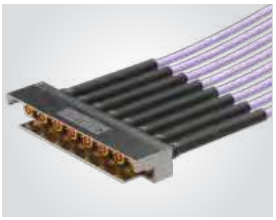
INTERFACE STANDARD (CATCHER'S MITT)



SMPM TO 65 GHZ

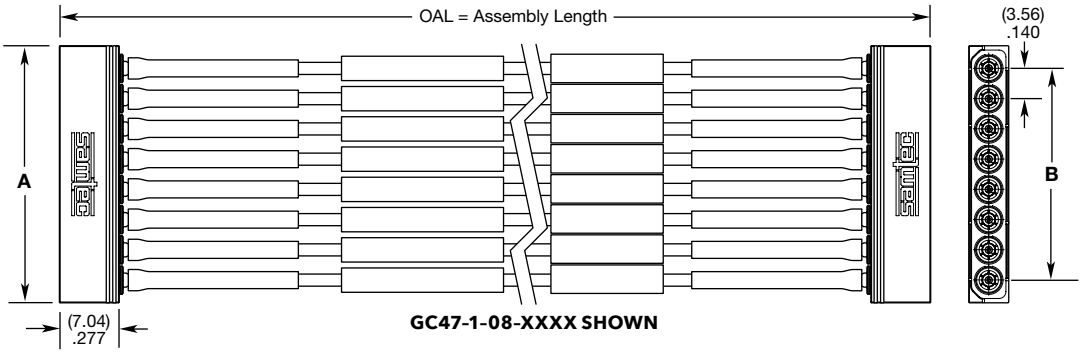
SMPM Ganged Cable:
GC47, GC86

Mates With:
GPPC



SERIES	NO. OF ROWS	NO. OF POSITIONS	ASSEMBLY LENGTH
GC47 = Ganged SMPM with (1.2 mm) .047" overshield DIA 29 AWG millimeter wave cable **GC86** = Ganged SMPM with (2.18 mm) .086" overshield DIA 23 AWG millimeter wave cable	–1	–02, –04, –06, –08, –10	**–"XXXX"** = Assembly Length in millimeters -0100 (100 mm) 3.94" minimum

NO. OF POSITIONS	A	B
–02	(8.89) .350	(3.56) .140
–04	(16.00) .630	(10.67) .420
–06	(22.10) .870	(17.78) .700
–08	(30.23) 1.190	(24.89) .980
–10	(37.34) 1.470	(32.00) 1.260



GC47-1-08-XXXX SHOWN

ALSO AVAILABLE

Other RF options for end 2
Contact RFGroup@samtec.com

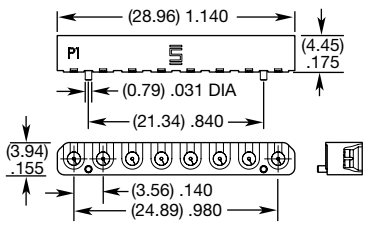
Notes:
Cable lengths longer than 1000 mm (39.37") are not supported with S.I. test data.

Some sizes, styles and options are non-standard, non-returnable.

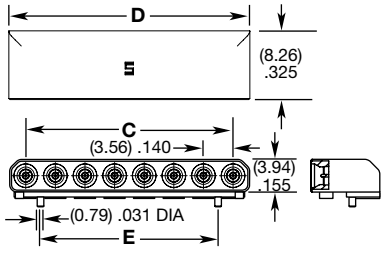
SMPM Ganged Block:
GPPC

Mates With:
GC47, GC86

GPPC	GENDER	1	NO. OF POSITIONS	PLATING	ORIENTATION	TERMINATION	1N
	–PF = Plug Full Detent **–PS** = Plug Smooth Bore **-PC** = Catcher Mitt (–ST–SL & –RA–SM only)		**–02, –04, –06, –08, –10** (Per Row)	**–EG** = 50 µ" (1.27 µm) heavy Gold center contact, 10 µ" (0.25 µm) extra Gold outer body (–EM only) **–HG** = 30 µ" (0.76 µm) Gold center contact, 10 µ" (0.25 µm) Gold outer body (–SL & –SM only)	**–ST** = Straight **–RA** = Right-angle (–SM only)	**–SM** = Surface Mount (Right-angle only) **–EM** = Edge Mount **–SL** = Stub Launch	Leave blank for –SL &–SM

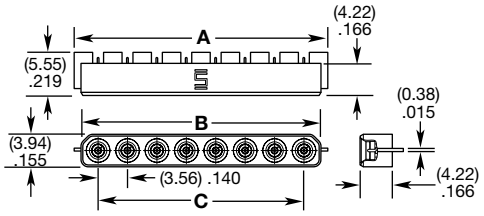


GPPC-PS-1-08-XX-ST-SL SHOWN



GPPC-PS-1-08-XX-RA-SM SHOWN

NO. OF POSITIONS	A	B	C	D	E
–02	(9.35) .368	(7.70) .303	(3.56) .140	(7.62) ..300	N/A
–04	(16.46) .648	(14.81) .583	(10.67) .420	(14.73) .580	(7.11) .280
–06	(23.57) .928	(21.92) .863	(17.78) .700	(21.84) .860	(14.22) .560
–08	(30.68) .1.208	(29.03) 1.143	(24.89) .980	(28.96) 1.140	(21.34) .840
–10	(37.80) 1.488	(36.14) 1.423	(32.00) 1.260	(36.07) 1.420	(28.45) 1.120



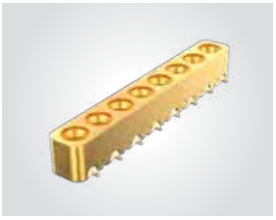
GPPC-PS-1-08-XX-ST-EM-1N SHOWN

Notes:
Some sizes, styles and options are non-standard, non-returnable.

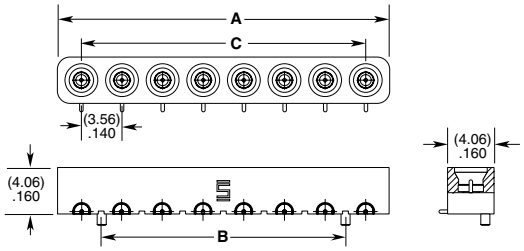
SMPM TO 65 GHz

SMPM Ganged Block:
GPPB

Mates With:
PRFIA



GPPB	GENDER	NO. OF ROWS	NO. OF POSITIONS	PLATING	ST	SM	CHANNEL PITCH
	–PF = Plug Full Detent **–PS** = Plug Smooth Bore **–PC** = Catcher's Mitt	**–1**	**–02, –04, –06, –08, –10**	**–EG** = 50 µ" (1.27 µm) heavy Gold center contact, 10 µ" (0.25 µm) Gold outer body			**–1N** = 3.56 mm (.140") Pitch



GPPB-PF-1-08-EG-ST-SM-1N SHOWN

NO. OF POSITIONS	A	B	C
–02	(7.62) .300	N/A	(3.56) .140
–04	(14.73) .580	(7.11) .280	(10.67) .420
–06	(21.84) .860	(14.22) .560	(17.78) .700
–08	(28.96) 1.14	(21.34) .840	(24.89) .980
–10	(36.07) 1.42	(28.45) 1.12	(32.00) 1.26

ALSO AVAILABLE

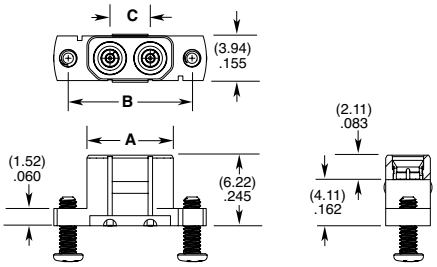
(8.33 mm) .328" Pitch
(5.08 mm) .200" Pitch
Edge Mount termination
Contact RFGroup@samtec.com

DUAL PORT SOLDERLESS COMPRESSION MOUNT

SMPM Ganged Block:
GPPC

Mates With:
GC47, GC86, PRFIA

GPPC	GENDER	1	2	PLATING	ORIENTATION	TERMINATION	PACKAGING
	–PF = Plug Full Detent **–PS** = Plug Smooth Bore			**–EP** = 50 µ" (1.27 µm) heavy Gold center contact, Passivated outer body	**–ST** = Straight	**–CMM** = Compression Mount	Leave blank for Individually bagged **–B** = Full Tray (Multiples of 100 required)



GPPC-PX-1-2-EP-ST-CMM-X SHOWN

NO. OF POSITIONS	A	B	C
–02	(7.62) .300	(10.92) .430	(3.56) .140

See Page 26 for SMPM In-Series Bullet Adaptors or visit Samtec.com?PRFIA

SMP Cable Assemblies

RF047-A, RF086, RF23C, RF25S, RF405

VSWR

RF047-A: 1.50 max.
RF086: 1.50 max.
RF23C: 1.50 max.
RF25S: Contact Samtec
RF405: Contact Samtec

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH

RF047-A
= (1.2 mm) .047" overshield DIA 29 AWG millimeter wave cable

RF086
= (2.18 mm) .086" overshield DIA 23 AWG millimeter wave cable

RF23C
= MWC-2350CU-01 millimeter wave cable with copper foil shield

RF25S
= MWC-2550-01 microwave cable with 25 AWG solid FEP dielectric

RF405
= RG 405 (.086") 24 AWG semi-flexible microwave cable

–00SJ
= SMP Straight Jack (RF047-A, RF086 & RF23C only)

–00MJ
= SMP Right-angle Jack (RF047-A, RF086 & RF23C only)

–00BF
= SMP Bulkhead Jack, Full Detent (RF086 & RF23C only)

–00BL
= SMP Bulkhead Jack, Limited Detent (RF086 & RF23C only)

–00BS
= SMP Bulkhead Jack, Smooth Bore (RF086 & RF23C only)

–00BC
= SMP Bulkhead Jack, Catcher's Mitt (RF086 & RF23C only)

–00SJ7
= SMP Straight Jack (RF25S & RF405 only)

–00RJ7
= SMP Right-angle Jack (RF25S & RF405 only)

–"XXXX"
= Overall Length in millimeters

–0100 (100 mm) 3.94" minimum

ALSO AVAILABLE

1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm, 2.92 mm, SMPM, SMA = RF047-A

1.85 mm, 2.40 mm, 2.92 mm, SMPM, SMA = RF086

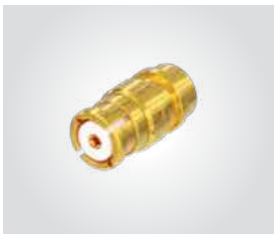
2.40 mm, 2.92 mm, SMPM, SMA = RF23C

SMA = RF25S

SMA = RF405

SMP Cable Connectors

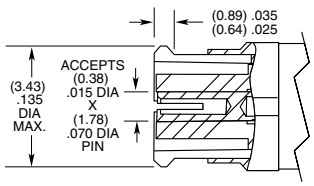
PRF00

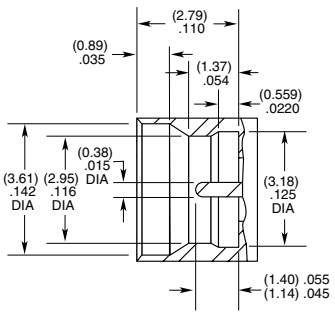


CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF00-J-C-EE-047A-RD	Temp-Flex 1000671047
PRF00-J-C-EE-085A-SD	.086 Semi-Rigid
PRF00-PF-C-KK-047D-BD	.047 Semi-Rigid

For a complete list of SMP cable connectors, visit www.samtec.com?PRF00
J-C = Cable Jack
EE = Plating (50 µ" Gold center contact & outer contact)
KK = Plating (100 µ" Gold over Nickel center contact, passivated outer contact)
BD = Bulkhead, Direct Solder
SD = Straight, Direct Solder
RD = Right-angle, Direct Solder

INTERFACE STANDARD (FULL DETENT)

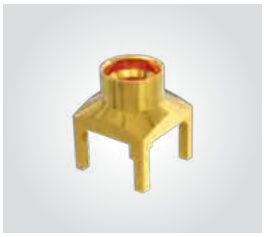




SMP Board Connectors

SMP-TH, SMP-EM,
SMP-MT, SMP-SM

Cable Mates:
RF047-A, RF086,
RF23C, RF405, RF25S



SMP	–	GENDER	–	TYPE	–	PLATING	–	ORIENTATION	–	TERMINATION

–PF
= Plug, Full Detent

–PL
= Plug, Limited Detent

–PS
= Plug, Smooth Bore

–PC
= Plug, Catcher's Mitt

–P
= PCB Mount

–HG
= 30 µ" (0.76 µm) Gold center contact, 10 µ" (0.25 µm) Gold outer body

–ST
= Straight

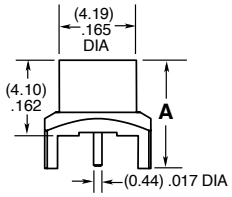
–SM
=Surface Mount (Not available with PS)

–TH"X"
= Through-hole (Specify "X" from chart)

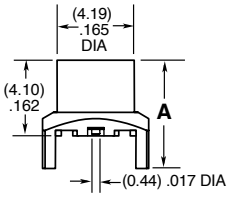
–MT"X"
= Mixed Technology (Specify "X" from chart)

–EM
= Edge Mount (–PL & –PS only)

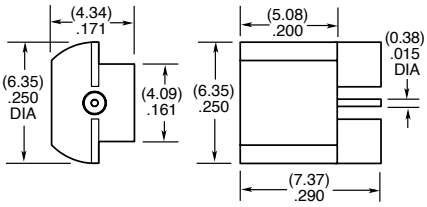
OPTION (X)	A (HEIGHT DIM.)	BOARD THICKNESS
1 (-MT only)	(5.88) .2315	(1.60 mm) .062" PCB
2 (-MT only)	(6.72) .2645	(2.36 mm) .093" PCB
3 (-TH only)	(5.88) .2315	(1.60 mm) .062" PCB
4 (-TH only)	(6.72) .2645	(2.36 mm) .093" PCB



-PF/-PL/-PS-TH2



-MT(X)



-EM

ALSO AVAILABLE

Low Frequency options.
Contact RFGroup@samtec.com

SMP Bullet Adaptor

SMP-B

SMP	–	J	–	TYPE	–	PLATING	–	ORIENTATION	–	BULLET LENGTH

–B
= Bullet Adaptor

–HG
= 30 µ" (0.76 µm) Gold center contact, 10 µ" (0.25 µm) Gold outer body

–ST
= Straight

–0591*
= (5.91 mm) .233"

–0645
= (6.45 mm) .254"

–0690*
= (6.90 mm) .272"

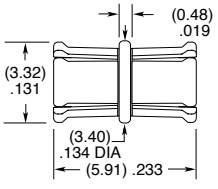
–0795*
= (7.95 mm) .313"

–0896*
= (8.96 mm) .353"

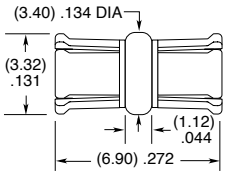
–1305*
= (13.05 mm) .514"

–1450
= (14.50 mm) .571"

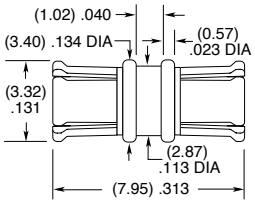
*PRELIMINARY



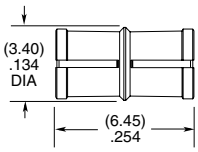
-0591



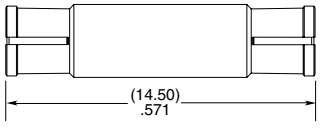
-0690



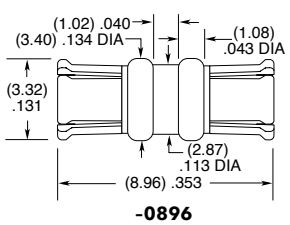
-0795



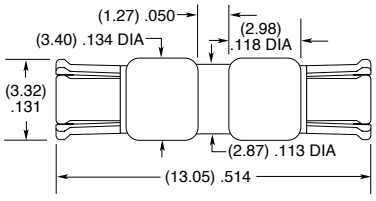
-0645



-1450



-0896



-1305

N Type Cable Assemblies
RF180, RF280

VSWR

RF 180:
1.35 max. (-06SP & -06BJ)
1.45 max. (-06RP)
RF 280:
1.35 max. (-06SP & -06BJ)
1.35 max. (DC to 14 GHz) (-06RP)
1.50 max. (14 GHz to 18 GHz)

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF180 = (4.52 mm) .178" overshield DIA, 16 AWG microwave cable **RF280** = (7 mm) .277" overshield DIA, 11 AWG microwave cable	**–06SP** = N Type Straight Plug **–06RP** = N Type Right-angle Plug **–06BJ** = N Type Straight Bulkhead Jack		**-"XXXX"** = Overall length in millimeters –0152 (152 mm) 5.984" minimum (RF180) –0200 (200 mm) 7.87" minimum (RF280)

ALSO AVAILABLE

SMA, TNCA = RF180

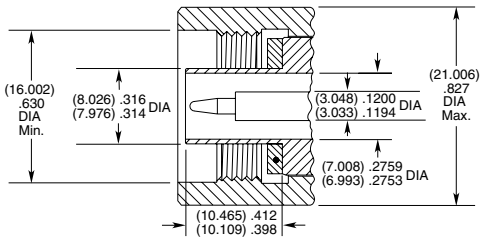
SMA, TNCA = RF280

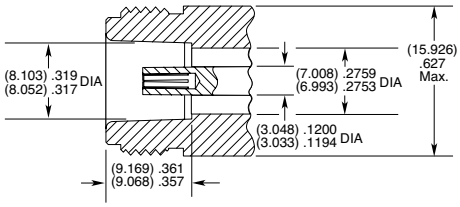
N Type Cable Connectors
PRF06

CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF06-P-C-EP-141A-SS	Harbour SS402
PRF06-J-C-EP-142-BS	Harbour LL142
PRF06-P-C-EP-142-SS	Harbour LL142
PRF06-P-C-EP-142-RS	Harbour LL142
PRF06-P-C-EP-142A-SS	Harbour SB142
PRF06-J-C-EP-335-BS	Harbour LL335
PRF06-P-C-EP-335-SS	Harbour LL335
PRF06-P-C-EP-335-RS	Harbour LL335
PRF06-P-C-EP-335A-SS	Harbour LL335i
PRF06-P-C-EP-335A-SS	Harbour LL335i
PRF06-P-C-EP-335A-RS	Harbour LL335i
PRF06-J-C-EP-160A-BS	Harbour LL160
PRF06-P-C-EP-160A-SS	Harbour LL160
PRF06-P-C-EP-160A-RS	Harbour LL160
PRF06-P-C-EP-120A-SS	Semflex HP120
PRF06-J-C-EP-190-BS	Semflex HP190
PRF06-P-C-EP-190-SS	Semflex HP190
PRF06-P-C-EP-190-RS	Semflex HP190
PRF06-J-C-EP-290-BS	Semflex LA290
PRF06-P-C-EP-290-SS	Semflex LA290
PRF06-P-C-EP-290-RS	Semflex LA290
PRF06-P-C-EP-305-SS	Semflex HP305
PRF06-J-C-EP-402-4S	RG 402, .141, semi-rigid
PRF06-P-C-EP-300A-SS	Times Max Gain 300
PRF06-P-C-EP-180B-SS	IW 1801
PRF06-P-C-EP-135-SS	Dynawave DF440W
PRF06-P-C-EP-270A-RS	Dynawave DF218
PRF06-P-C-EP-160B-SS	ATM CF-210
PRF06-P-C-EP 135B-SS	Lab-Flex 160S
PRF06-P-C-EP-284-SS	Micro-Coax UFB311A

For a complete list of N Type cable connectors, visit www.samtec.com?PRF06

INTERFACE STANDARD





P-C = Cable Plug
J-C = Cable Jack
EP = Plating (50 µ" Gold center contact, passivated outer contact)
SS = Straight, Solder Clamp
RS = Right-angle, Solder Clamp
BS = Bulkhead, Solder Clamp
4S = 4-hole Flange, Solder Clamp

TNCA Cable Assemblies
RF180, RF280

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF180 = (4.52 mm) .178" overshield DIA, 16 AWG microwave cable	**–04SP** = TNCA Straight Plug	**–04SP** = TNCA Straight Plug	**-"XXXX"** = Overall length in millimeters
RF280 = (7 mm) .277" overshield DIA, 11 AWG microwave cable	**–04RP** = TNCA Right-angle Plug (RF180 only)	**–04RP** = TNCA Right-angle Plug (RF180 only)	–0152 (152 mm) 5.984" minimum (RF180)
	–04BJ = TNCA Straight Bulkhead Jack	**–04BJ** = TNCA Straight Bulkhead Jack	–0200 (200 mm) 7.87" minimum (RF280)

VSWR

RF180: 1.35 max. (-04SP & -04BJ)
1.45 max. (-04RP)
RF280: 1.35 max. (-04SP & -04BJ)

ALSO AVAILABLE

SMA, N Type = RF180

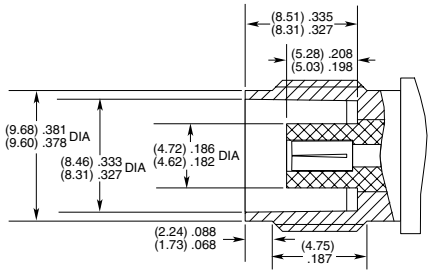
SMA, N Type = RF280

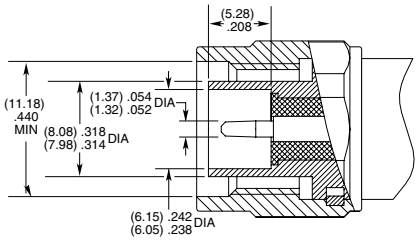
TNCA Cable Connectors
PRF04

CONNECTORS FOR INDUSTRY STANDARD CABLES	
PRF04-P-C-EP-142-RS	Harbour LL142
PRF04-J-C-EP-142-BS	Harbour LL142
PRF04-P-C-EP-142-SS	Harbour LL142
PRF04-P-C-EP-335-SS	Harbour LL335
PRF04-P-C-EP-290-SS	Semflex LA290
PRF04-J-C-EP-190-BS	Semflex HP190
PRF04-P-C-EP-190-RS	Semflex HP190
PRF04-P-C-EP-190-SS	Semflex HP190
PRF04-P-C-EP-335A-RS	Harbour LL335i
PRF04-J-C-EP-335A-BS	Harbour LL335i
PRF04-P-C-EP-300A-SS	Times Max Gain 300
PRF04-P-C-EP-200-SS	Times Max Gain 200
PRF04-P-C-EP-160A-SS	Harbour LL160
PRF04-J-C-EP-270A-BS	Dynawave DF218
PRF04-P-C-EP-135-SS	Dynawave DF440W
PRF04-P-C-EP-300A-SS	Times Max Gain 300
PRF04-J-C-EP-210A-BS	Micro-Coax UFA210A
PRF04-P-C-EP-210A-SS	Micro-Coax UFA210A
PRF04-P-C-EP-284-SS	Micro-Coax UFB311A
PRF04-J-C-EP-127-4S	Storm VSR150

For a complete list of TNCA cable connectors, visit www.samtec.com?PRF04

INTERFACE STANDARD





P-C = Cable Plug
J-C = Cable Jack
EP = Plating (50 µ" Gold center contact, passivated outer contact)
SS = Straight, Solder Clamp
RS = Right-angle, Solder Clamp
BS = Bulkhead, Solder Clamp
4S = 4-Hole Flange

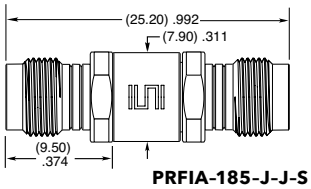
1.85 mm, 2.40 mm, 2.92 mm In-Series Adaptors

PRFIA

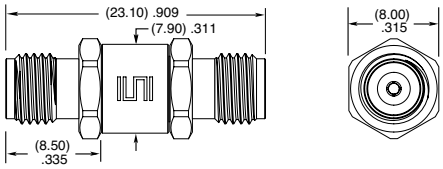
VSWR

–185: 1.30 max.
–240: 1.20 max.
–292: 1.15 max.

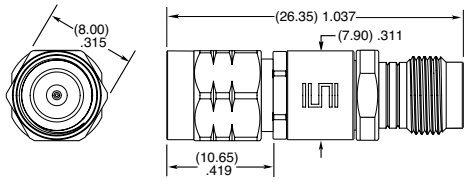
PRFIA	CONNECTOR	END 1 GENDER	END 2 GENDER	ORIENTATION	1
	–185 = 1.85 mm **–240** = 2.40 mm **–292** = 2.92 mm	**–P** = Plug **–J** = Jack	**–P** = Plug (Only available with -P on end 1) **–J** = Jack	**–S** = Straight	Required for -292 Jack-to-Jack adaptor (PRFIA-292-J-J-S-1) Leave blank for all other part numbers.



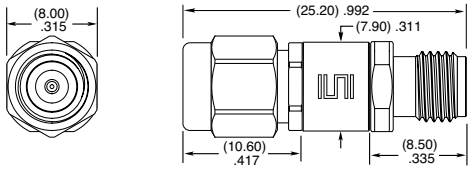
PRFIA-185-J-J-S



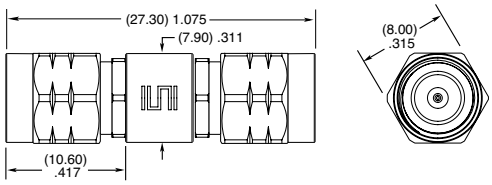
PRFIA-292-J-J-S-1



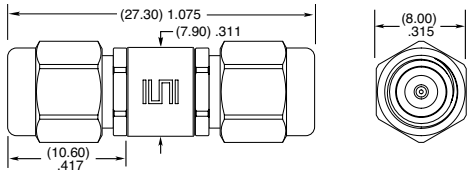
PRFIA-185-P-J-S



PRFIA-292-P-J-S



PRFIA-240-P-P-S



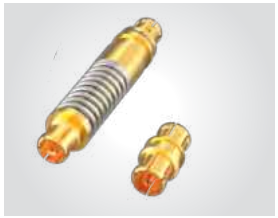
PRFIA-292-P-P-S

SMPM In-Series Adaptor:

PRFIA

Mates With:

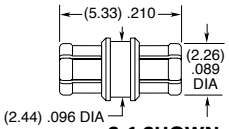
SMPM, GPPB, GPPC



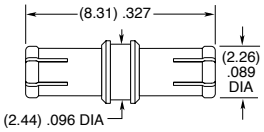
VSWR

1.15 max. (DC to 26.5 GHz)
1.35 max. (26.5 GHz to 40 GHz)
1.50 max. (40 GHz to 65 GHz)

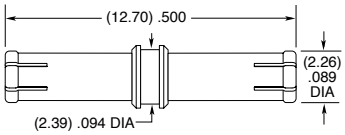
PRFIA	SMPM	END 1 GENDER	END 2 GENDER	ORIENTATION	–S LENGTH	–SP LENGTH
		–J = Jack	**–J** = Jack	**–S** = Straight **–SP** = Spring Loaded	Use with –S orientation **–1** = (5.33 mm) .210" **–2** = (8.31 mm) .327" **–3** =(12.70 mm) .500" **–4** = (4.22 mm) .166"	Use with –SP orientation **–1** = (10.45 mm) .412" max. extension; (9.65 mm) .380" max. compression **–2** = (16.50 mm) .650" max. extension; (13.96 mm) .550" max. compression



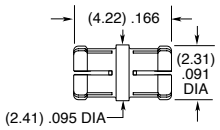
-S-1 SHOWN



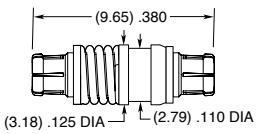
-S-2 SHOWN



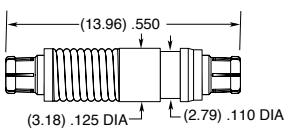
-S-3 SHOWN



-S-4 SHOWN



-SP-1 SHOWN (COMPRESSED)



-SP-2 SHOWN (COMPRESSED)

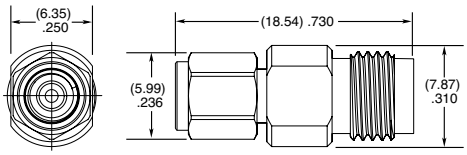
1.00 mm to 1.85 mm Adaptors

PRFBA

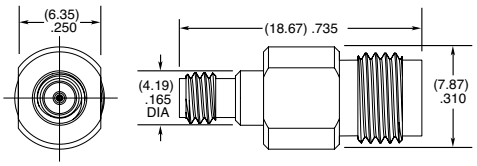
PRFBA	–	CONNECTOR	–	END 1 GENDER	–	CONNECTOR	–	END 2 GENDER	–	ORIENTATION
		–100 = 1.00 mm		**–P** = Plug **–J** = Jack		**–185** = 1.85 mm		**–P** = Plug **–J** = Jack		**–S** = Straight

VSWR

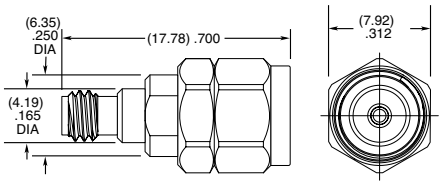
1.12 max. (DC to 26.5 GHz)
1.25 max. (26.5 GHz to 40 GHz)
1.30 max. (40 GHz to 50 GHz)
1.35 max. (50 GHz to 67 GHz)



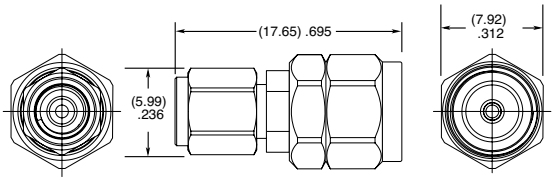
PRFBA-100-P-185-J-S



PRFBA-100-J-185-J-S



PRFBA-100-J-185-P-S



PRFBA-100-P-185-P-S

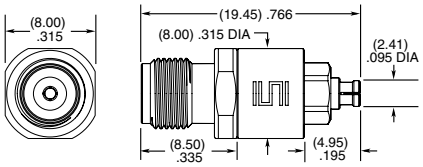
2.92 mm to SMPM Adaptors

PRFBA

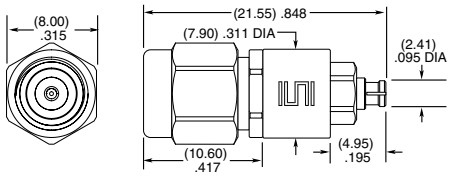
PRFBA	–	CONNECTOR	–	END 1 GENDER	–	CONNECTOR	–	END 2 GENDER	–	ORIENTATION	–	1
		–292 = 2.92 mm		**–P** = Plug **–J** = Jack		**–SMPM**		**–J** = Jack **–PF** = Plug Full Detent		**–S** = Straight		Required for Jack-to-Jack adaptor (PRFBA-292-J-SMPM-J-S-1) Leave blank for all other part numbers.

VSWR

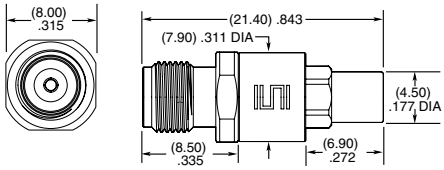
1.30 max. (DC to 40 GHz)



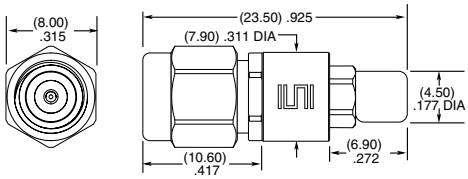
PRFBA-292-J-SMPM-J-S-1



PRFBA-292-P-SMPM-J-S



PRFBA-292-J-SMPM-PF-S



PRFBA-292-P-SMPM-PF-S

BULLSEYE®
TEST POINT SYSTEM

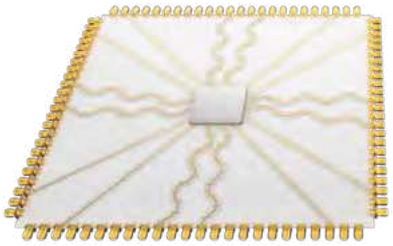
HIGH-PERFORMANCE TEST ASSEMBLIES TO 90 GHz

FEATURES & BENEFITS

The Bulls Eye® high-performance test assembly features a high-density, space-saving design that enables smaller evaluation boards and shorter trace lengths in test and measurement applications to 90 GHz.

- Compression mounts to the board for placement directly adjacent to the SerDes being characterized
- Solderless design improves cost and is easy to use within a lab setting
- End 2 connection to instrumentation: 1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm or 2.92 mm
- High-density, space-saving design
- Single row or double row
- Complete list of applications: SerDes characterization, clock/data recovery (CDR), mmWave radar, automated test equipment, FR2 5G networks

Traditional with SMAs



Bulls Eye®

DC TO 90 GHz

PAM4 224 Gbps

HIGH-DENSITY & SPACE-SAVING

Enables smaller evaluation boards and shorter trace lengths.

PRODUCT FAMILY CROSS REFERENCE GUIDE

ASSEMBLY	90 GHz	70 GHz	50 GHz	40 GHz
Block Bottom View				
End 2 Connector	1.00 & 1.35 mm	1.85 mm	2.40 mm	2.92 mm
Samtec Series	BE90A	BE70A	BE40A	
Cable Type	.047	.086	MWC-2350CU-01	
Cable Management	Yes			
PCB Transition	Microstrip/CPW or Stripline			
Bulls Eye® Connector Design	Spring-Loaded Contact; 360° Grounding		Pogo-Pin for Signal & Ground	
No. of Rows	Single or Double		Double	
No. of Positions	**1x:** 2, 4, 8, 12 **2x:** 4, 8, 12, 16	**1x:** 2, 4, 8, 12 **2x:** 3, 4, 6, 8, 10, 12, 14, 16	**2x:** 3, 4, 6, 8, 10, 12, 14, 16	
Impedance	50 Ω			
FPGA Development Kit	–		Xilinx® Zynq® UltraScale+™ RFSoC ZCU1275	
SI Evaluation Kit	Contact **RFgroup@samtec.com**	70 GHz: REF-213864-01	50 GHz: REF-213497-01	

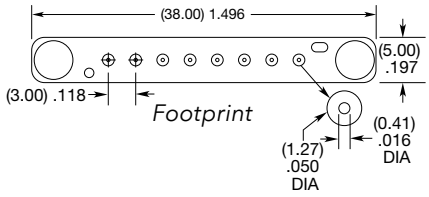
TEST ASSEMBLY	SERDES CHARACTERIZATION
BE90A, 90 GHz	PAM4 224 Gbps
BE70A, 70 GHz	PAM4 112 Gbps
BE40A, 50 GHz	PAM4 56 Gbps

BE90A	TRANSMISSION TYPE	END 2	PHASE MATCHING	ROW OPTION	POSITIONS PER ROW	OVERALL LENGTH
	–S = Stripline **–M** = Microstrip	**–10BJ** = 1.00 mm Straight Jack **–10SP** = 1.00 mm Straight Plug **–13BJ** = 1.35 mm Straight Jack **–13SP** = 1.35 mm Straight Plug	**–1** = 1.0 Pico-second **–2** = 2.0 Pico-seconds **–5** = 5.0 Pico-seconds **–N** = No Phase Matching	**–1** = Single Row (–02, –04, –08 & –12 positions only) **–2** = Double Row (–04, –08, –12 & –16 positions only)	**–02, –04, –08, –12, –16**	**–"XXXX"** = Overall length in millimeters –0152 (152 mm) 5.984" minimum

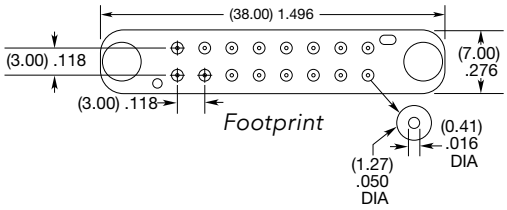
BE90A

End 2 Connectors:
1.00 mm, 1.35 mm

8 POSITIONS PER ROW -1 SHOWN



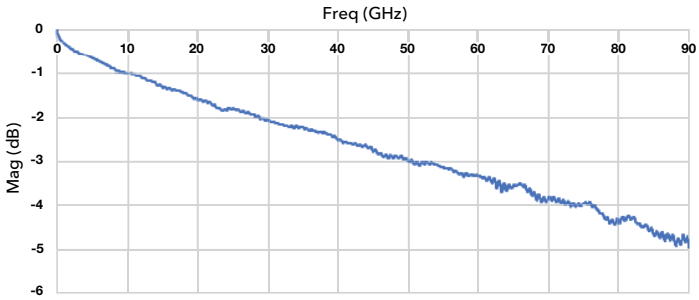
8 POSITIONS PER ROW -2 SHOWN



BE90A, 2 X 4 FOOTPRINT

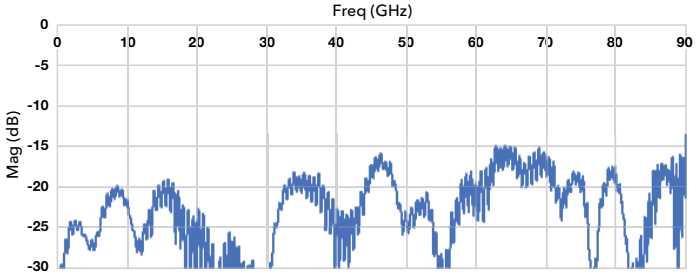
Performance was measured using 50 Ohm coplanar waveguide (CPW) transmission line and 6 layer PCB (Isola Tachyon). The BE90A DUT consisted of a 2 row × 4 position -M (CPW/microstrip) block, 6-inch (152 mm) low-loss microwave cable and 1.00 mm end 2 connectors. Results include the breakout region and BE90A cable assembly. All other effects have been removed by de-embedding (AFR technique).

Insertion Loss Performance



MEASURED: BREAKOUT REGION + BE90A

Return Loss Performance



MEASURED: BREAKOUT REGION + BE90A

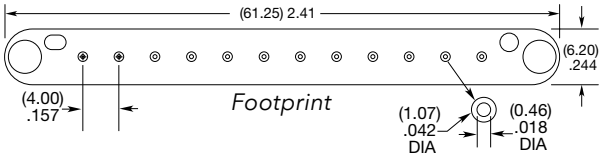
70 GHz ASSEMBLIES

BE70A	–	TRANSMISSION TYPE	–	END 2	–	PHASE MATCHING	–	ROW OPTION	–	POSITIONS PER ROW	–	OVERALL LENGTH
		–S = Stripline **–M** = Microstrip		**–18SJ** = 1.85 mm Straight Jack **–18SP** = 1.85 mm Straight Plug		**–2** = 2.0 Pico-seconds **–5** = 5.0 Pico-seconds **–N** = No Phase Matching		**–1** = Single Row (–02, –04, –08 & –12 positions only) **–2** = Double Row (–03 through -16 positions only)		**–02, –03, –04, –06, –08, –10, –12, –14, –16**		**–"XXXX"** = Overall length in millimeters –0152 (152 mm) 5.984" minimum

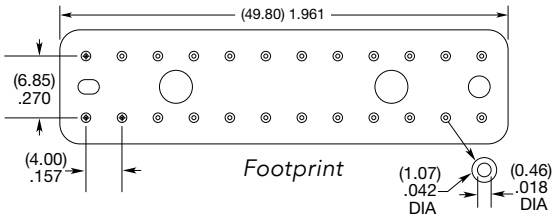
DC TO 70 GHz | PAM4 112 Gbps

BE70A
End 2 Connectors:
1.85 mm (70 GHz)

12 POSITIONS PER ROW -1 SHOWN



12 POSITIONS PER ROW -2 SHOWN



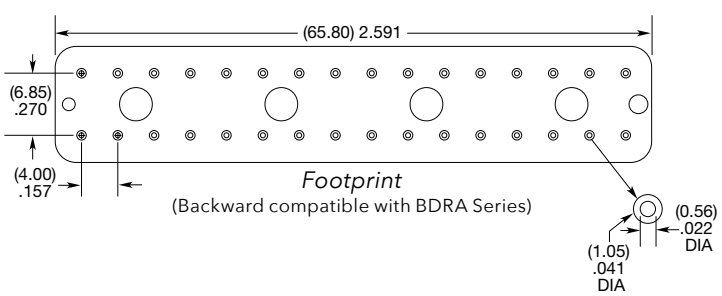
50 GHz & 40 GHz ASSEMBLIES

BE40A	–	TRANSMISSION TYPE	–	END 2	–	PHASE MATCHING	–	2	–	POSITIONS PER ROW	–	OVERALL LENGTH
		–S = Stripline **–M** = Microstrip		**–92SJ** = 40 GHz, 2.92 mm Straight Jack **–24SJ** = 50 GHz, 2.40 mm Straight Jack **–92SP** = 40 GHz, 2.92 mm Straight Plug **–24SP** = 50 GHz, 2.40 mm Straight Plug		**–2** = 2.0 Pico-seconds **–5** = 5.0 Pico-seconds **–N** = No Phase Matching				**–03, –04, –06, –08, –10, –12, –14, –16**		**–"XXXX"** = Overall length in millimeters –0152 (152 mm) 5.984" minimum

DC TO 50 GHz | PAM4 56 Gbps

BE40A
End 2 Connectors:
2.40 mm (50 GHz)
2.92 mm (40 GHz)

16 POSITIONS PER ROW SHOWN



NEXT GENERATION FLEXIBLE WAVEGUIDE

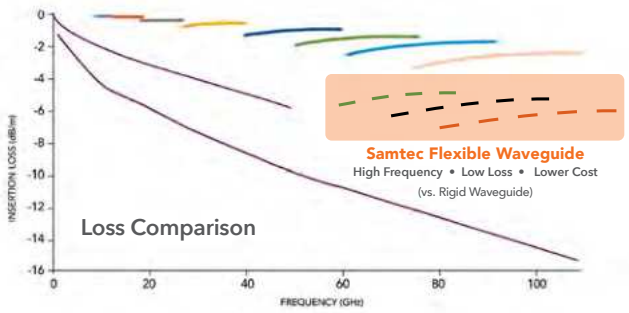
HIGH FREQUENCY • FLEXIBLE CABLE • SMALL FORM FACTOR • LOW LOSS

Samtec's new, high frequency micro waveguide technology is designed to support the demands of next generation millimeter wave systems. It uses a cable design allowing flexibility and a reduced size, and supports frequencies up to 90 GHz (E-band), but with a loss performance greatly improved over coaxial cables.

Due to loss requirements, higher frequencies often require the use of rigid, metallic waveguides. However, Samtec's innovative technology provides an alternative solution that is flexible, easier to use, and lower cost, while also maintaining the near-loss performance of a traditional rigid waveguide.

LOSS COMPARISON

Samtec Flexible Waveguide VS. Coax VS. Rigid Waveguide



Samtec Flexible Waveguide	Standard Coax Cable	Existing Rigid Waveguide Technology
High Frequency, Low Loss, Lower Cost *(vs. Rigid Waveguide)*	Standard, High Frequency Low Loss Cable Assemblies	WR90, WR28, WR12, WR62, WR19, WR10, WR42, WR15

E-BAND, FLEXIBLE WAVEGUIDE

- 60 GHz to 90 GHz, E-band
- Flexible cable with dynamic stability
- Low loss
- Ultra-small form factor

PRODUCT	SERIES	FREQUENCY BAND	DIMENSIONS
Waveguide	**WF12** = Cross section: 3.10 mm (.122") x 1.55 mm (.061") nom.	E (60 to 90 GHz)	**Overall Length:** 102 mm (4.00") Min. **Threaded Plug:** 5 mm (.196") x 8 mm (.314")
Adaptor	**WGBA** = UG-387 to Threaded Waveguide Jack		**Diameter:** 19.05 mm (.750") (mates with WR12 standard flange)

V-Band (50 to 75 GHz)

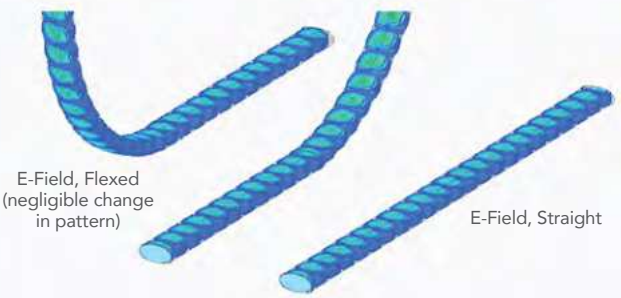
WF15 Series Flexible Waveguide

Cross Section: 3.76 mm (.148") x 1.88 mm (.074") nom.

UG-385 flange adaptor to Threaded Waveguide Jack

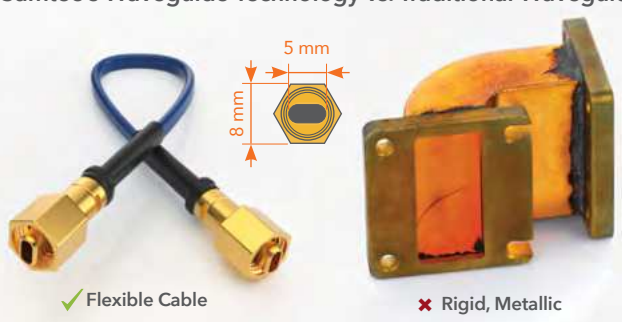
FLEXIBILITY & STABILITY

Dynamic Stability During Flexure (E-Band Waveguide)



View the E-Field animation at samtec.com/waveguide-dynamic-stability.

Samtec's Waveguide Technology vs. Traditional Waveguide



View complete specifications at: **samtec.com?WF12 and samtec.com?WGBA**

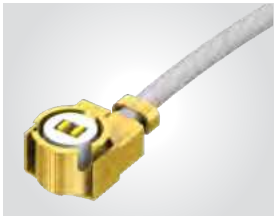
LOW FREQUENCY CABLE SPECIFICATIONS

STANDARD OFF-THE-SHELF ASSEMBLIES

SERIES		MH081	MH113	RF178	RF174	IJ5C✦ (IsoRate®)	RF316, IJ5C, IJ5H, GRF1-C, GRF1H-C	RS316	RF058	RF179, GRF7-C, GRF7H-C	RFB8T	RFC8T	RFB6T	RFC6T	RFA6T	C28S
TYPE		50 Ω CABLES								75 Ω CABLES						100 Ω CABLES
		0.81 mm (34 AWG)	1.13 mm (31 AWG)	RG 178 (28 AWG)	RG 174 (24 AWG)	Samtec 26 AWG, high-temp micro coax	RG 316 (24 AWG)	RG 316, double shielded (24 AWG)	RG 58 (20 AWG)	RG 179 (28 AWG)	Belden 1855A (23 AWG)	12G-SDI, Belden 4855R (23 AWG)	Belden 1694A (18 AWG)	12G-SDI, Belden 4694R (18 AWG)	RG 6 (18 AWG)	Samtec 28 AWG, shielded twisted pair
ELECTRICAL																
Impedence	Ω	50 ± 3	50 ± 2		50 ± 5	50 ± 2		50 ± 3		75 ± 3						100 ± 5
Insertion Loss (dB/m)	100 MHz	1.00	0.60	0.50	0.40	0.68	0.30	1.40 @ 2 GHz	0.20	0.30	0.12		0.07	0.06	0.07	------
	1 GHz	3.10	1.90	1.70	1.40	2.37	1.25	1.60 @ 3 GHz	0.80	0.80	0.37	0.36	0.21	0.19	0.21	------
	6 GHz	8.60	4.90	5.90	4.40	6.53	4.25	2.20 @ 5 GHz	5.40	3.60	0.97	0.91	0.59	0.51	0.59	------
Propagation Delay	nS/m	4.70	4.70	4.83	5.06	4.17	4.83	------	5.05	4.83	4.12	4.06		3.92	4.03	------
Current Rating	Amps	1.20	2.10	3.00	5.00	3.00	5.00	------		3.00	5.00	4.70	------	16.00	------	
Capacitance	pF/m	100.00	95.00	96.00	101.00	85.60	96.00	95.80	102.00	64.00	55.70	53.40	53.14	52.20	53.14	38.00
CONSTRUCTION																
Center Conductor	Material	Silver Plated Copper		Silver Plated Copper Clad Steel	Bare Copper	Silver Plated Copper	Silver and Copper Plated Steel	Silver Plated Copper Clad Steel	Tinned Copper	Silver Plated Copper	Bare Copper	Silver Plated Copper	Bare Copper	Silver Plated Copper	Bare Copper	Silver Plated Copper
	AWG	34	31	28	24	26	24		20	28	23		18			28
Dielectric	Material	FEP		PTFE	KLPE	Foamed FEP	PTFE	FEP	Solid Polyeth-ylene	PTFE	FHDPE	PE (Foam)	FHDPE	PE (Foam)	FHDPE	FEP
Shield	Material	Silver Plated Copper	Tinned Copper	Silver Plated Copper	Tinned Copper	Silver Plated Copper			Tinned Copper	Silver Plated Copper	1. Al Foil-Polyester Tape-Al Foil 2. Tinned Copper		1. Bonded Al Foil 2. Al Wire	1. Al Foil-Polyester Tape-Al Foil 2. Tinned Copper		Silver Plated Copper
Jacket	Material	PFA	FEP		PVC	FEP			PVC	FEP	PVC					
MECHANICAL																
Operating Temp		-40 °C to +90 °C		-50 °C to +165 °C	-20 °C to +80 °C	-40 °C to +200 °C	-55 °C to +165 °C		-50 °C to +90 °C	-50 °C to +165 °C	-30 °C to +75 °C			-20 °C to +75 °C	-30 °C to +75 °C	-20 °C to +105 °C
Bend Radius	Min	5.00 mm	6.80 mm	10.20 mm	25.40 mm	3.18 mm	12.80 mm	12.80 mm	49.50 mm	10.20 mm	38.10 mm	41.00 mm	69.85 mm	70.00 mm	69.85 mm	19.05 mm
Connector Options		MHF1, MHF3, MHF4	MHF1, SMA	MMCX, MCX, SMA, SMB, BNC, TNC, N Type	MMCX, MMCXV, MCX, SMA, SMB, BNC, TNC, N Type, Ganged	IsoRate®	MMCX, MMCXV, MCX, SMA, SMB, BNC, TNC, N Type, Ganged	MMCX, MCX, SMA, BNC, TNC	SMA, TNC, N Type	MCX, MMCX7, SMB, BNC, DIN 1.0/2.3, Ganged	HD-BNC, DIN 1.0/2.3		BNC, HD-BNC, DIN 1.0/2.3			CJT

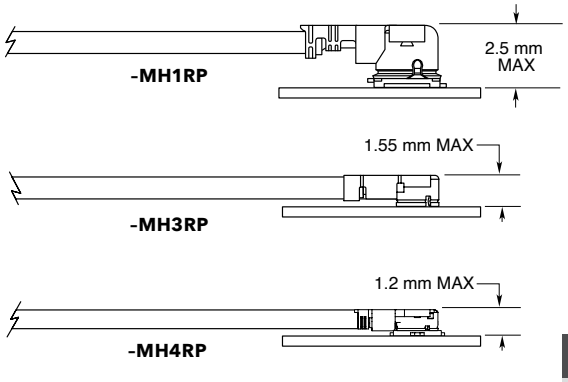
✦ ALSO USES RG 316

MHF Cable Assemblies
MH081, MH113



SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
MH081 = 0.81 mm Cable **MH113** = 1.13 mm Cable	Specify END OPTIONS from chart		**–0030** = 1.18" (30 mm) **–0050** = 1.97" (50 mm) **–0100** = 3.94" (100 mm) **–0150** = 5.91" (150 mm) **–0300** = 11.81" (300 mm)

APPLICATION



SPECIFICATIONS

Outer Contact Material:
Au plated Phosphor Bronze
Center Contact Material:
Au plated Phosphor Bronze (MHX)
Au plated BeCu (SMA)
Insulator Material:
PBT (MHX)
PTFE (SMA)
Operating Temperature:
-40 °C to +90 °C
Voltage Rating:
170 V max
Dielectric Withstanding Voltage:
200 Vrms

0.81 mm Cable:
Capacitance:
100 pF/meter
Max Attenuation (cable only):
3.1 dB @ 1 GHz
Conductor Size:
36 AWG, (0.81 mm) .032" dia.
Conductor Material:
Silver Plated Copper
Conductor Resistance:
1.40 Ω/meter max
Insulator Diameter:
(0.4 mm) .016"
Insulator Material: FEP
Shield Material:
Silver Plated Copper
Jacket Material: PFA
Jacket Diameter:
(0.81 mm) .032" dia.
Bend Radius: 5.0 mm
Jacket Temp Rating:
-40 °C to +90 °C

1.13 mm Cable:
Capacitance:
95 pF/meter
Max Attenuation (cable only):
2 dB @ 1 GHz
Conductor Size:
32 AWG, (1.13 mm) .045" dia.
Conductor Material:
Silver Plated Copper
Conductor Resistance:
0.60 Ω/meter max
Insulator Diameter:
(0.66 mm) .026"
Insulator Material:
FEP
Shield Material:
Tinned Copper
Jacket Material:
FEP
Jacket Diameter:
(1.13 mm) .045" dia
Bend Radius:
6.8 mm
Jacket Temp Rating:
-40 °C to +90 °C

EXTRACTION TOOLS

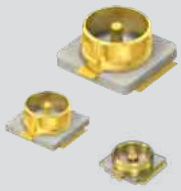
MH1RP = RSP-122893-01
MH3RP = RSP-122893-02
MH4RP = RSP-122893-03

MATING SOLUTIONS

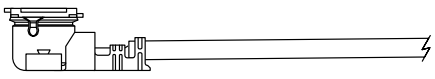
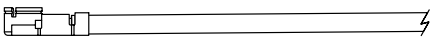
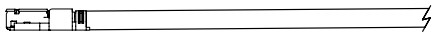
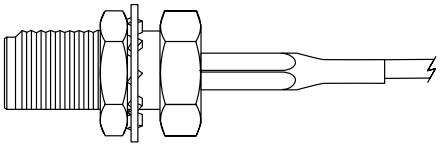
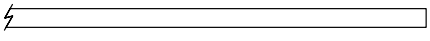
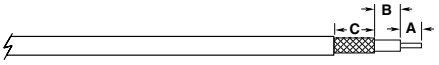
MH1RP end mates with RSP-122811-01 (Cycles: 30 max.)

MH3RP end mates with RSP-122811-02

MH4RP end mates with RSP-122811-03



END OPTIONS

–MH1RP = MHF1 Type Plug (3.9 µ" (0.1 µm) Gold on Center Contact, 1.9 µ" (0.05 µm) Gold on Shell)	
–MH3RP = MHF3 Type Plug (3.9 µ" (0.1 µm) Gold on Center Contact, 1.9 µ" (0.05 µm) Gold on Shell) (MH081 only)	
–MH4RP = MHF4 Type Plug (10 µ" (0.25 µm) Gold on Center Contact, 1.9 µ" (0.05 µm) Gold on Shell) (MH4RP is not available with MH1RP & MH3RP) (MH081 only)	
–01BJ1 = SMA Straight Bulkhead Jack (MH081 only) **–01BJ2 = SMA** Straight Bulkhead Jack, Reversed Polarity **–01SB1 = SMA** Straight Jack, Sealed Bulkhead **–01SR1 = SMA** Straight Jack, Sealed Bulkhead, Reversed Polarity (30 µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	
–SING = Single Ended (End 2 callout)	
XXXXXX = Stripped & Tinned (End 2 callout)	

STRIPPED & TINNED (Dimensions in mm)

CALLOUT	A	B	C
–303030	3.0	3.0	3.0
–303040	3.0	3.0	4.0
–403030	4.0	3.0	3.0
–403040	4.0	3.0	4.0
–404040	4.0	4.0	4.0

Both center conductor and braid shield are stripped, only the center conductor is tinned.

SMA Cable Assemblies

RF174, RF178, RF316, RS316, RF058

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF174 = RG 174 Cable	**–01SP1** = SMA Straight Plug	**–01SP1** = SMA Straight Plug	**–"XXXX"** = Overall Length in millimeters
RF178 = RG 178 Cable (–01BJ1 & –01BR1 only)	**–01RP1** = SMA Right-angle Plug	**–01RP1** = SMA Right-angle Plug	–0100 (100 mm) 3.94" minimum
RF316 = RG 316 Cable, Single Braid Shield	**–01BJ1** = SMA Straight Bulkhead Jack	**–01BJ1** = SMA Straight Bulkhead Jack	
RS316 = RG 316 Cable, Double Shield (–01SP1 & –01BJ1 only)	**–01SB1** = Straight Bulkhead Jack, Sealed	**–01SB1** = Straight Bulkhead Jack, Sealed	
RF058 = RG 58 Cable (–01SP1, –01BJ1 & –01SB1 only)	**–01SR1** = Straight Bulkhead Jack, Sealed, Reversed Polarity	**–01SR1** = Straight Bulkhead Jack, Sealed, Reversed Polarity	
	–01BR1 = Straight Bulkhead Jack, Reversed Polarity	**–01BR1** = Straight Bulkhead Jack, Reversed Polarity	
	–01PN1 = 4-Hole Panel Mount Jack	**–01PN1** = 4-Hole Panel Mount Jack	

ALSO AVAILABLE

50 Ω: MCX, MMCX, SMB, BNC, TNC, N Type = RF174, RF178, RF316

50 Ω: MCX, MMCX, BNC, TNC = RS316

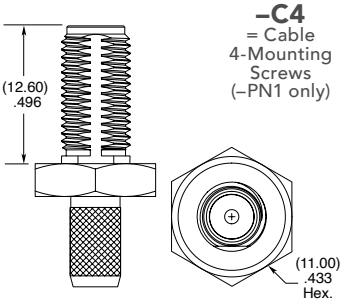
50 Ω: TNC = RF058

SMA Cable Connectors

SMA-CA

Supplied with pins, washers, nuts and ferrules. See website for dimensions.

SMA	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	PACKAGING
	–J = Jack	**–C** = Cable	**–H** = 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact (N/A with –BH1S)	**–ST** = Straight	**–BH1** = Bulkhead RG 174 / 316 Cable	**–BH1S** = Bulkhead RG 316 Cable, Double Shield	Leave blank for individually bagged.
		–C4 = Cable 4-Mounting Screws (–PN1 only)	**–HF** = 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact (–BH1S only)		**–BH2** = Bulkhead RG 178 Cable	**–B10** = Bulkhead RG 58 Cable	**–B** = Bulk packaged (–BH1 only)
					–BR1 = Bulkhead RG 174 / 316, Reversed Polarity	**–PN1** = 4-Hole Panel Mount RG 174 / 316 Cable	
					–BR2 = Bulkhead RG 178 Cable, Reversed Polarity	**–S10** = Sealed Bulkhead RG 58 Cable	

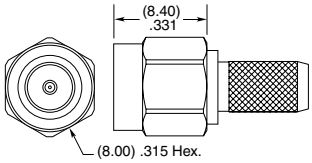


-S10, -B10

SMA Board Connectors

See page 18 for Board Connectors

SMA	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	PACKAGING
	–P = Plug	**–C** = Cable	**–H** = 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact (–CA1, –C10 only)	**–ST** = Straight	**–CA1** = RG 174 / 316 Cable	Leave blank for individually bagged.
				–RA = Right-angle	**–C10** = RG 58 Cable (–ST only)	**–B** = Bulk packaged (–CA1 only)
			–HF = 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact (–CA1S only)		**–CA1S** = RG 316 Double Shielded Cable (–ST only)	



-ST-C10

Supplied with pins, washers, nuts and ferrules. See website for dimensions.

MCX Cable Assemblies

RF174, RF178, RF316, RS316

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF174 = RG 174 Cable	**–02SJ1** = MCX Straight Jack	**–02SJ1** = MCX Straight Jack	**–"XXXX"** = Overall Length in millimeters
RF178 = RG 178 Cable	**–02RP1** = MCX Right-angle Plug (RS316 not available)	**–02RP1** = MCX Right-angle Plug (RS316 not available)	–0100 (100 mm) 3.94" minimum
RF316 = RG 316 Cable, Single Braid Shield	**–02SP1** = MCX Straight Plug	**–02SP1** = MCX Straight Plug	
RS316 = RG 316 Cable, Double Shielded			

ALSO AVAILABLE

50 Ω: MMCX, SMA, SMB, BNC, TNC,

N Type = RF174, RF178, RF316

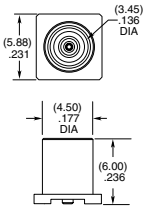
50 Ω: MMCX, SMA, BNC, TNC = RS316

MCX Board Connectors

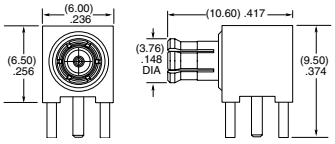
MCX-TH, MCX-SM, MCX-EM, MCX-MT

Cable Mates:
RF174, RF178, RF316, RS316, GRF1H-C, IJ5H

MCX	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION
	–J = Jack **–P** = Plug	**–P** = PCB Mount	**–H** = 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact	**–ST** = Straight **–RA** = Right-angle	**–TH1** = Through-hole (–ST plug not available) **–TH2** = Elevated Through-hole (–ST plug only) **–SM1** = Surface Mount (Jack only) **–EM1** = Edge Mount (–ST jack only) **–MT1** = Mixed Technology (–ST jack only)



-ST-SM1 (Jack)



-RA-TH1 (Plug)

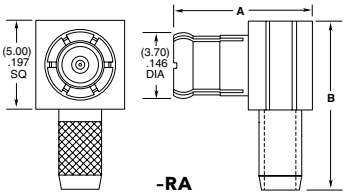
MCX Cable Connectors

MCX-CA

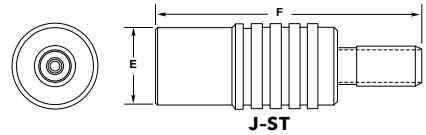
CONNECTORS FOR INDUSTRY STANDARD CABLES	
MCX-J-C-H-ST-CA1	RG 174/316 Cable
*MCX-J-C-H-ST-CA2	RG 178 Cable
MCX-J-C-HF-ST-CA1S	RG 316 Double Shielded Cable
*MCX-P-C-H-ST-CA1	RG 174/316 Cable
MCX-P-C-H-ST-CA2	RG 178 Cable
MCX-P-C-HF-ST-CA1S	RG 316 Double Shielded Cable
*MCX-P-C-H-RA-CA1	RG 174/316 Cable
MCX-P-C-H-RA-CA2	RG 178 Cable

*Add "-B" to the end of the part number for bulk packaging

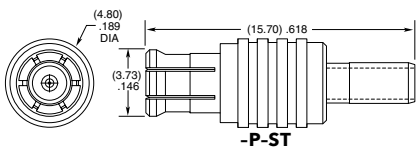
P-C = Cable Plug
J-C = Cable Jack
H or HF = Plating (30 µ" Gold center contact, 3 µ" Gold outer contact)
ST = Straight
RA = Right-angle



-RA



J-ST



-P-ST

TYPE (-RA)	A	B
–P–CA1	(7.78) .306	(9.50) .374
–P–CA2	(8.58) .338	(10.00) .394

TYPE (-ST)	E	F
–J–CA1	(4.50) .177	(15.50) .610
–J–CA2	(4.78) .188	(15.00) .591
–J–CA1S	(4.50) .177	(15.50) .610

Supplied with pins and ferrules.
See website for dimensions.

MMCX Cable Assemblies

RF174, RF178, RF316, RS316

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF174 = RG 174 Cable	**–03SP1** = MMCX Straight Plug	**–03SP1** = MMCX Straight Plug	**–"XXXX"** = Overall Length in millimeters
RF178 = RG 178 Cable (–03SP1 & –03RP1 only)	**–03RP1** = MMCX Right-angle Plug	**–03RP1** = MMCX Right-angle Plug	–0100 (100 mm) 3.94" minimum
RF316 = RG 316 Cable, Single Braid Shield	**–V3SP1** = MMCXV Straight Plug, High Vibration	**–V3SP1** = MMCXV Straight Plug, High Vibration	
RS316 = RG 316 Cable, Double Shielded (–03SP1 only)	**–V3RP1** = MMCXV Right-angle Plug, High Vibration	**–V3RP1** = MMCXV Right-angle Plug, High Vibration	
	–V3SJ1 = MMCXV Straight Jack, High Vibration	**–V3SJ1** = MMCXV Straight Jack, High Vibration	

ALSO AVAILABLE

50 Ω: MCX, SMA, SMB, BNC, TNC, N Type = RF174, RF178, RF316

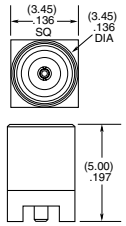
50 Ω: MCX, SMA, BNC, TNC = RS316

MMCX Board Connectors

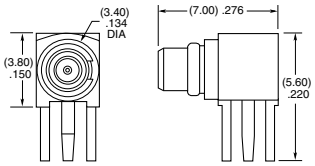
MMCX-SM, MMCX-TH, MMCX-MT, MMCX-EM

Cable Mates:
RF174, RF178, RF316, RS316, GRF1H-C, IJ5H

MMCX	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION
	–J = Jack	**–P** = PCB Mount	**–H** = 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact	**–ST** = Straight	**–TH1** = Through-hole
	–P = Plug			**–RA** = Right-angle	**–MT1** = Mixed Technology (–ST only)
					–SM1 = Surface Mount (–RA plug not available)
					–EM1 = Edge Mount (–ST only)



-ST-SM1 (Jack)



-RA-TH1 (Plug)

MMCX Cable Connectors

MMCX-CA

CONNECTORS FOR INDUSTRY STANDARD CABLES	
MMCX-P-C-H-ST-CA1	RG 174/316 Cable
MMCX-P-C-H-ST-CA2	RG 178 Cable
MMCX-P-C-HF-ST-CA1S	RG 316 Double Shielded Cable
MMCX-P-C-H-RA-CA1	RG 174/316 Cable
MMCX-P-C-H-RA-CA2	RG 178 Cable

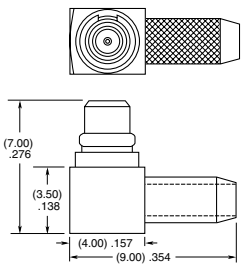
Add "–B" to the end of the part number for bulk packaging

P-C = Cable Plug

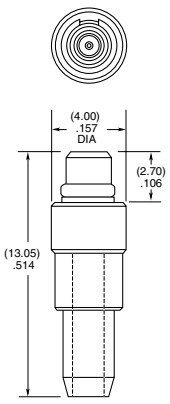
H or HF = Plating (30 µ" Gold center contact, 3 µ" Gold outer contact)

ST = Straight

RA = Right-angle



-RA-CA1 & RA-CA2



-ST-CA1, -ST-CA2 & -ST-CA1S

Supplied with pins and ferrules.
See website for dimensions.

TNC Cable Assemblies

RF174, RF178, RF316, RS316, RF058

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF174 = RG 174 Cable	**–05SP3** = TNC Straight Plug (RF058 not available)	**–05SP3** = TNC Straight Plug (RF058 not available)	**–"XXXX"** = Overall Length in millimeters
RF178 = RG 178 Cable	**–05BJ3** = TNC Straight Bulkhead Jack (RS316 & RF058 not available)	**–05BJ3** = TNC Straight Bulkhead Jack (RS316 & RF058 not available)	–0100 (100 mm) 3.94" minimum
RF316 = RG 316 Cable, Single Braid Shield	**–05SR3** = TNC Straight Plug, Reversed Polarity (RF058 only)	**–05SR3** = TNC Straight Plug, Reversed Polarity (RF058 only)	
RS316 = RG 316 Cable, Double Shielded			
RF058 = RG 58 Cable			

ALSO AVAILABLE

50 Ω: MCX, MMCX, SMA, SMB, BNC, N Type = RF174, RF178, RF316

50 Ω: MCX, MMCX, SMA, BNC = RS316

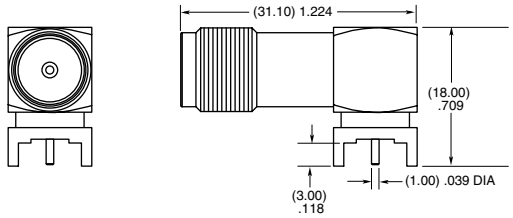
50 Ω: SMA, N Type = RF058

TNC Board Connectors

TNC-TH

Cable Mates:
RF174, RF178, RF316, RS316, RF058, GRF1H-C

TNC	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION
	–J = Jack	**–P** = PCB Mount	**–H** = 30 µ" (0.76 µm) Gold center contact, Nickel on shell	**–RA** = Right-angle	**–TH1** = Through-hole



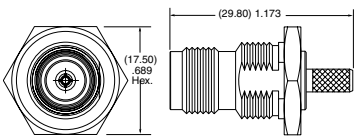
TNC Cable Connectors

TNC-CA

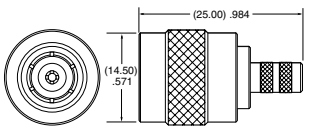
Supplied with pins, washers, nuts and ferrules. See website for dimensions.

CONNECTORS FOR INDUSTRY STANDARD CABLES	
TNC-P-C-GN-ST-CA1	RG 174/316 Cable
TNC-P-C-GN-ST-CA2	RG 178 Cable
TNC-P-C-GN-SR-C10	RG 58 Cable
TNC-J-C-GN-ST-BH1	RG 174/316 Cable, Bulkhead
TNC-J-C-GN-ST-BH2	RG 178 Cable, Bulkhead

P-C = Cable Plug
J-C = Cable Jack
GN = Plating (10 µ" Gold on contact, Nickel on body)
ST = Straight
SR = Straight Reverse Polarity



-J



-P

BNC Cable Assemblies

RF174, RF178, RF316, RS316

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF174 = RG 174 Cable	**–04SP3** = BNC Straight Plug (RS316 not available)	**–04SP3** = BNC Straight Plug (RS316 not available)	**–"XXXX"** = Overall Length in millimeters
RF178 = RG 178 Cable	**–04BJ2** = BNC Bulkhead Jack	**–04BJ2** = BNC Bulkhead Jack	–0100 (100 mm) 3.94" minimum
RF316 = RG 316 Cable, Single Braid Shield			
RS316 = RG 316 Cable, Double Shielded			

ALSO AVAILABLE

50 Ω: MCX, MMCX, SMA, SMB, TNC, N Type = RF174, RF178, RF316

50 Ω: MCX, MMCX, SMA, TNC = RS316

BNC Cable Connectors

BNC5-CA

Supplied with pins, washers, nuts, gaskets and ferrules. See website for dimensions.

CONNECTORS FOR INDUSTRY STANDARD CABLES	
*BNC5-P-C-GN-ST-CA1	RG 174/316 Cable
*BNC5-P-C-GN-ST-CA2	RG 178 Cable
*BNC5-J-C-GN-ST-BH1	RG 174/316 Cable, Bulkhead
BNC5-J-C-GN-ST-BH2	RG 178 Cable, Bulkhead
BNC5-J-C-GN-ST-BH1S	RG 316 Double Shielded Cable, Bulkhead

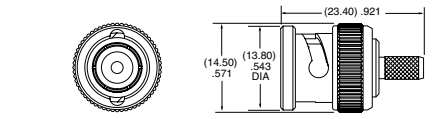
*Add "-B" to the end of the part number for bulk packaging

P-C = Cable Plug

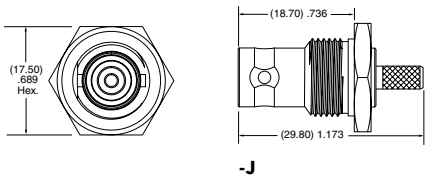
J-C = Cable Jack

GN = Plating (10 µ" Gold on contact, Nickel on body)

ST = Straight



-P



-J

SMB Cable Assemblies
RF174, RF178, RF316

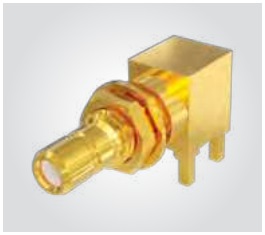
SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF174 = RG 174 Cable	**–07SP1** = SMB Straight Plug		**–"XXXX"** = Overall Length in millimeters
RF178 = RG 178 Cable	**–07RP1** = SMB Right-angle Plug		–0100 (100 mm) 3.94" minimum
RF316 = RG 316 Cable, Single Braid Shield	**–07BJ1** = SMB Bulkhead Jack		
	–07BJ2 = SMB Bulkhead Jack (RF178 only)		

ALSO AVAILABLE

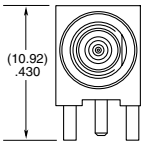
50 Ω: MCX, MMCX, SMA, BNC, TNC, N Type = RF174, RF178, RF316

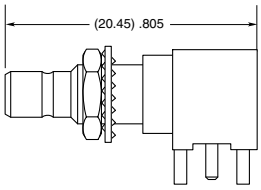
SMB Board Connectors
SMB5-TH

Cable Mates:
RF174, RF178, RF316, GRF1H-C, IJ5H



SMB5	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION
	–J = Jack	**–P** = PCB Mount	**–H** = 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact	**–RA** = Right-angle	**–TH1** = Through-hole

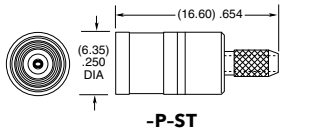




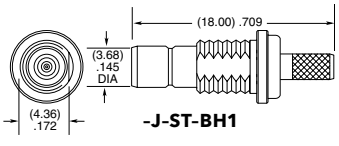
SMB Cable Connectors
SMB5-CA

CONNECTORS FOR INDUSTRY STANDARD CABLES	
SMB5-P-C-H-ST-CA1	RG 174/316 Cable
SMB5-P-C-H-RA-CA1	RG 174/316 Cable
SMB5-J-C-H-ST-CA2	RG 178 Cable
SMB5-J-C-H-ST-BH1	RG 316 Cable, Bulkhead

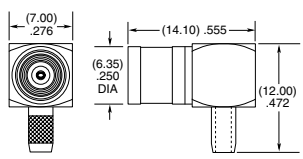
P-C = Cable Plug
J-C = Cable Jack
H = Plating (30 µ" Gold center contact, 3 µ" Gold on outer contact)
ST = Straight
RA = Right-angle



-P-ST



-J-ST-BH1



-P-RA

Supplied with pins, washers, nuts and ferrules. See website for dimensions.

BNC Cable Assemblies

RFC6T, RFA6T, RFB6T, RF179

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RFC6T* = 12G-SDI, Belden 4694R Cable	**–74SP3** = 75 Ω BNC Straight Plug	**–74SP3** = 75 Ω BNC Straight Plug	**–"XXXX"** = Overall Length in millimeters
RFA6T = RG 6 Cable	**–D4SP3** = 75 Ω BNC Die Cast Straight Plug (RFA6T, RFB6T, RF179 only)	**–D4SP3** = 75 Ω BNC Die Cast Straight Plug (RFA6T, RFB6T, RF179 only)	–0300 (300 mm) 11.81" minimum (RFA6T, RFB6T, RFC6T)
RFB6T = Belden 1694A Cable	**–74BJ3** = 75 Ω BNC Bulkhead Jack (RF179 only)	**–74BJ3** = 75 Ω BNC Bulkhead Jack (RF179 only)	–0100 (100 mm) 3.94" minimum (RF179)
RF179 = RG 179 Cable	**–74RP3** = 75 Ω BNC Right-angle Plug (RFA6T, RFB6T, RFC6T only)	**–74RP3** = 75 Ω BNC Right-angle Plug (RFA6T, RFB6T, RFC6T only)	

ALSO AVAILABLE

75 Ω: DIN 1.0/2.3, HDBNC = RFA6T, RFB6T, RFC6T

75 Ω: DIN 1.0/2.3, SMB, MCX, MMCX = RF179

*Designed to meet SMPTE 2082 12G-SDI specifications.

BNC Cable Connectors

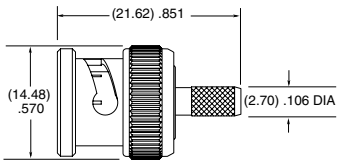
BNC7T-CA

Supplied with pins, washers, nuts, gaskets and ferrules. See website for dimensions.

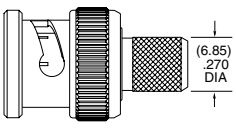
CONNECTORS FOR INDUSTRY STANDARD CABLES	
**BNC7T-P-C-GN-ST-CA3	Machined, RG 179 Cable
**BNC7T-P-C-GN-RA-CA3	Machined, RG 179 Cable
**BNC7T-P-C-GN-ST-CA6	*Machined, RG 6 Cable
**BNC7T-P-C-GN-RA-CA6	*Machined, RG 6 Cable
**BNC7T-P-C-GN-ST-CA6B	Belden 4694R Cable
**BNC7T-P-C-GN-RA-CA6B	Belden 4694R Cable
**BNC7T-J-C-GN-ST-BH3	Machined, Bulkhead, RG 179 Cable
BNC7T- P-C-GN-ST-CA3D	Die Cast, RG 179 Cable
BNC7T-P-C-GN-ST-CA6D	Die Cast, RG 179 Cable

P-C = Cable Plug
J-C = Cable Jack
GN = Plating (10 µ" Gold on contact, Nickel on outer contact and shell)
ST = Straight
RA = Right-angle

**Add "–B" to the end of the part number for bulk packaging
*Designed to meet SMPTE 2082 12G-SDI specifications.

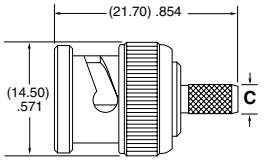


-CA3D

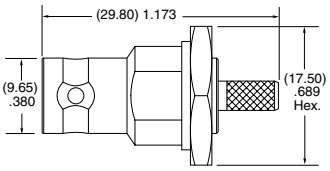


-CA6D

DIE CAST



-P-ST-CA3 & -P-ST -CA6



-J-ST-BH3

MACHINED

TERMINATION	C (DIA)
–CA3	(2.70) .106
–CA6	(6.85) .270

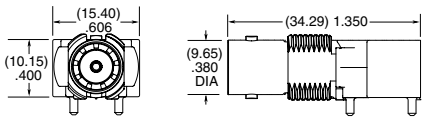
Note:
Additional plating options available on Cable Assemblies, Cable Connectors and Board Connectors. Contact RFGroup@samtec.com

75 Ω DIE CAST BNC TO 12 GHz

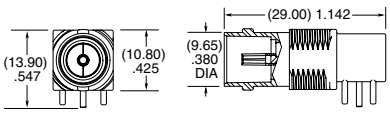
BNC Board Connectors
BNC7T-TH, BNC7T-BH, BNC7T-BM, BNC7T-EM

Cable Mates:
RF179, RFA6T, RFB6T, RFC6T, GRF7H-C

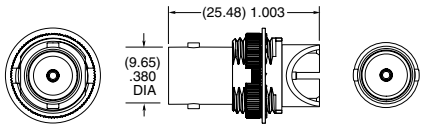
BNC7T	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	PACKAGING
	–J = Jack	–P = PCB Mount	–GN = 10 µ" (0.25 µm) Gold contact, 100 µ" (2.54 µm) Nickel Shell	–ST = Straight –RA = Right-angle Bulkhead/Panel Mount	–TH2D = Tall Through-hole Die Cast (–ST only) –BH2D* = Low Profile Die Cast Bulkhead Through-hole (–RA only) –BM1D* = Low Profile Die Cast Bulkhead Mixed Technology for (1.60 mm) .062" PCB (-RA only) –BM2D* = Low Profile Die Cast Bulkhead Mixed Technology for (3.18 mm) .125" PCB (-RA only) –EM1D* = Edge Mount Die Cast Bulkhead/Panel Mount for (1.60 mm) .062" PCB (–ST only) –EM2D* = Edge Mount Die Cast Bulkhead/Panel Mount for (2.40 mm) .093" PCB (–ST only)	Leave blank for individually bagged. –B = Bulk packaged (–BH2D only)



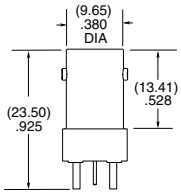
-RA-BM1D
(BALANCED FOR PICK-AND-PLACE)



-RA-BH2D



-ST-EM1D & -ST-EM2D



-ST-TH2D

Notes:
Contact RFGroup@samtec.com for 12G-SDI PCB mount launch characteristics.

Designed to meet SMPTE 2082 12G-SDI specifications.

Additional plating options available on Board Connectors. Contact RFGroup@samtec.com

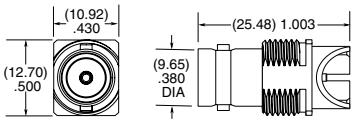
*Lock washers & knurled nuts supplied with bulkhead/panel mount options

75 Ω MACHINED BNC TO 12 GHz

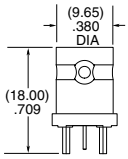
BNC Board Connectors
BNC7T-TH, BNC7T-BH, BNC7T-EM

Cable Mates:
RF179, RFA6T, RFB6T, RFC6T, GRF7H-C

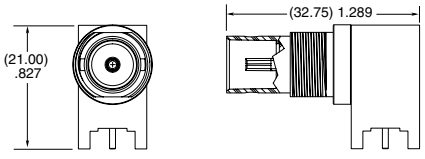
BNC7T	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	PACKAGING
	–J = Jack	–P = PCB Mount	–GN = 10 µ" (0.25 µm) Gold contact, 100 µ" (2.54 µm) Nickel Shell	–ST = Straight –RA = Right-angle Bulkhead/Panel Mount	–TH1 = Standard Through-hole (–ST only) –BH1* = Standard Bulkhead Through-hole (–RA only) –EM1* = Edge Mount Bulkhead/Panel Mount for (1.60 mm) .062" PCB (–ST only) –EM2* = Edge Mount Bulkhead/Panel Mount for (2.40 mm) .093" PCB (–ST only)	Leave blank for individually bagged. –B = Bulk packaged (–BH1 only)



-ST-EM1 & -ST-EM2



-ST-TH1



-RA-BH1

Notes:
Contact RFGroup@samtec.com for 12G-SDI PCB mount launch characteristics.

Designed to meet SMPTE 2082 12G-SDI specifications.

Additional plating options available on Board Connectors. Contact RFGroup@samtec.com

*Lock washers & knurled nuts supplied with bulkhead/panel mount options

75 Ω HIGH-DENSITY BNC TO 12 GHz

HIGH-DENSITY BNC Cable Assemblies

RFA6T, RFB6T, RFB8T, RFC6T, RFC8T

*Designed to meet SMPTE 2082 12G-SDI specifications.

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RFC6T* = 12G-SDI, Belden 4694R Cable **RFC8T*** = 12G-SDI, Belden 4855R Cable **RFA6T** = RG 6 Cable **RFB6T** = Belden 1694A Cable **RFB8T** = Belden 1855A Cable		**–H4SP3** = 75 Ω High-Density BNC Straight Plug	**–"XXXX"** = Overall Length in millimeters –0300 (300 mm) 11.81" minimum

ALSO AVAILABLE

75 Ω: DIN 1.0/2.3, BNC = RFB6T, RFA6T, RFC6T

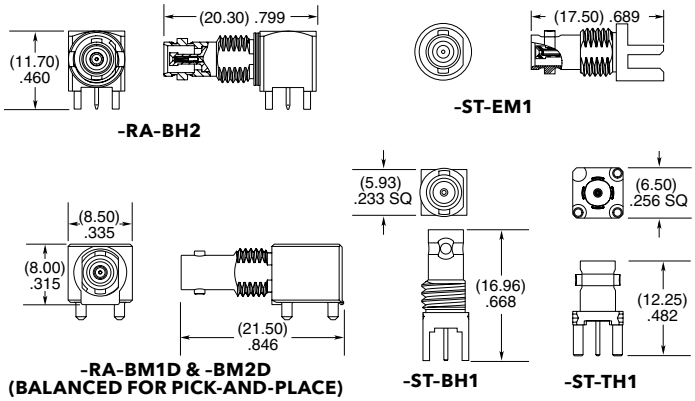
75 Ω: DIN 1.0/2.3 = RFB8T, RFC8T

HIGH-DENSITY BNC Board Connectors

HDBNC-TH, HDBNC-EM, HDBNC-BH, HDBNC-BM

Cable Mates:
RFA6T, RFB6T, RFB8T, RFC6T, RFC8T

HDBNC	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	PACKAGING
	–J = Jack	**–P** = PCB Mount	**–GN** = 10 µ" (0.25 µm) Gold contact, 100 µ" (2.54 µm) Nickel shell	**–ST** = Straight **–RA** = Right-angle	**–BH1** = Through-hole **–BH2** = Through-hole (2.36 mm) .093" PCB (-RA only) **–BM1D** = Die Cast Bulkhead Mixed Technology for (1.60 mm) .062" PCB (-RA only) **–BM2D** = Die Cast Bulkhead Mixed Technology for (3.18 mm) .125" PCB (-RA only) **–EM1** = Edge Mount (–ST only) **–TH1** = Through-hole, Three Legs (-ST only)	Leave blank for individually bagged. **–B** Bulk packaged (–BHX only)

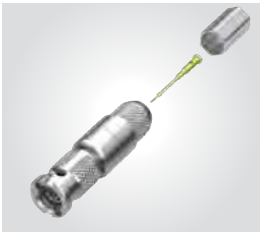


Notes:
Designed to meet SMPTE 2082 12G-SDI specifications.

Additional plating options available on Cable Assemblies, Cable Connectors and Board Connectors. Contact RFGroup@samtec.com

HIGH-DENSITY BNC Cable Connectors

HDBNC-CA



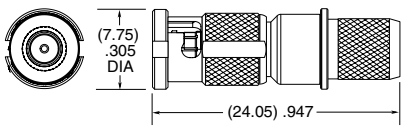
Supplied with pins and ferrules. See website with dimensions.

Designed to meet SMPTE 2082 12G-SDI specifications.

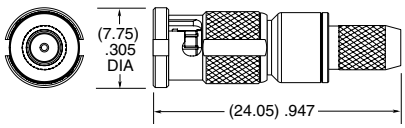
CONNECTORS FOR INDUSTRY STANDARD CABLES	
HDBNC-P-C-GN-ST-CA6	RG 6, Belden 1694A or Belden 4694R Cable
HDBNC-P-C-GN-ST-CA8	Belden 1855A or Belden 4855R Cable

Add "-B" to the end of the part number for bulk packaging (100 max.)

P-C = Cable Plug
GN = Plating (10 µ" Gold on contact, Nickel on outer contact & shell)
ST = Straight



-CA6



-CA8

DIN Cable Assemblies

RFA6T, RFB6T, RF179, RFB8T, RFC6T, RFC8T

SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RFC6T* = 12G-SDI, Belden 4694R Cable **RFC8T*** = 12G-SDI, Belden 4855R Cable **RFA6T** = RG 6 Cable **RFB6T** = Belden 1694A Cable **RF179** = RG 179 Cable **RFB8T** = Belden 1855A Cable		**–78SP4** = 75 Ω DIN Straight Plug	**–"XXXX"** = Overall length in millimeters –0100 (100 mm) 3.94" minimum (RF179) –0300 (300 mm) 11.81" minimum (RFA6T, RFB6T, RFB8T, RFC6T, RFC8T)

ALSO AVAILABLE

75 Ω: HDBNC, BNC = RFB6T, RFA6T, RFC6T

75 Ω: BNC, SMB, MCX, MMCX = RF179

75 Ω: HDBNC = RFB8T, RFC8T

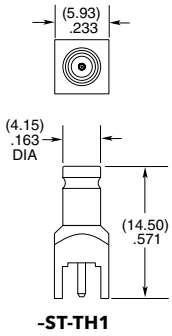
*Designed to meet SMPTE 2082 12G-SDI specifications.

DIN Board Connectors

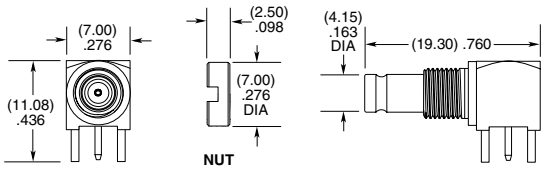
DIN7A-TH, DIN7A-BH

Cable Mates:
RFA6T, RFB6T, RF179, RFB8T, RFC6T, RFC8T, GRF7H-C

DIN7A	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION	PACKAGING
	–J = Jack	**–P** = PCB Mount	**–GF** = 10 µ" (0.25 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact, (100 µ" (2.54 µm) Nickel body –RA only)	**–ST** = Straight (–TH1 only) **–RA** = Right-angle (–BH1 only)	**–TH1** = Through-hole (–ST only) **–BH1** = Bulkhead Through-hole (–RA only)	Leave blank for individually bagged. **–B** = Bulk packaged (–BH1 only)



-ST-TH1



-RA-BH1

Notes:
Contact RFGroup@samtec.com for 12G-SDI PCB mount launch characteristics.

Designed to meet SMPTE 2082 12G-SDI specifications.

Additional plating options available on Cable Assemblies, Cable Connectors and Board Connectors. Contact RFGroup@samtec.com

DIN Cable Connectors

DIN7A-CA

CONNECTORS FOR INDUSTRY STANDARD CABLES	
DIN7A-PP-C-GF-ST-CA3	RG 179
DIN7A-PP-C-GF-ST-CA6	*RG 6, Belden 1694A or Belden 4694R Cable
DIN7A-PP-C-GF-ST-CA8	*Belden 1855A or Belden 4855R Cable

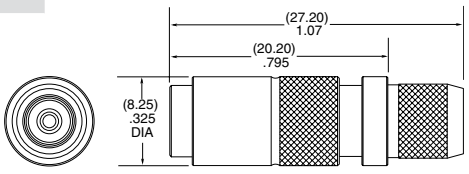
Add "-B" to the end of the part number for bulk packaging (100 max.)

*Designed to meet SMPTE 2082 12G-SDI specifications.

PP-C = Push Pull Plug Cable

GF = Plating (10 µ" Gold on center contact, Flash Gold on outer contact, Nickel on Shell)

ST = Straight



-CA6

Supplied with pins and ferrules.
See website for dimensions

SMB Cable Connectors
RF179

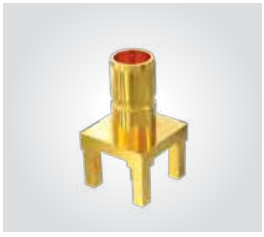
SERIES	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RF179 = RG 179 Cable	**–77SP1** = 75 Ω SMB Straight Plug **–77RP1** = 75 Ω SMB Right-angle Plug		**–"XXXX"** = Overall Length in millimeters –0100 (100 mm) 3.94" minimum

ALSO AVAILABLE

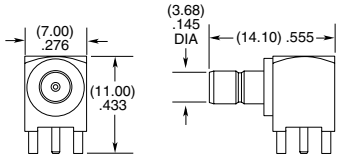
75 Ω: DIN 1.0/2.3, BNC, MCX, MMCX = RF179

SMB Cable Connectors
SMB7H-TH, SMB7H-EM

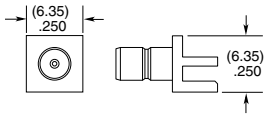
Cable Mates:
RF179, GRF7H-C



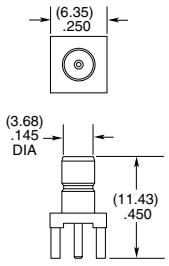
SMB7H	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION
	–J = Jack	**–P** = PCB Mount	**–H** = 30 µ" (0.76 µm) Gold center contact, 3 µ" (0.08 µm) Gold outer contact	**–ST** = Straight **–RA** = Right-angle	**–TH1** = Through-hole ((0.90 mm) .035" DIA Signal Pin) **–TH2** = Through-hole ((0.51 mm) .020" DIA Signal Pin) (–ST only) **–EM1** = Edge Mount (–ST only)



-RA-TH1



-ST-EM1



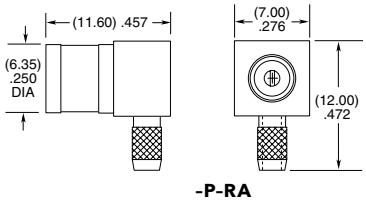
-ST-TH1 & -ST-TH2

Note:
Additional plating options available on Cable Assemblies, Cable Connectors and Board Connectors. Contact RFGroup@samtec.com

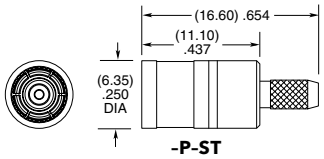
SMB Cable Connectors
SMB7H-CA

CONNECTORS FOR INDUSTRY STANDARD CABLES	
SMB7H -P-C-H-ST-CA3	RG 179 Cable
SMB7H-P-C-HF-RA-CA3	RG 179 Cable

P-C = Cable Plug
H or HF = Plating (30 µ" Gold center contact, 3 µ" Gold outer contact)
ST = Straight
RA = Right-angle



-P-RA



-P-ST

Supplied with pins and ferrules.
See website for dimensions

ORIGINAL SOLUTIONS LOW FREQUENCY RF

SHIELDED TWISTED PAIR SYSTEM

DC TO 4 GHz

- 100 Ω differential pair
- 28 AWG shielded twisted pair cable assembly
- High reliability BeCu contacts
- 1/4-turn bayonet lock

GANGED MICRO-MINI SYSTEMS

DC TO 5 GHz

- 50 Ω & 75 Ω board stacking and cable assemblies
- High performance rugged contacts
- Variety of End 2 connectors (GRF1H-C, GRF7H-C Series)

ISORATE® SYSTEMS

DC TO 9.5 GHz

- 50 Ω board stacking and cable assemblies
- Isolated signal systems for 90 percent performance of traditional RF at 50 percent of the cost

MINI & MICRO-MINI INTERCONNECTS

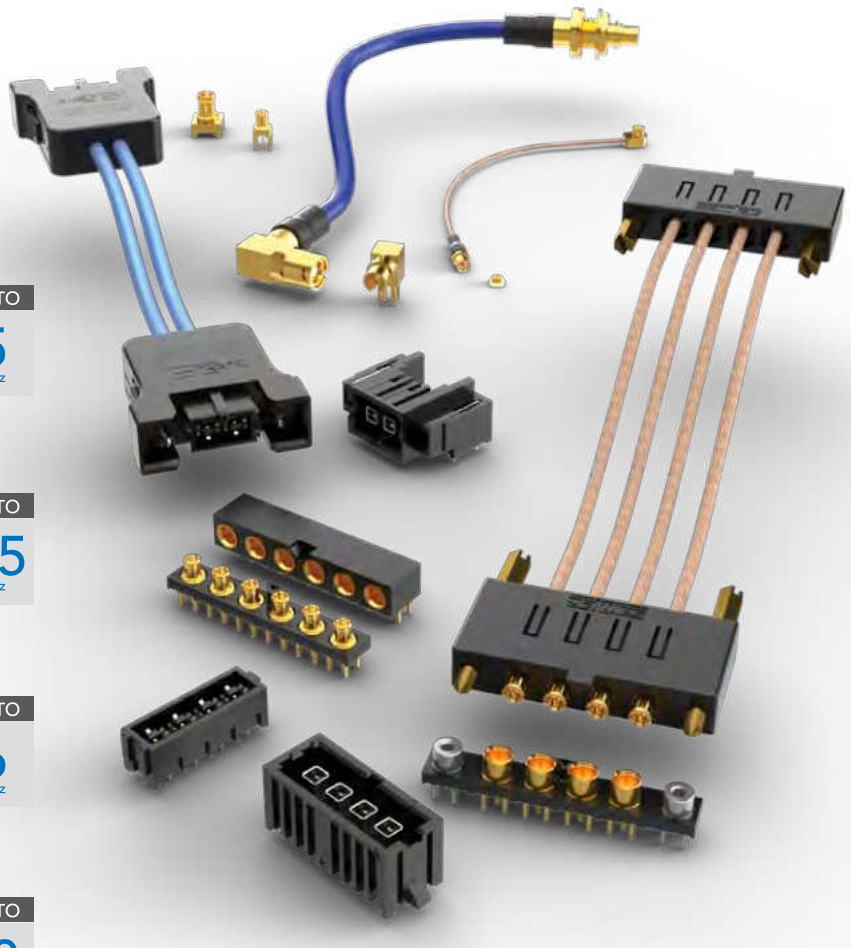
DC TO 6 GHz

- 75 Ω impedance (MMCX7 & MCX7 Series)
- Higher extraction forces (MMCXV Series)
- Not intermateable with standard MMCX, MCX

HIGH-CYCLE U.FL CABLE PLUG

DC TO 10 GHz

- 500 cycle U.FL compatible plug (HMHF1 Series)
- .047" DIA flexible cable (RF047 Series)



High Frequency Original RF Solutions Available. See page 11

CABLE SOLUTIONS

SERIES	C28S/CJT	GRF1-C/GRF7-C	GRF1H-C/GRF7H-C	RF047	IJ5C/IJ5H
Application	Shielded Twisted Pair	50 Ω & 75 Ω Micro-Mini Ganged	50 Ω & 75 Ω Micro-Mini Hybrid Ganged	50 Ω .047 DIA Flexible Cable	50 Ω IsoRate®
URL	**samtec.com?C28S samtec.com?CJT-BH samtec.com?CJT-TH**	**samtec.com?GRF1-C samtec.com?GRF7-C**	**samtec.com?GRF1H-C samtec.com?GRF7H-C**	**samtec.com?RF047**	**samtec.com?IJ5C samtec.com?IJ5H**

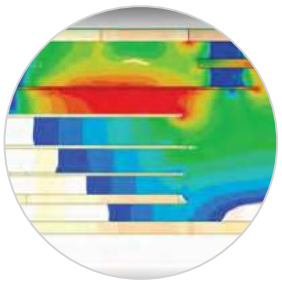
BOARD-TO-BOARD SOLUTIONS

SERIES	GRF1-P/GRF1-J	GRF7-P/GRF7-J	MMCX7	MCX7	MMCXV	IJ5/IP5
Application	50 Ω Micro-Mini Ganged	75 Ω Micro-Mini Ganged	75 Ω Mini and Micro-Mini Interconnects		High-Vibration Micro-Mini	50 Ω IsoRate®
URL	**samtec.com?GRF1-P samtec.com?GRF1-J**	**samtec.com?GRF7-P samtec.com?GRF7-J**	**samtec.com?MMCX7-TH samtec.com?MMCX7-CA**	**samtec.com?MCX7 samtec.com?MCX7-CA**	**samtec.com?MMCXV-TH samtec.com?MMCXV-EM samtec.com?MMCXV-CA**	**samtec.com?IJ5 samtec.com?IP5**

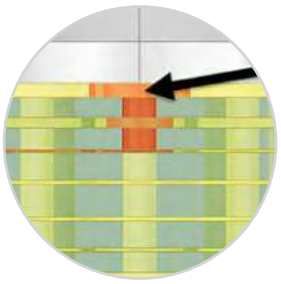
RF DESIGN, DEVELOPMENT & TECHNICAL SUPPORT

SIGNAL INTEGRITY & RF DESIGN EXPERTISE & SUPPORT

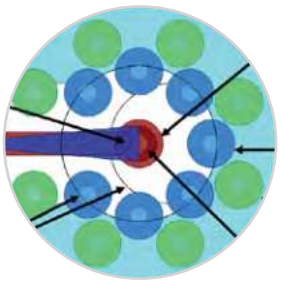
- Launch optimization & design services
- Simulation
- Prototyping
- Physical test and measurement verification
- Full channel analysis, system support
- Application specific design and development assistance



E-field Simulation



3D Modeling



Launch Optimization

TECHNICAL RESOURCES

Samtec's Technical Library contains white papers, application/technical notes, published papers, webinars and presentations on high-performance system design. These resources underscore how Samtec supports interconnectivity needs across multiple industries, applications, performance requirements and operating environments.

WHITE PAPERS

- Wideband RF Launches
- Impacts of Solder Reflow on RF Connectors
- Millimeter Wave Design
- Visit **samtec.com/tech-library**

TECHNICAL REPORTS

- Precision Alignment in Test and Measurement Applications: **samtec.com/alignment**

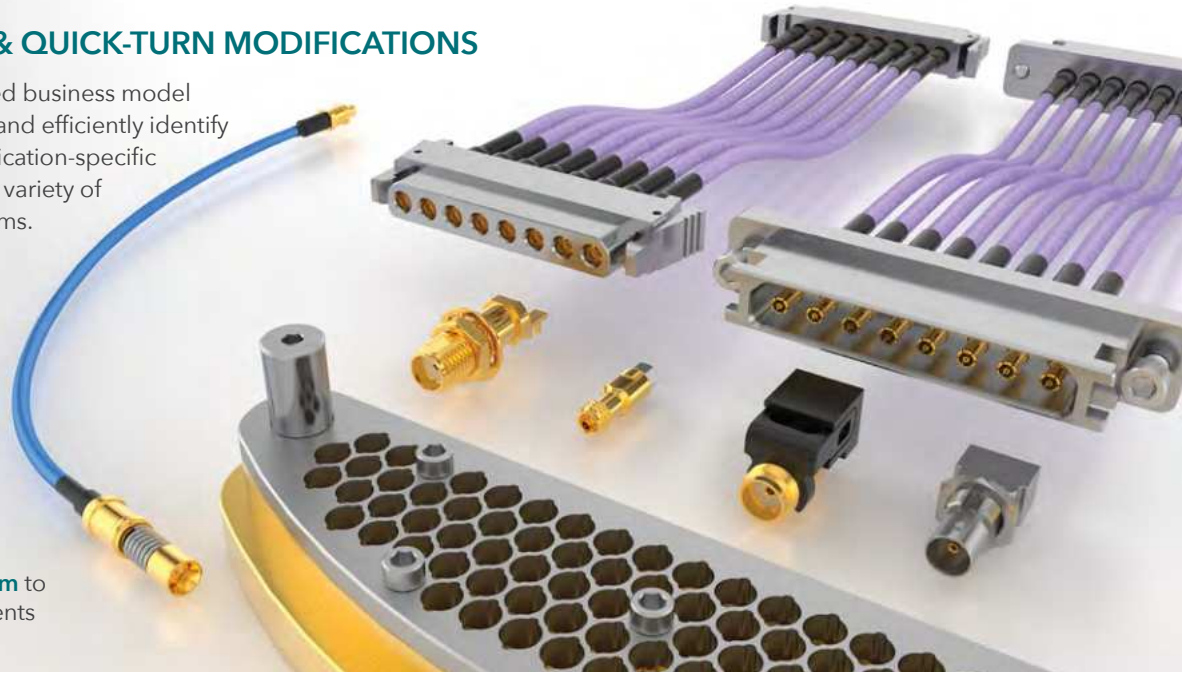
PRESENTATIONS & WEBINARS

- Understanding Transmission Line Discontinuities: **samtec.com/system-impedance**
- Precision RF Connector PCB Launches for 224 Gbps Devices: **samtec.com/rf-launches-224**

CUSTOM SOLUTIONS & QUICK-TURN MODIFICATIONS

Samtec's fully vertically integrated business model enables the flexibility to quickly and efficiently identify and/or develop innovative, application-specific interconnect solutions to meet a variety of demands in digital/analog systems.

- Board termination types
- Tin dipping capabilities
- Heat-shrink tubing
- Alternate platings
- Pick & place machine designs
- Automated assembly counterweights
- Contact **RFGroup@samtec.com** to discuss your system requirements



RF PRODUCT INDEX

Precision RF products highlighted in bold.

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