

The Samtec logo is positioned in the top left corner. It features the word "samtec" in a white, lowercase, sans-serif font. The letters are set against a background of horizontal black bars that create a sense of depth and shadow.

**samtec**

A large, stylized graphic of a tiger's head is the central focus of the cover. The tiger is rendered in a dark grey, almost black, silhouette style against a lighter grey background. The tiger's eyes are looking directly forward, and its stripes are suggested by the texture of the silhouette. The tiger's head is partially framed by a white, curved border that sweeps across the middle of the cover.

# RF INTERCONNECT CATALOG

# COMPLETE RF INTERCONNECT SOLUTIONS

24-HOUR  
SAMPLES & QUOTES

NO MINIMUM ORDER  
QUANTITY ON  
STANDARDS

2 TO 5 DAY  
LEAD TIME ON  
STANDARD PRODUCTS

## THINK OUTSIDE THE CATALOG

- Create a full system: cable assembly and board level mates, 50Ω and 75Ω solutions
- 24-hour samples on standard products
- Visit [rf.samtec.com](http://rf.samtec.com)





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Don't see what you want? Contact [RFGroup@samtec.com](mailto:RFGroup@samtec.com)

\*Compatible with Amphenol's HD-BNC™

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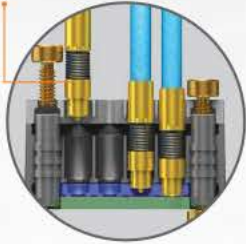




# HIGH PERFORMANCE TEST POINT SYSTEM



Push/twist/latch for easy on/off



Compression spring for tolerance variations

Extensive surface area of the ground ferrule helps maintain compression & aids in signal stability

Round tip for higher cycles

Rugged solid FEP dielectric

Braided shield, max flexibility & isolation

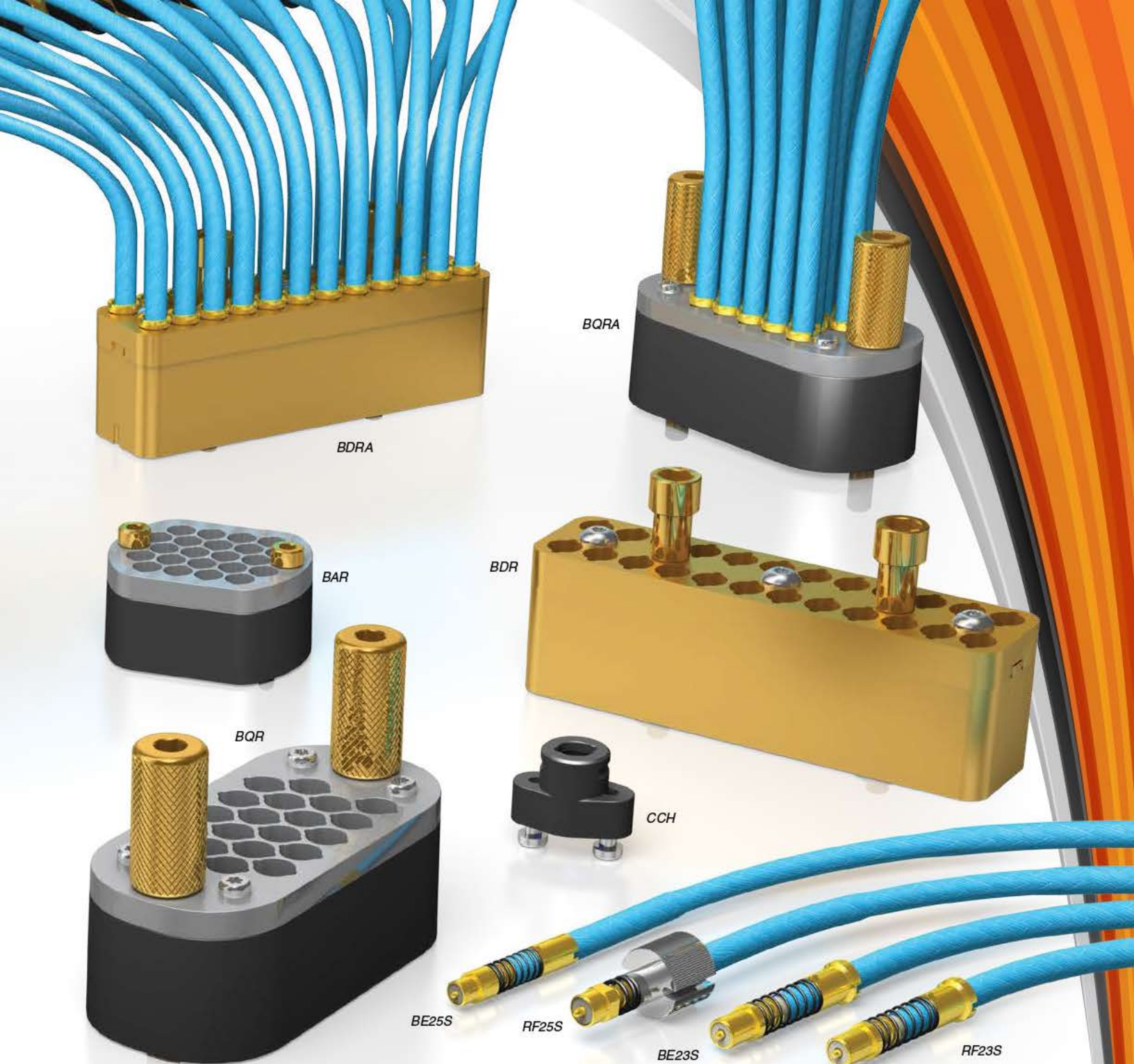
FEP jacket for durability & high temp rating (200°C)

Silver plated copper conductor

## BULLS EYE<sup>®</sup> TEST POINTS, MICROWAVE CABLE ADAPTORS & CABLE ASSEMBLIES

- Rapid and simple connectivity of multiple signal channels to the board
- SMA performance with a board connector that is 10% of the cost
- Multi and single port in various configurations help significantly reduce board size
- 4:1 density vs. SMA
- 2.0, 5.0 and 10.0 pico-second phase matching
- Compression interface to the board
- Bayonet mechanical latch for quick press-and-twist locking
- Probe cable adaptor connects directly to existing instrument cables via SMA, 2.92 or SMP terminations
- 2.4 mm (50 GHz) and 1.85 (65 GHz) terminations in development
- Low loss microwave coax cable
- Low cost plastic housing option replaces expensive machined metal interfaces
- Solderless termination to PCB
- Fluorosilicone-based conductive elastomer provides excellent grounding
- Optimized layouts available upon request
- Field reconfigurable or replaceable





### TEST POINTS

Series	CCH	BQR	BAR	BDR
No. of Positions	1	20 Quad Row	22	24 Double Row
Cable Mates	RF25S	BE23S, RF23S	BE25S, RF25S	BE23S, RF23S
Page	18	19	20	21

### CABLE ADAPTORS

Series	BE23S	RF23S	BE25S	RF25S
Cable	23 AWG	23 AWG	25 AWG	25 AWG
Type	50Ω Phase Matched Pairs	50Ω Single	50Ω Phase Matched Pairs	50Ω Single
End 2 Options	2.92	2.92, 2.4*, 1.85*	SMA, SMP	SMA, SMP
Page	14	15	16	17

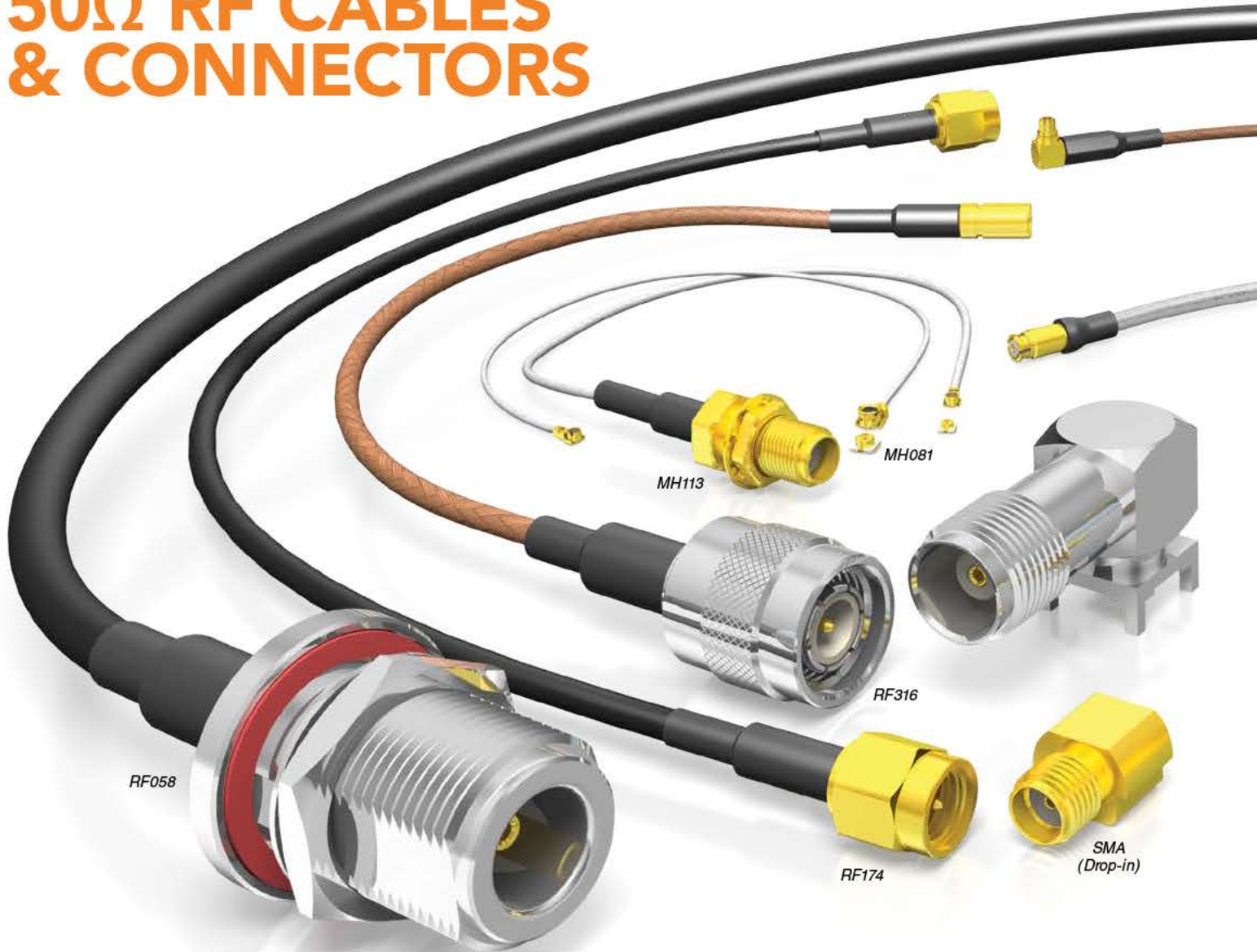
### CABLE ASSEMBLIES

Series	BQRA	BARA	BDRA
Cable	23 AWG	25 AWG	23 AWG
Type	20 positions Quad Row	22 positions	24 positions Double Row
End 2 Options	2.92	SMA, SMP	2.92
Page	22	23	24

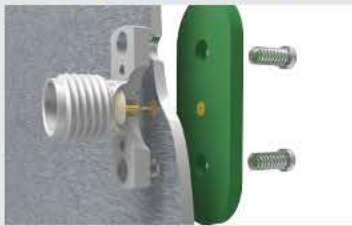
\*In Development



# 50Ω RF CABLES & CONNECTORS



## HIGH SPEED SOLUTIONS



2.4 mm (50 GHz) and 1.85 mm (65 GHz) in development

## WIDE VARIETY OF CABLES

- High frequency microwave cables:
  - Hand-formable semi-flexible cables at .047" DIA, .086" DIA or .141" DIA
  - 23 AWG or 25 AWG rugged solid dielectric cables to 40 GHz
  - 10 GHz, 500 cycle U.FL HMHF1 plug terminations
  - 2.92 terminations to 40 GHz, SMP terminations to 20 GHz
- 2.4 mm (50 GHz) and 1.85 mm (65 GHz) for 23 AWG cable in development
- Micro High Frequency U.FL/W.FL cable assemblies
- Industry standard cables with mix-and-match end options: RG 316, RG 174, RG 178, RG 58
- Double-shielded RG 316 cable with SMA terminations

## 50Ω HIGH FREQUENCY CABLE ASSEMBLIES

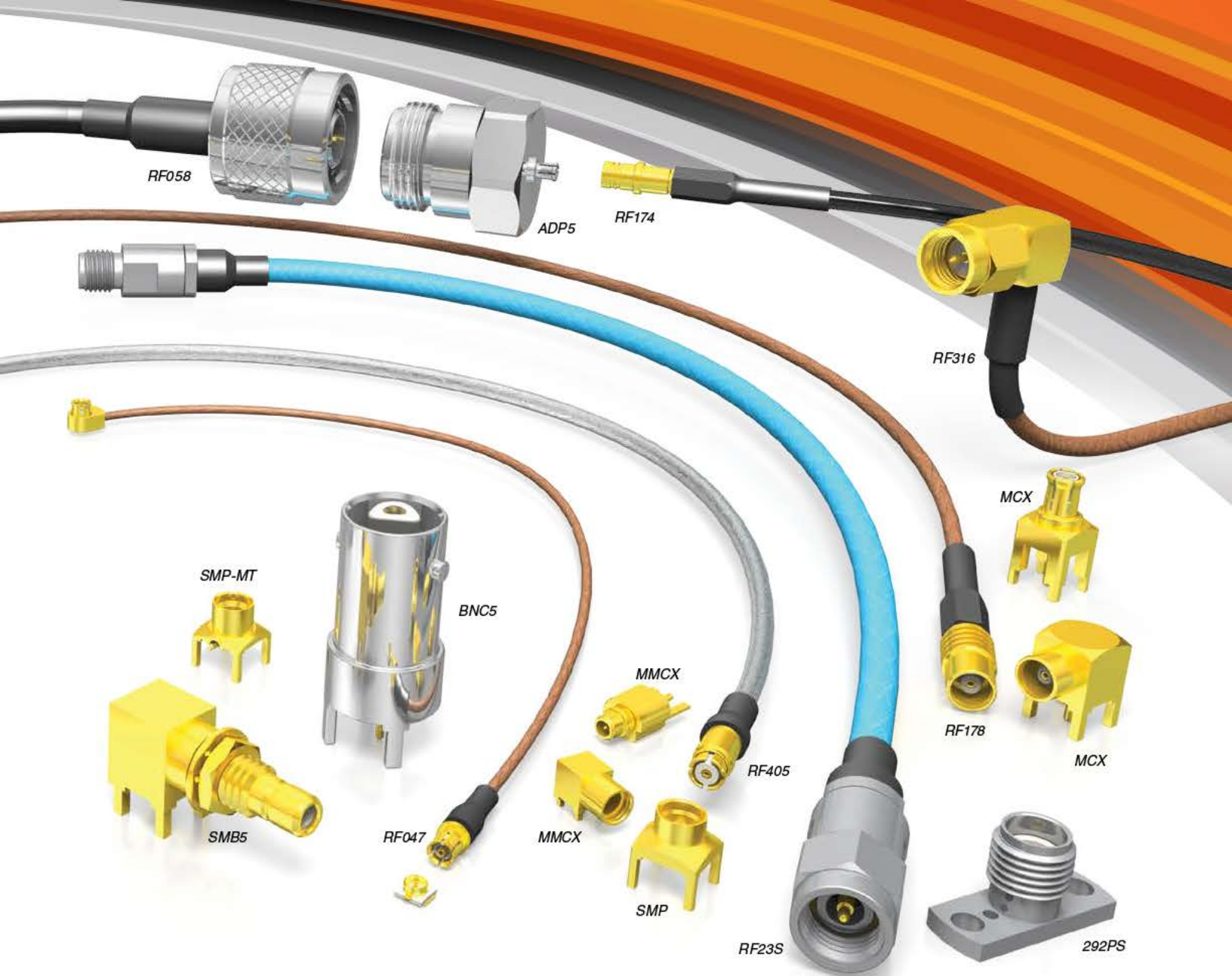
Series	RF23S	RF25S	RF047	RF405	RF402
Type	23 AWG	25 AWG	.047" DIA	.086" DIA	.141" DIA
Type Cable	Rugged solid dielectric, microwave		Hand-formable, semi-flexible and flexible		
Terminations	2.92, 2.4*, 1.85*	SMA, SMP	SMA, HMHF1 (U.FL)	SMA, SMP	SMA
Page	15	17	36	37	38

## 50Ω STANDARD CABLE ASSEMBLIES

Series	MH081/MH113	RF174/RF316	RF178	RF058	RS316
Type	U.FL & W.FL	Commodity components & assemblies			Double-shielded
Type Cable	0.81 mm / 1.13 mm	RG 174/RG 316	RG 178	RG 58	RG 316 (double-shielded)
Terminations	MHF1, MHF3, SMA	SMA, SMB, MCX, MMCX, MMCXv, BNC, TNC, N Type	SMA, SMB, MCX, MMCX, BNC, TNC, N Type	SMA, TNC, N Type	SMA, MCX, MMCX, TNC, BNC
Page	26-27	28-31	32-33	35	34

\*In Development





### WIDE VARIETY OF TERMINATIONS

- MHF (U.FL/W.FL), HMMHF1 (High Speed, High Cycle U.FL)
- 2.92, SMA, SMP, SMB, MCX, MMCX, BNC, TNC, N Type
- 2.4 mm (50 GHz) and 1.85 mm (65 GHz) terminations in development
- Straight and right angle available for most; variety of jacks and plugs
- Bulkhead jack or Panel Mount jack options

### BOARD LEVEL INTERCONNECTS AND ADAPTORS

- Straight or right angle orientations
- Through-hole, surface mount, edge mount or mixed technology
- Board level connectors with speeds of 50 GHz & 65 GHz in development
- 2.92, SMA, SMB, BNC and TNC jacks
- MCX jacks/plugs

- MMCX jacks/plugs and switchable internal/external antenna jack (High Vibration jacks/plugs available)
- Cable adaptors (ADP5 Series): N Type to MMCXV
- SMP Plugs & Adaptors
  - Compensates for misalignment in X & Y directions
  - Bullet adaptor allows for flexible connections
  - Frequency range: DC to 40 GHz

### 50Ω BOARD LEVEL INTERCONNECTS, ADAPTORS

Series	292PS	SMA	SMB5	SMP	MMCX*	MCX	BNC5	ADP5
Type	SMA 2.92	SMA	SMB	Floating Systems	MMCX	MCX	BNC	Adaptor
Orientation	Straight	Straight, Right Angle	Right Angle	Straight	Straight, Right Angle	Straight, Right Angle	Straight, Right Angle	Straight
Terminations	Panel Mount	T/H, SM, MT, Edge Mount, Panel Mount	T/H	T/H, MT, Edge Mount	T/H, SM, MT, Edge Mount	T/H, SM, MT, Edge Mount	T/H	N/A
Page	45	48-49	50	52	54-55	56	63	65

\*High vibration available. Contact Samtec.

# 75Ω RF CABLES & CONNECTORS



## 75Ω CABLES OPTIMIZED FOR 3G-SDI BROADCAST VIDEO

- Industry standard cables with mix-and-match end options: RG 179, RG 6, Belden 1694A, Belden 1855A
- RFB8T Series (with Belden 1855A cable) designed to meet SMPTE 424M 3G-SDI specification
- Components are available for customer-installed field termination to cable

## WIDE VARIETY OF TERMINATIONS

- Micro-mini components with higher extraction force (MMCX7)
- MCX, SMB, DIN 1.0/2.3, HD-BNC™, BNC
- Performance to 8 GHz (SMB)
- Jack or plug available for micro-mini and BNC components
- Straight and right angle orientations
- Die cast options available

## BOARD LEVEL INTERCONNECTS AND ADAPTORS

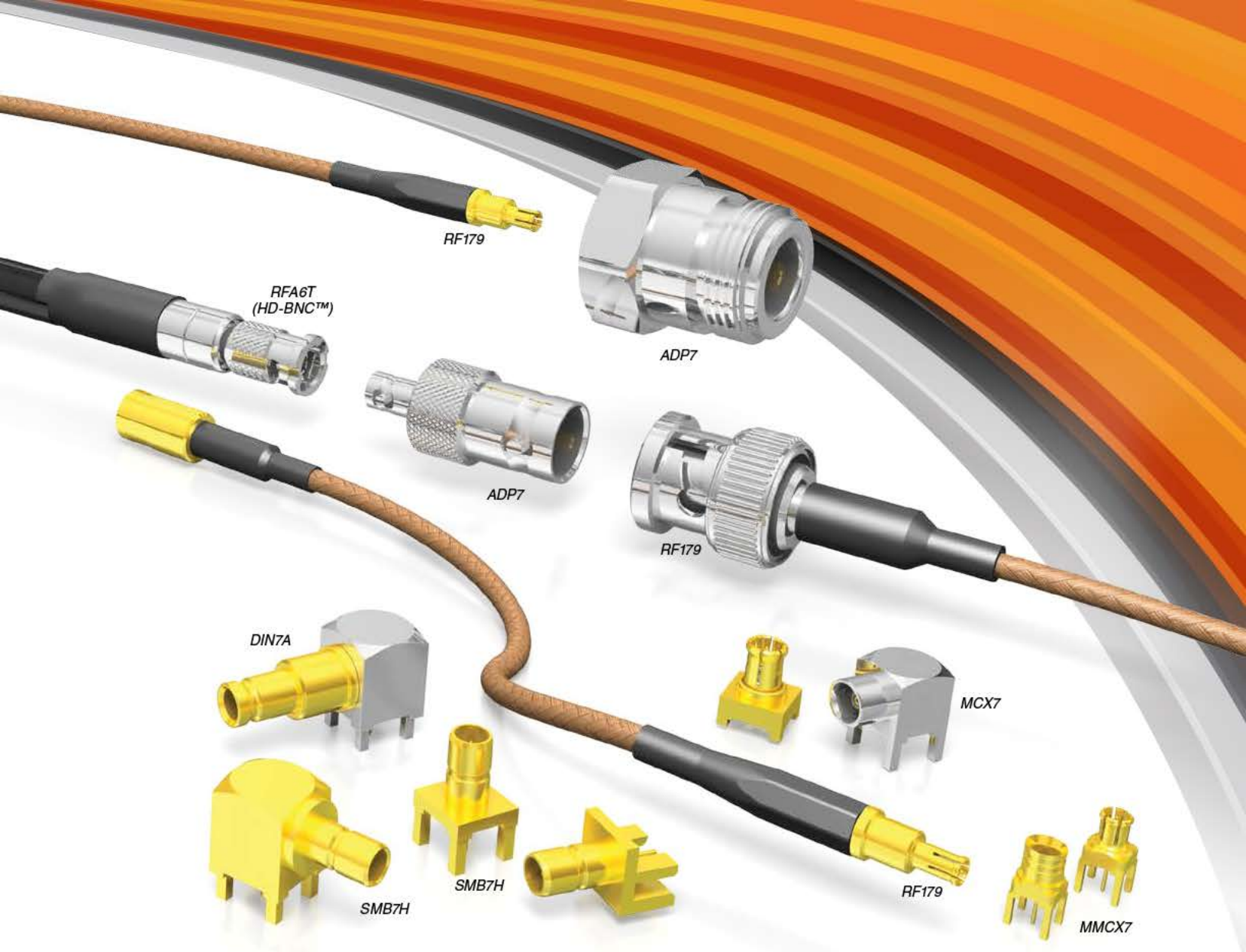
- Through-hole, surface mount, edge mount or mixed technology
- Straight or right angle orientations
- Performance to 12 GHz on through-hole and edge mount (HD-BNC™ & BNC)
- Performance to 6 GHz (MMCX7, MCX)
- Micro-mini (MMCX7), MCX jacks/plugs
- SMB, DIN 1.0/2.3, HD-BNC™, BNC jacks
- Cable adaptors (ADP7 Series): BNC to HD-BNC™, N Type to Micro-mini (MMCX7 Series)

## 75Ω, True75™ STANDARD CABLE ASSEMBLIES

Series	RFA6T	RFB6T	RF179	RFB8T
Type	Commodity components & assemblies			
Type Cable	RG 6	1694A	RG 179	1855A
Terminations	HD-BNC™, BNC, DIN 1.0/2.3	HD-BNC™, BNC, DIN 1.0/2.3	MMCX7, MCX, SMB, BNC, DIN 1.0/2.3	HD-BNC™, DIN 1.0/2.3
Page	39	39	40-41	42

HD-BNC™ is a trademark of Amphenol.





### HIGH DENSITY BNC SYSTEMS

- Designed to meet SMPTE 424M 12G-SDI specifications
- 4X the panel density of traditional BNCs
- Patented design and bayonet latch
- 20% reduction in weight of traditional BNCs
- Extended performance of 12 GHz for high density requirements of future systems (-TH and -EM only)
- Crimp style plugs use industry standard termination tools
- Compatible with Amphenol's HD-BNC™



### RF GROUP

- Personal support from Samtec's highly qualified, in-house staff of RF engineers
- Assistance in selecting the right RF product for your application
- Express modifications to standard products to complete engineering, design and prototype support
- Design, simulation and processing assistance
- Dedicated engineers and technicians for application specific RF products
- Contact [RFGroup@samtec.com](mailto:RFGroup@samtec.com)

### RF SOLUTIONATOR®

- Create a full system: cable assembly and board level mates, 50Ω and 75Ω solutions
- 24-hour samples on standard products
- Visit: [rf.samtec.com](http://rf.samtec.com)



### 75Ω , True75™ BOARD LEVEL INTERCONNECTS

Series	SMB7H	DIN7A	MMCX7	MCX7	ADP7
Type	SMB	DIN 1.0/2.3	Micro-mini	MCX	Adaptor
Orientation	Straight, Right Angle	Straight, Right Angle	Straight	Straight, Right Angle	Straight
Terminations	T/H, Edge Mount	T/H	T/H, SM, MT	T/H, SM	N/A
Page	51	53	58	59	66

### 12G-SDI

HDBNC	BNC7T
High Density BNC	BNC
Straight, Right Angle	Straight, Right Angle
T/H, Edge Mount	T/H, Edge Mount
60	62

# RF CABLE SPECIFICATIONS



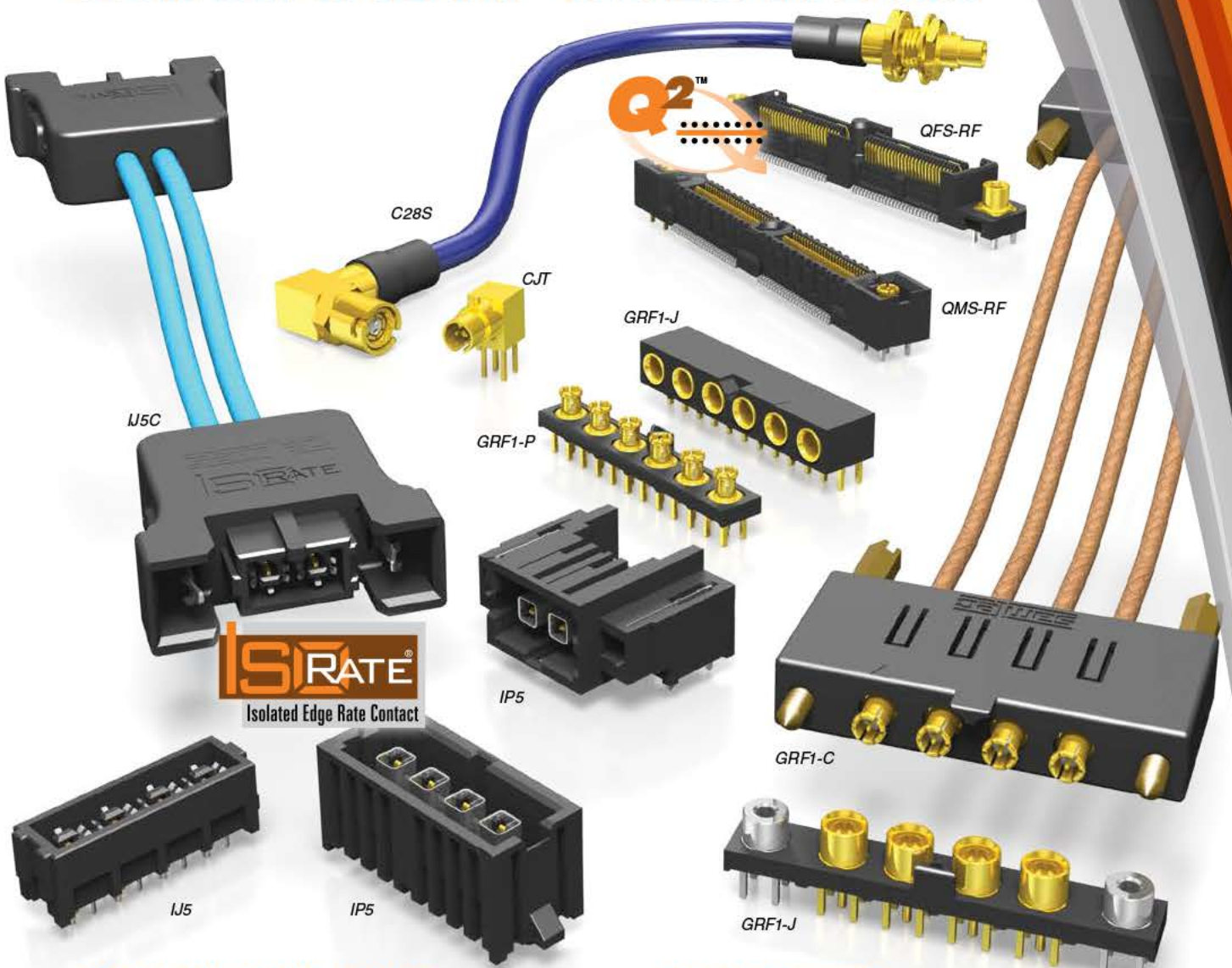
CABLE TYPE		50Ω CABLES							
		0.81	1.13	RG 178	CTB-2650F-01	RG 174	RG 316	RG 316 DS	RG 58
Impedance	Ω	50 ± 3	50 ± 2	50 ± 2	50 ± 2	50 ± 5	50 ± 2	50 ± 3	50 ± 3
Attenuation (dB/m)	100 MHz	1.0	0.6	0.5	0.68	0.4	0.3	1.4 @ 2 GHz	0.2
	1 GHz	3.1	1.9	1.7	2.37	1.4	1.25	1.6 @ 3 GHz	0.8
	6 GHz	8.6	4.9	5.9	6.53	4.4	4.25	2.2 @ 5 GHz	5.4
Dielectric Constant (dk)	-----	2.0	2.0	2.1	1.56	2.3	2.1	2.1	2.3
Dielectric Strength	VAC	1000	500	1000	-----	500	1200	-----	1400
Propagation Delay	nS/m	4.70	4.70	4.83	4.17	5.06	4.83	-----	5.05
Current Rating	Amps	1.2	2.1	3	3	5	5	-----	-----
Capacitance	pF/m	100	95	96	85.6	101	96	95.8	102
Center Conductor	Material	Silver plated Copper	Silver plated Copper	Silver plated Copper Clad Steel	Silver plated Copper	Bare Copper	Silver and Copper plated Steel	Silver plated Copper Clad Steel	Tinned Copper
	AWG	36	32	30	26	26	26	26	20
	Stranding (No./mm)	7/0.05	7/0.076	7/0.10	19/0.10	7/0.16	7/0.17	7	19/0.018
	Diameter (mm)	0.15	0.23	0.31	0.48	0.48	0.51	0.53	0.80
	Max Resistance (Ω/m)	1.40	0.60	0.34	0.12	0.14	0.13	-----	-----
Dielectric	Material	FEP	FEP	PTFE	Foamed FEP	KLPE	PTFE	FEP	Solid Polyethylene
	Diameter (mm)	0.40	0.68	0.84	1.29	1.52	1.52	1.53	3.00
Shield	Material	Silver plated Copper	Tinned Copper	Silver plated Copper	Silver plated Copper	Tinned Copper	Silver plated Copper	Silver plated Copper	Tinned Copper
	Diameter (mm)	0.65	0.89	1.37	1.5	2.57	1.73	2.38	3.81
Jacket	Material	PFA	FEP	FEP	FEP	PVC	FEP	FEP	PVC
	Diameter (mm)	0.81	1.13	1.80	1.80	2.79	2.53	2.90	5.00
	Temp Rating	-40°C to +90°C	-40°C to +90°C	-50°C to +165°C	-40°C to +200°C	-20°C to +80°C	-55°C to +165°C	-----	-50°C to +90°C
	Color	Gray	Gray	Brown	Blue	Black	Brown	Brown	Black
Bend Radius	Min	5 mm	6.8 mm	10.2 mm	3.175 mm	25.4 mm	12.7 mm	12.8 mm	48.3 mm
Termination Options		MHF1, MHF3, SMA	MHF1, SMA	MMCX, MCX, SMA, SMB, BNC, TNC, N Type		MMCX, MMCXV, MCX, SMA, SMB, BNC, TNC, N Type		MMCX, MCX, SMA, BNC, TNC	SMA, TNC, N Type
Samtec Series		MH081	MH113	RF178	IJ5C	RF174	RF316, IJ5C, IJ5H, GRF1-C, GRF1H-C, ACP, ACR	RS316	RF058





50Ω MICROWAVE CABLES					75Ω CABLES				100Ω CABLES
MWC-2550-01	MWC-2350-01	RG 047 (.047")	RG 405 (.086")	RG 402 (.141")	RG 179	BELDEN 1855A	BELDEN 1694A	RG 6	TPS-28100-RF
50 ± 1	50 ± 1	50 ± 1	50 ± 2	50 ± 2	75 ± 3	75 ± 3	75 ± 3	75 ± 3	100 ± 5
0.65 @ 1 GHz	0.17	0.80 @ 0.5 GHz	0.72 @ 1 GHz	0.40 @ 1 GHz	0.3	0.12	0.07	0.07	-----
1.37 @ 4 GHz	0.7	1.15	2.59 @ 4 GHz	1.04 @ 4 GHz	0.8	0.37	0.21	0.21	-----
3.36 @ 20 GHz	1.7	2.62 @ 4 GHz	4.26 @ 20 GHz	2.30 @ 20 GHz	3.6	0.97	0.59	0.59	-----
2.1	2.15	2.1	2.04	1.99	1.8	1.42	1.44	1.44	2.1
-----	300	-----	1000	1000	1200	300	300	2000	-----
4.76	4.72	-----	4.79	4.79	4.83	4.12	4.06	4.03	-----
5.3	7.4	-----	-----	-----	3	5	-----	-----	-----
96.8	95.45	95.14	104.97	98.072	64	55.7	53.14	53.14	38
Silver plated Copper	Silver plated Copper	Silver plated Copper	Silver plated Copper Clad Steel	Silver plated Copper Clad Steel	Silver plated Copper	Bare Copper	Bare Copper	Bare Copper	Silver plated Copper
25	23	46	24	19	30	23	18	18	28
1/0.45	1/0.57	1/0.29	1/0.51	1/0.92	7/0.10	1/0.58	1/1.02	1/1.02	2/0.85
0.45	0.57	0.29	0.51	0.92	0.30	0.58	1.02	1.02	1.97
0.105	0.071	-----	0.67	0.02	0.34	0.066	0.021	0.021	0.029
Solid FEP	Solid FEP	FEP	PTFE	PTFE	PTFE	FHDPE	FHDPE	FHDPE	FEP
1.46	1.85	0.92	1.68	2.98	1.58	2.59	4.57	4.57	1.97
1. Flat Silver plated Copper 2. Silver plated Copper Braid	1. Flat Silver plated Copper 2. Silver plated Copper Braid	1. Flat Silver plated Copper 2. Silver plated Copper Braid	Tinned 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
1.87	2.25	1.12	2.20	3.58	2.13	3.00	-----	-----	2.41
FEP	FEP	FEP	-----	-----	FEP	PVC	PVC	PVC	PVC
2.06	2.59	1.42	-----	-----	2.54	4.04	6.96	7.00	3.66
-40°C to +200°C	-40°C to +200°C	-65°C to +165°C	-40°C to +125°C	-40°C to +125°C	-50°C to +165°C	-30°C to +75°C	-30°C to +75°C	-30°C to +75°C	-20°C to +105°C
Blue	Blue	Brown	-----	-----	Brown	Black	Black	Black	Blue
9 mm	12 mm	10 mm	3.18 mm	6.35 mm	10.2 mm	38.1 mm	69.85 mm	69.85 mm	19.05 mm
SMA, SMA 2.92, SMP	SMA 2.92	HMHF1 (U.FL), SMA	SMA, SMP	SMA	MCX, MMCX7, SMB, BNC, DIN 1.0/2.3	HD-BNC™, DIN 1.0/2.3	BNC, HD-BNC™, DIN 1.0/2.3		CJT
RF25S, BE25S	RF23S	RF047	RF405	RF402	RF179, GRF7-C, GRF7H-C	RFB8T	RFB6T	RFA6T	C28S

# ORIGINAL RF SOLUTIONS



## GANGED MICRO-MINI SYSTEMS

- Board stacking and cable assemblies
- High performance rugged contacts
- 50Ω & 75Ω
- 5.00 mm pitch

## SHIELDED TWISTED PAIR SYSTEM

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

## ISORATE® SYSTEMS

- 50Ω board stacking and cable assemblies
- 75Ω board stacking assemblies
- Isolated signal systems for 90 percent performance of traditional RF at 50 percent of the cost
- 4.00 mm pitch
- Single or double-ended cable assemblies with rugged latching

## HIGH SPEED Q2™ COMBO RF SYSTEM

- Q2™ ground plane strips with one isolated RF plug per end
- Increased insertion depth for rugged applications
- 10 mm stack height

## CABLE SOLUTIONS

Series	C28S/CJT	GRF1-C	GRF1H-C	GRF7H-C	IJ5C/IJ5H
Application	Shielded Twisted Pair	50Ω Micro-Mini Ganged	50Ω Micro-Mini Hybrid Ganged	75Ω Micro-Mini Hybrid Ganged	50Ω IsoRate®
Page	68	69	70-71	72-73	76-77

## BOARD-TO-BOARD SOLUTIONS

Series	GRF1-P/GRF1-J	GRF7-P/GRF7-J	IJ5/IP5	IJ7/IP7	QMS-RF/QFS-RF
Application	50Ω Micro-Mini Ganged	75Ω Micro-Mini Ganged	50Ω IsoRate®	75Ω IsoRate®	Q2™ High Speed Ground Plane
Page	74	75	78-79	80	81



# BULLS EYE®

## CABLE ADAPTORS

23 AWG, 50Ω Phase Matched, Microwave Cable Adaptor Pairs (BE23S) .....	14
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25 AWG, 50Ω Phase Matched, Microwave Cable Adaptor Pairs (BE25S).....	16
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Double Row Test Point Array, 24 Positions (BDR).....	21

## CABLE ASSEMBLIES

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Cable Assembly, 22 Positions (BARA) .....	23
Double Row Cable Assembly, 24 Positions (BDRA).....	24

## APPLICATIONS

Bulls Eye® .....	4-5
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BE23S-SCC31-92SPP-02-0152

BE23S SERIES

# 50Ω MICROWAVE CABLE ASSEMBLIES

## SPECIFICATIONS

For complete specifications see [www.samtec.com?BE23S](http://www.samtec.com?BE23S)

### RF Connector:

Outer Contact Material:  
Brass (SMA)

Center Contact Material:  
Brass (SMA Plug)  
BeCu (SMA Jack)

Insulator Material:  
PTFE

Operating Temperature:  
-65°C to +165°C

Insulator Resistance:  
5,000 MΩ

Impedance:  
50Ω

Frequency Range:  
Testing Now!

V.S.W.R.:  
Testing Now!

RoHS Compliant:  
Yes

### MWC-2350-01

#### Cable:

Cable Type:

Low Loss Microwave Coax

Gauge:

23 AWG Silver plated Copper

Dielectric:

Solid FEP

Jacket Material:

FEP

Bend Radius:

12 mm

Impedance:

50Ω ±1Ω

Propagation Delay:

4.76 nsec/meter

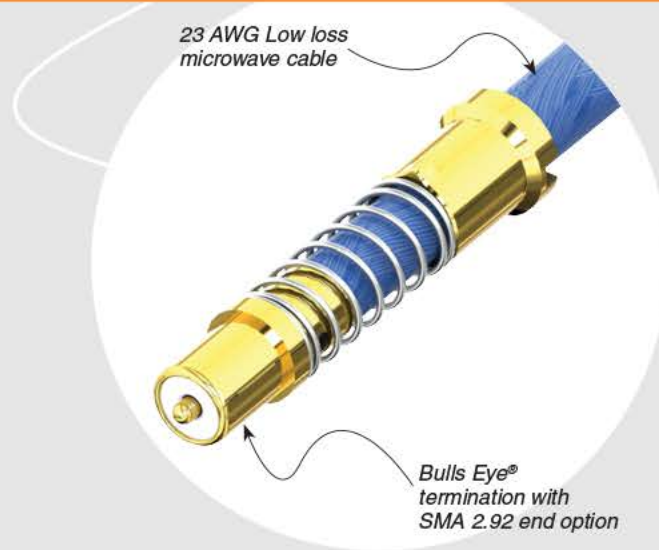
Capacitance:

95.45 pF/meter

Mates with:

BQR, BDR, 292PS

23 AWG Low loss  
microwave cable



Bulls Eye®  
termination with  
SMA 2.92 end option

## CABLE TYPE

### BE23S

= Rugged solid FEP  
Dielectric 23 AWG,  
MWC-2350-01  
Microwave Cable

## END 2 OPTION

Specify  
END 2  
OPTION  
from chart

## PHASE MATCHING

-02  
= 2.0 Pico-second  
(-0305 maximum  
overall length)

-05  
= 5.0 Pico-second  
(-0457 maximum  
overall length)

-10  
= 10.0 Pico-second

## NO. OF CABLES

-2  
= 2 phase matched  
cable assemblies

-4  
= 4 phase matched  
cable assemblies

-6  
= 6 phase matched  
cable assemblies

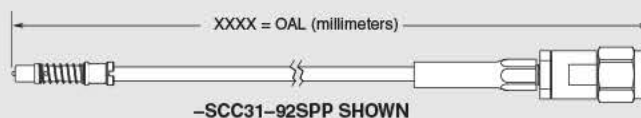
-8  
= 8 phase matched  
cable assemblies

## OVERALL LENGTH

XXXX  
= Overall  
Length  
in millimeters  
-0100  
(100 mm) 3.94"  
to  
-9999  
(9999 mm)  
.393.7"

## EXTRACTION TOOL

- SCC31: CAT-EX-SCC-03



## END OPTIONS

-92SJP = SMA 2.92 Straight Jack (30μ" (0.76 μm) Gold on Center Contact, Passivated Stainless Steel on Shell)	
-92SPP = SMA 2.92 Straight Plug (30μ" (0.76 μm) Gold on Center Contact, Passivated Stainless Steel on Shell)	
-SCC31 = Bulls Eye® Test Point with standard ferrule (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	

### Notes:

Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

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





RF23S-92SPP-92SJP-0100

RF23S SERIES

# 50Ω MICROWAVE CABLE ASSEMBLIES

## SPECIFICATIONS

For complete specifications see [www.samtec.com?RF23S](http://www.samtec.com?RF23S)

### RF Connector:

**Shell Material:**  
Brass or Stainless Steel

**Contact Material:**  
Brass

**Cable Body:**  
Brass or Stainless Steel

**Socket:**  
BeCu

**Insulator Material:**  
PCTFE

**Operating Temperature:**  
-40°C to +85°C

**Insulator Resistance:**  
>10,000mΩ

**Impedance:**  
50Ω

**Frequency Range:**  
40 GHz

**V.S.W.R.:**  
1.6 max

**RoHS Compliant:**  
Yes

**MWC-2350-01**

**Cable:**

**Type:**  
Low Loss Microwave Coax

**Gauge:**  
23 AWG Silver plated Copper

**Dielectric:**  
Rugged solid FEP

**Jacket Material:**  
FEP

**Bend Radius:**  
12 mm

**Impedance:**  
50Ω ±1Ω

**Propagation Delay:**  
4.76 nsec/meter

**Capacitance:**  
95.45 pF/meter

**Mates with:**  
292PS, BDR, BQR

23 AWG microwave cable  
with rugged, solid  
FEP dielectric

## EXTRACTION TOOL

- -SCC31: CAT-EX-SCC-03

## APPLICATION

rugged  
solid FEP  
dielectric

SMA 2.92 (40 GHz), SMA 2.40 (50 GHz),  
SMA 1.85 (65 GHz) or Bulls Eye® Test Point terminations

## CABLE TYPE

### RF23S

= Rugged solid FEP  
Dielectric 23 AWG,  
MWC-2350-01  
Microwave Cable

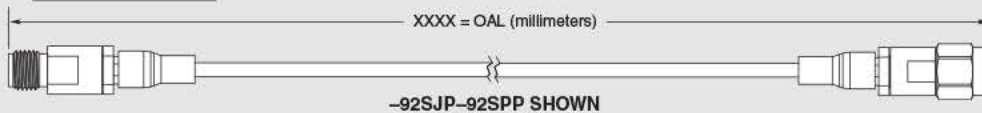
## END 1 CONNECTOR

Specify  
END OPTIONS  
from chart

## END 2 CONNECTOR

## OVERALL LENGTH

–“XXXX”  
= Overall Length  
in millimeters  
–0100 (100 mm)  
3.94" minimum



## ALSO AVAILABLE (MOQ Required)

- Additional stripping and tinning options Contact Samtec.

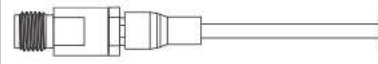
**Note:**  
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

**Note:**  
Some lengths, styles and options are non-standard, non-returnable.

## END OPTIONS

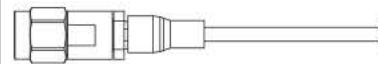
–92SJP = SMA 2.92  
Straight Jack  
–18SJP\* = SMA 1.85  
Straight Jack  
–24SJP\* = SMA 2.40  
Straight Jack

(30μ" (0.76 μm) Gold on Center Contact,  
Passivated Stainless Steel on Shell)



–92SPP = SMA 2.92  
Straight Plug  
–18SPP\* = SMA 1.85  
Straight Plug  
–24SPP\* = SMA 2.40  
Straight Plug

(30μ" (0.76 μm) Gold on Center Contact,  
Passivated Stainless Steel on Shell)



–SCC31 = Bulls Eye® Test Point  
with standard ferrule (30μ" (0.76 μm) Gold  
on Center Contact, Gold Flash on Shell)

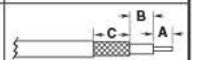
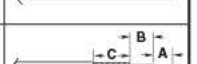


\*In Design.

## END OPTIONS

–SING =  
Single Ended  
(End 2 only)

XXXXXX =  
Stripped & Tinned  
(End 2 only)



## 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.



BE25S SERIES

# 50Ω MICROWAVE CABLE ASSEMBLIES

## SPECIFICATIONS

For complete specifications see [www.samtec.com?BE25S](http://www.samtec.com?BE25S)

### RF Connector:

Outer Contact Material:

Brass (SMA), Gold (SMP)

Center Contact Material:

Brass (SMA Plug)

BeCu (SMA & SMP Jack)

Insulator Material:

PTFE

Operating Temperature:

-65°C to +165°C

Insulator Resistance:

5,000 MΩ

Impedance:

50Ω

Frequency Range:

0-20 GHz (SMA),

DC to 20 GHz (SMP)

V.S.W.R:

1.3 max

RoHS Compliant:

Yes

### MWC-2550-01

### Cable:

Cable Type:

Low Loss Microwave Coax

Gauge:

25 AWG Silver plated Copper

Dielectric:

Solid FEP

Jacket Material:

FEP

Bend Radius:

9 mm

Impedance:

50Ω ±1Ω

Propagation Delay:

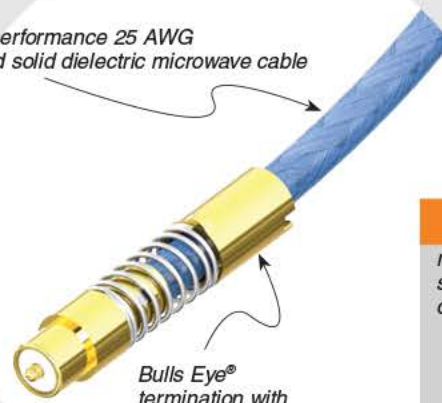
3.84 nsec/meter

Capacitance:

75.4 pF/meter

Mates with:  
BAR, SMA, SMP

High performance 25 AWG  
rugged solid dielectric microwave cable



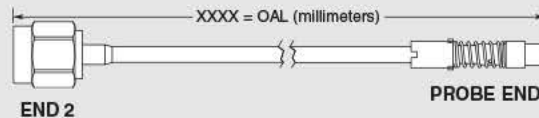
Bulls Eye®  
termination with  
SMA or SMP  
end option

## APPLICATION

rugged  
solid FEP  
dielectric



CABLE TYPE	END 2 OPTION	PHASE MATCHING	NO. OF CABLES	OVERALL LENGTH
<b>BE25S</b> = Rugged solid FEP Dielectric 25 AWG, MWC-2550-01 Microwave Cable	Specify END 2 OPTION from chart	<b>-02</b> = 2.0 Pico-second (-0305 maximum overall length)  <b>-05</b> = 5.0 Pico-second (-0457 maximum overall length)  <b>-10.0</b> = 10.0 Pico-second	<b>-02</b> = 2 phase matched cable assemblies  <b>-04</b> = 4 phase matched cable assemblies  <b>-06</b> = 6 phase matched cable assemblies  <b>-08</b> = 8 phase matched cable assemblies	<b>XXXX</b> = Overall Length in millimeters -0100 (100 mm) 3.94" to -9999 (9999 mm) 393.7"



## EXTRACTION TOOLS

- SCC41: CAT-EX-SCC-01
- SMP: CAT-EX-SMP-01

**Notes:**  
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.  
Some lengths, styles and options are non-standard, non-returnable.

END 2 OPTIONS		END 2 OPTIONS	
<b>-01SP1 = SMA</b> Straight Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)		<b>-SCC41 = Bulls Eye® Test Point</b> (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
<b>-01BJ1 = SMA</b> Bulkhead Jack (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)		<b>-00SJ7 = SMP</b> Straight Jack (10μ" (0.25 μm) Gold on Center Contact, Gold Flash on Shell)	
		<b>-00RJ7 = SMP</b> Right Angle Jack (10μ" (0.25 μm) Gold on Center Contact, Gold Flash on Shell)	





RF25S SERIES

# 50Ω MICROWAVE CABLE ASSEMBLIES

## SPECIFICATIONS

For complete specifications see [www.samtec.com?RF25S](http://www.samtec.com?RF25S)

### RF Connector:

- Outer Contact Material:** Brass (SMA), Gold (SMP)
- Center Contact Material:** Brass (SMA Plug), BeCu (SMA & SMP Jack)
- Insulator Material:** PTFE
- Operating Temperature:** -65°C to +165°C
- Insulator Resistance:** 5,000 MΩ
- Impedance:** 50Ω
- Frequency Range:** 0-20 GHz (SMA), DC to 20 GHz (SMP)
- V.S.W.R.:** 1.3 max
- RoHS Compliant:** Yes

### MWC-2550-01

#### Cable:

- Type:** Low Loss Microwave Coax
- Gauge:** 25 AWG Silver plated Copper
- Dielectric:** Rugged solid FEP
- Jacket Material:** FEP
- Bend Radius:** 9 mm
- Impedance:** 50Ω ±1Ω
- Propagation Delay:** 3.84 nsec/meter
- Capacitance:** 75.4 pF/meter

### Mates with:

- BAR (Requires -SCC41),
- CCH (Requires -SCC21),
- SMA, SMP

High frequency performance to 20 GHz

25 AWG rugged solid dielectric microwave cable

SMA, SMP or Bulls Eye® Test Point terminations

## APPLICATION

rugged solid FEP dielectric



### CABLE TYPE

### END 1 CONNECTOR

### END 2 CONNECTOR

### OVERALL LENGTH

#### RF25S

= Rugged solid FEP Dielectric 25 AWG, MWC-2550-01 Microwave Cable

Specify END OPTIONS from chart

- "XXXX" = Overall Length in millimeters -0100 (100 mm) 3.94" minimum



## ALSO AVAILABLE (MOQ Required)

- Additional stripping and tinning options
- Contact Samtec.

## EXTRACTION TOOLS

- -SCC41: CAT-EX-SCC-01
- SMP: CAT-EX-SMP-01

**Notes:** Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

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

END OPTIONS		END OPTIONS	
-01SP1 = SMA Straight Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)		-SCC41 = Bulls Eye® Test Point with standard ferrule (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-01BJ1 = SMA Bulkhead Jack (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)		-SCC21 = Bulls Eye® Test Point with knurled ferrule (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-00SJ7 = SMP Straight Jack (10μ" (0.25 μm) Gold on Center Contact, Gold Flash on Shell)		-SING = Single Ended (End 2 only)	
-00RJ7 = SMP Right Angle Jack (10μ" (0.25 μm) Gold on Center Contact, Gold Flash on Shell)		XXXXXX = Stripped & Tinned (End 2 only)	

### 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.



CCH-J-01



CCH-J-04



CCH-J-02

**CCH SERIES**

# HIGH PERFORMANCE TEST POINTS

**SPECIFICATIONS**

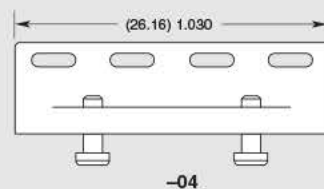
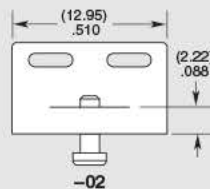
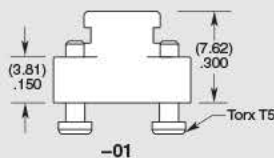
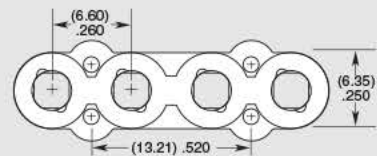
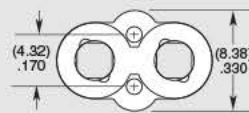
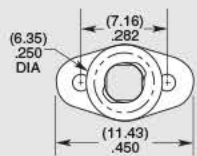
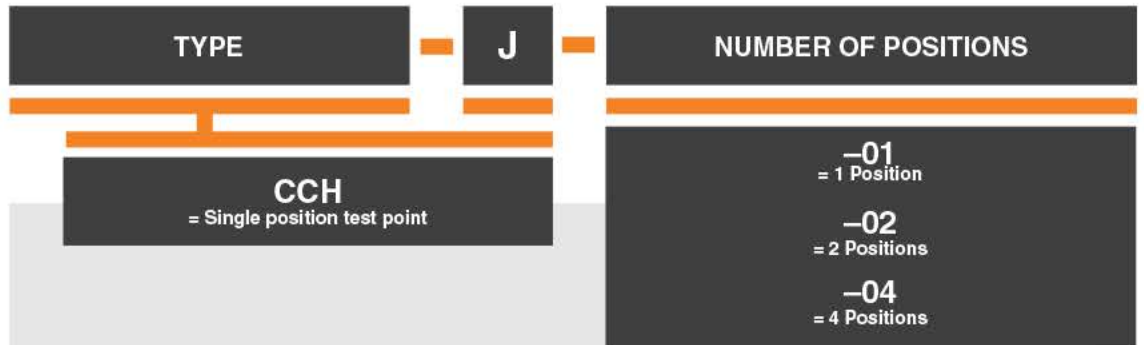
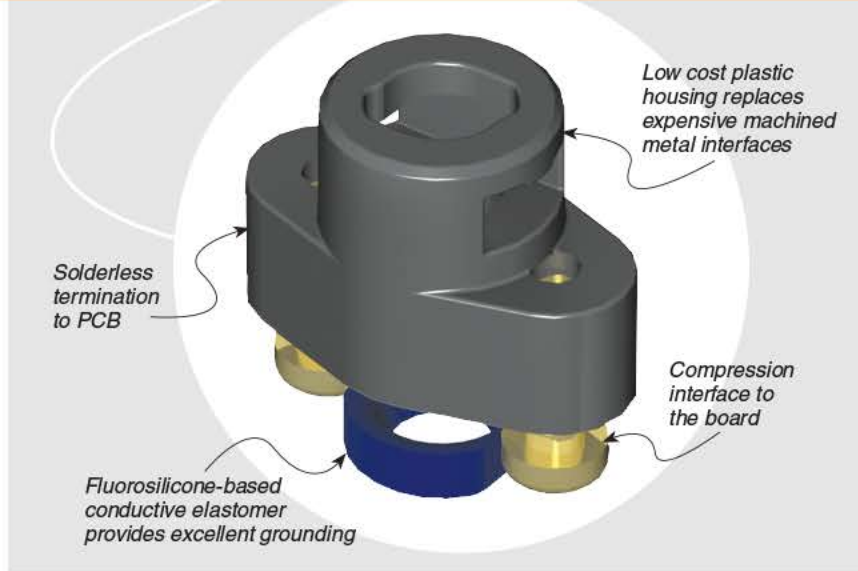
For complete specifications and recommended PCB layouts see [www.samtec.com?CCH](http://www.samtec.com?CCH)

**Insulator Material:**  
Black LCP  
**Gasket Material:**  
MIL-DTL-83528C, Type D

Mates with:  
**RF25S**

**OTHER SOLUTIONS**

- Replacement elastomer gaskets available
- Contact Samtec.

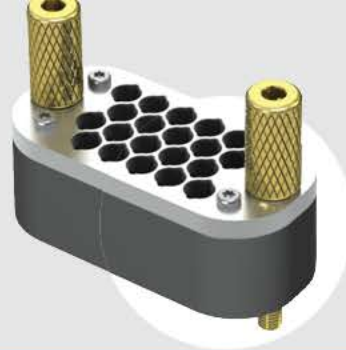


Note: Some sizes, styles and options are non-standard, non-returnable.





BQR-J-020



BQR SERIES

# QUAD ROW ARRAY 20 POSITIONS

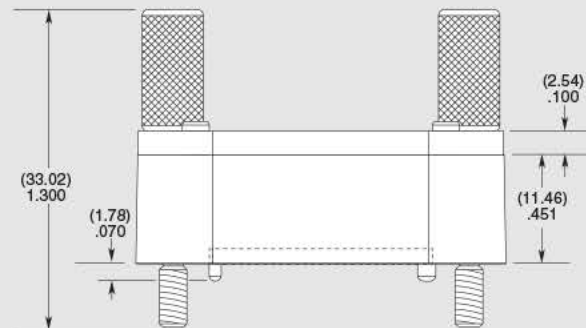
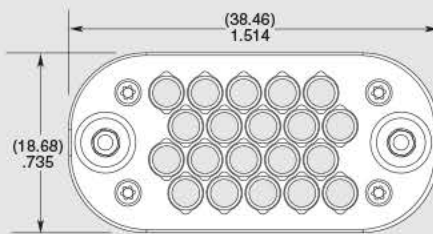
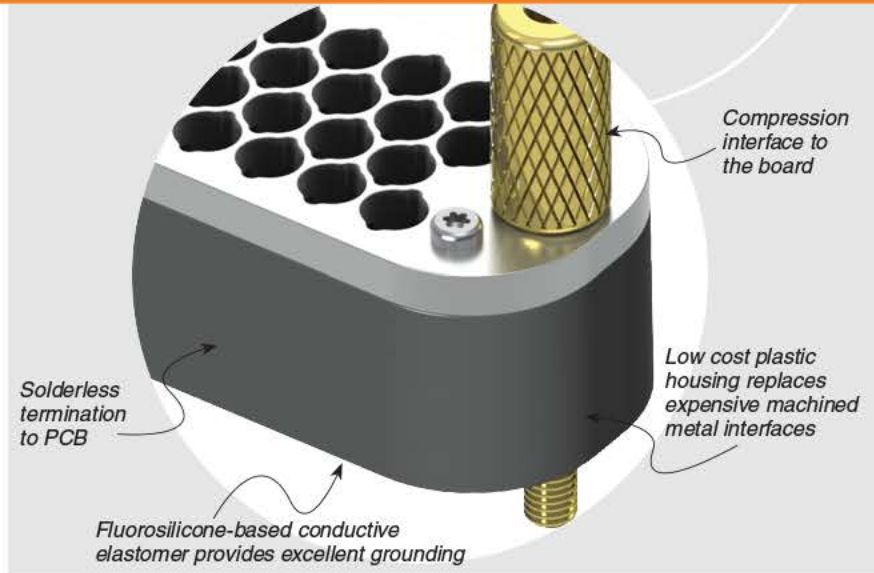
## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?BQR](http://www.samtec.com?BQR)

Mates with:  
BE23S, RF23S

## OTHER SOLUTIONS

- Replacement elastomer gaskets available
- Contact Samtec.



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



BAR-J-022

**BAR SERIES**

# TEST POINT ARRAY 22 POSITIONS

**SPECIFICATIONS**

For complete specifications and recommended PCB layouts see [www.samtec.com?BAR](http://www.samtec.com?BAR)

**Insulator Material:**

Black LCP

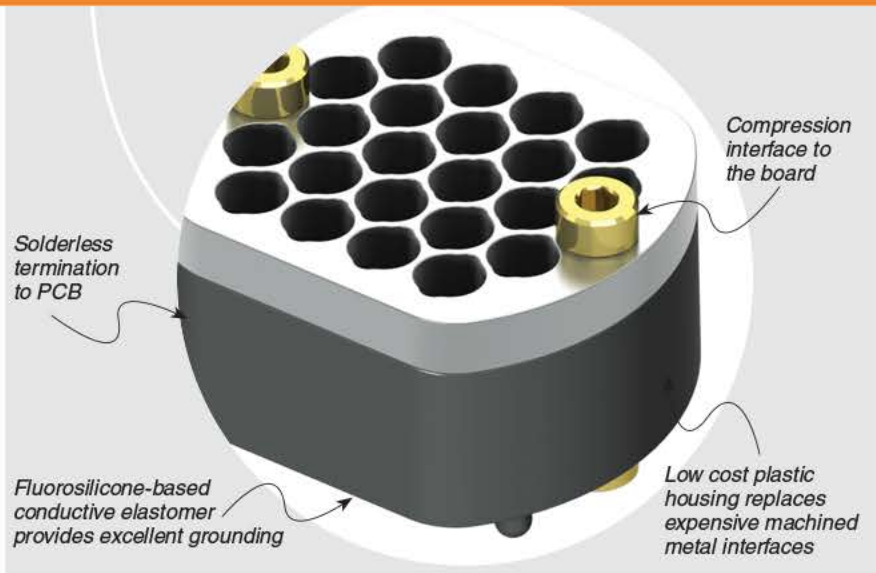
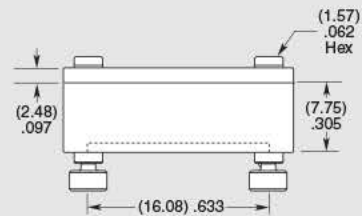
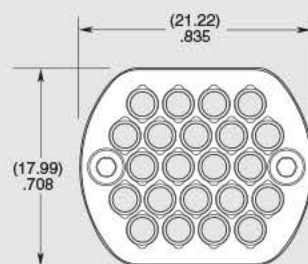
**Gasket Material:**

MIL-DTL-83528C, Type D

**OTHER SOLUTIONS**

- Replacement elastomer gaskets available
- Contact Samtec.

Mates with:  
BE25S, RF25S


**BAR**
**J**
**NUMBER OF POSITIONS**
**-022**  
= 22 Positions


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





BDR-J-24

BDR SERIES

# DOUBLE ROW ARRAY 24 POSITIONS

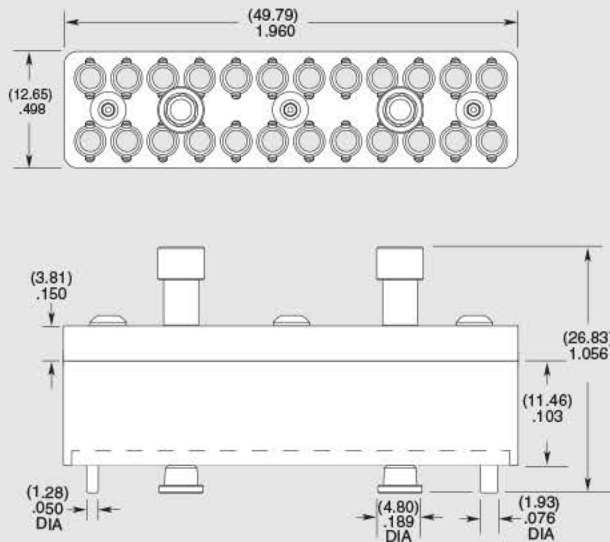
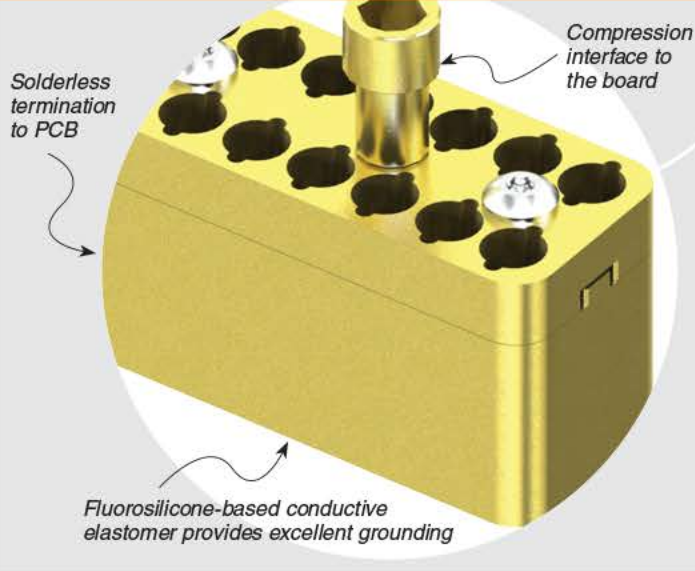
## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com/BDR](http://www.samtec.com/BDR)

Mates with:  
BE23S, RF23S

## OTHER SOLUTIONS

- Replacement elastomer gaskets available
- Contact Samtec.



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



BQRA-92SPP-02-10-0200

BQRA SERIES

# BULLS EYE® 20 POSITION ASSEMBLY

## SPECIFICATIONS

For complete specifications see [www.samtec.com?BQRA](http://www.samtec.com?BQRA)

### RF Connector:

Outer Contact Material:  
Brass (SMA)

Center Contact Material:  
Brass (SMA Plug)  
BeCu (SMA Jack)

Insulator Material:  
PTFE

Operating Temperature:  
-65°C to +165°C

Insulator Resistance:  
5,000 MΩ

Impedance:  
50Ω

RoHS Compliant:  
Yes

MWC-2350-01

### Cable:

Cable Type:  
Low Loss Microwave Coax  
Gauge:  
23 AWG Silver plated Copper  
Dielectric:  
Solid FEP  
Jacket Material:  
FEP  
Bend Radius:  
12 mm  
Impedance:  
50Ω ±1Ω

Mates with:  
292PS



## OTHER SOLUTIONS

- Replacement elastomer gaskets available
- Contact Samtec.

BQRA

END 2 CONNECTOR

PHASE MATCHING

10

OVERALL LENGTH

Specify  
END 2 OPTION  
from chart

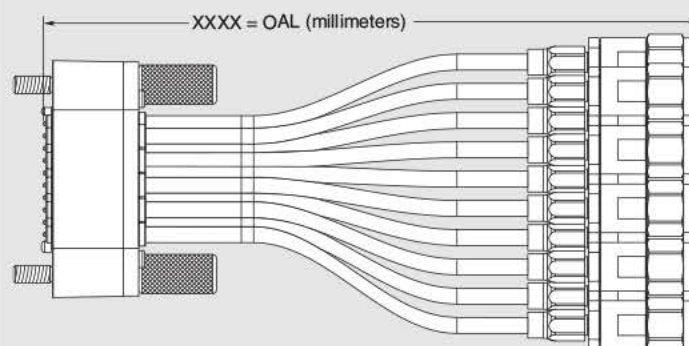
-02  
= 2.0 Pico-second  
(-0305 maximum  
overall length)

-05  
= 5.0 Pico-second  
(-0457 maximum  
overall length)

-10  
= 10.0 Pico-second

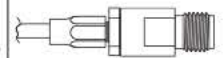
-10  
= Number  
of phase  
matched  
pairs

XXXX  
= Overall Length  
in millimeters  
-0100  
(100 mm) 3.94"  
to -9999  
(9999 mm) 393.7"



### END 2 OPTIONS

92SJP = SMA 2.92  
Straight Jack  
(30μ" (0.76 μm)  
Gold on Center Contact,  
Passivated Stainless  
Steel on Shell)



-92SPP = SMA 2.92  
Straight Plug  
(30μ" (0.76 μm) Gold  
on Center Contact,  
Passivated Stainless  
Steel on Shell)



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





BARA-00SJ7-05-11-0200



BARA SERIES

# BULLS EYE® 22 POSITION ASSEMBLY

## SPECIFICATIONS

For complete specifications see [www.samtec.com?BARA](http://www.samtec.com?BARA)

### RF Connector:

**Outer Contact Material:**

Brass (SMA), Gold (SMP)

**Center Contact Material:**

Brass (SMA Plug)

BeCu (SMA & SMP Jack)

**Insulator Material:**

PTFE

**Operating Temperature:**

-65°C to +165°C

**Insulator Resistance:**

5,000 MΩ

**Impedance:**

50Ω

**RoHS Compliant:**

Yes

### MWC-2550-01

### Cable:

**Cable Type:**

Low Loss Microwave Coax

**Gauge:**

25 AWG Silver plated Copper

**Dielectric:**

Solid FEP

**Jacket Material:**

FEP

**Bend Radius:**

9 mm

**Impedance:**

50Ω ±1Ω

**Propagation Delay:**

3.84 nsec/meter

**Capacitance:**

75.4 pF/meter

Mates with:

SMA, SMP



A total of 22 positions  
with 11 phased  
matched pairs

BARA

END 2  
CONNECTORPHASE  
MATCHING

11

OVERALL  
LENGTH

Specify  
END 2 OPTION  
from chart

-02  
= 2.0 Pico-second  
(-0305 maximum  
overall length)

-05  
= 5.0 Pico-second  
(-0457 maximum  
overall length)

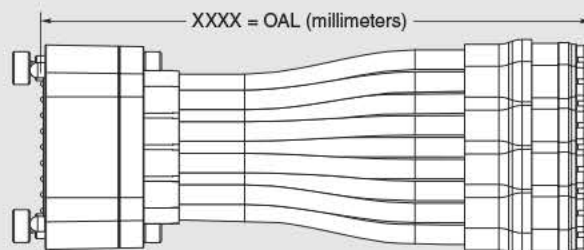
-10  
= 10.0 Pico-second

-11  
= Number  
of phase  
matched  
pairs

XXXX  
= Overall Length  
in millimeters  
-0100  
(100 mm) 3.94"  
to -9999  
(9999 mm) 393.7"

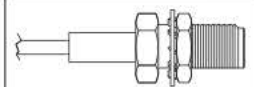
## OTHER SOLUTIONS

- Replacement elastomer gaskets available
- Contact Samtec.

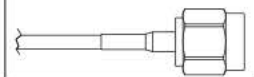


### END 2 OPTIONS

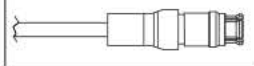
-01BJ1 = SMA  
Bulkhead Jack  
(30μ" (0.76 μm) Gold  
on Center Contact,  
Gold Flash on Shell)



-01SP1 = SMA  
Straight Plug  
(30μ" (0.76 μm) Gold  
on Center Contact,  
Gold Flash on Shell)



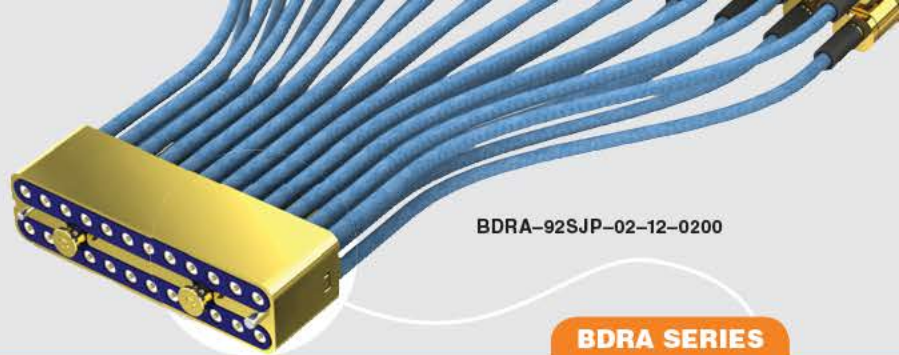
-00SJ7 = SMP  
Straight Jack  
(10μ" (0.25 μm) Gold  
on Center Contact,  
Gold Flash on Shell)



-00RJ7 = SMP  
Right Angle Jack  
(10μ" (0.25 μm) Gold  
on Center Contact,  
Gold Flash on Shell)



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



BDR-92SJP-02-12-0200

BDR SERIES

# BULLS EYE® DOUBLE ROW ASSEMBLY

## SPECIFICATIONS

For complete specifications see [www.samtec.com?BDR](http://www.samtec.com?BDR)

### RF Connector:

Outer Contact Material:  
Brass (SMA)

Center Contact Material:  
Brass (SMA Plug)  
BeCu (SMA Jack)

Insulator Material:  
PTFE

Operating Temperature:  
-65°C to +165°C

Insulator Resistance:  
5,000 MΩ

Impedance:  
50Ω

RoHS Compliant:  
Yes

MWC-2350-01

### Cable:

Cable Type:  
Low Loss Microwave Coax  
Gauge:  
23 AWG Silver plated Copper

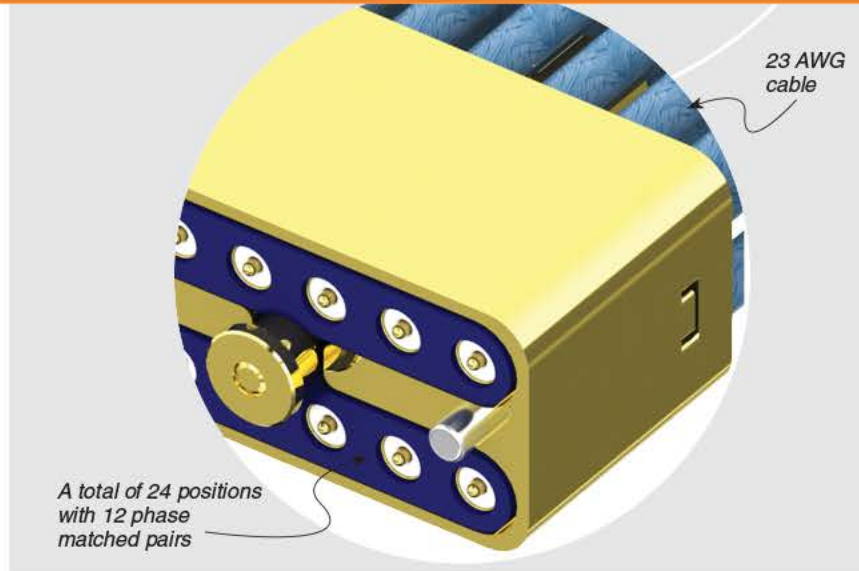
Dielectric:  
Solid FEP

Jacket Material:  
FEP

Bend Radius:  
12 mm

Impedance:  
50Ω ±1Ω

Mates with:  
292PS



## OTHER SOLUTIONS

- Replacement elastomer gaskets available Contact Samtec.

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

BDR

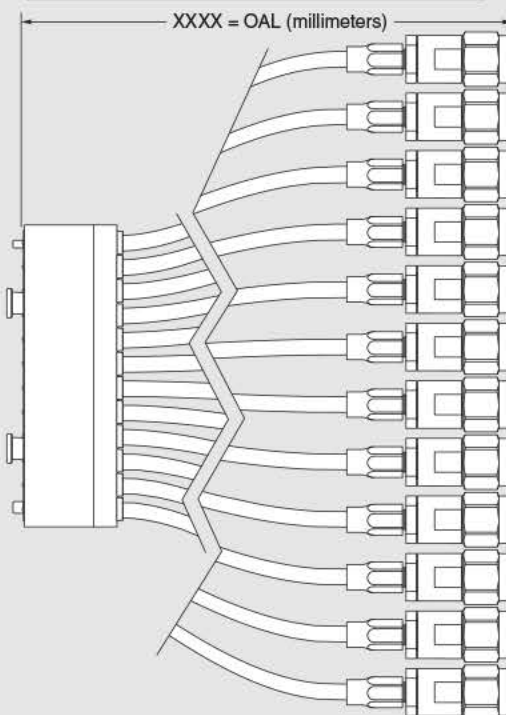
END 2 CONNECTOR

PHASE MATCHING

12

OVERALL LENGTH

Specify END 2 OPTION from chart



-02  
= 2.0 Pico-second  
(-0305 maximum overall length)

-05  
= 5.0 Pico-second  
(-0457 maximum overall length)

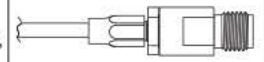
-10  
= 10.0 Pico-second

-12  
= Number of phase matched pairs

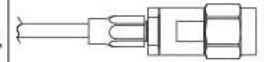
XXXX  
= Overall Length in millimeters  
-0100 (100 mm) 3.94"  
to -9999 (9999 mm) 393.7"

### END 2 OPTIONS

92SJP = SMA 2.92  
Straight Jack  
(30μ" (0.76 μm) Gold on Center Contact,  
Passivated Stainless Steel on Shell)



-92SPP = SMA 2.92  
Straight Plug  
(30μ" (0.76 μm) Gold on Center Contact,  
Passivated Stainless Steel on Shell)







# 50Ω & 75Ω CABLE ASSEMBLIES

## MICRO HIGH FREQUENCY

50Ω RF Cable Assembly, 0.81 mm Diameter (MH081).....	26
50Ω RF Cable Assembly, 1.31 mm Diameter (MH113).....	27

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## APPLICATIONS

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# MICRO HIGH FREQUENCY RF CABLES

## SPECIFICATIONS

For complete specifications see [www.samtec.com?MH081](http://www.samtec.com?MH081)

**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:**  
170V max  
**Dielectric Withstanding Voltage:** 200 Vrms  
**Frequency Range:**  
0-3 GHz  
**Contact Resistance:**  
Center Contact: 6mΩ max  
Outer Contact: 2mΩ max  
**Insulator Resistance:**  
5,000 MΩ  
**Impedance:** 50Ω  
**RoHS Compliant:** Yes

### 0.81 mm Cable:

**Impedance:** 50Ω  
**Capacitance:** 100 pF/meter  
**Max Attenuation (cable only):** 3.1dB @ 1 GHz  
**Conductor Size:**  
36 AWG, (0.81 mm) .032" dia.  
**Conductor Material:**  
Silver Plated Copper  
**Conductor Resistance:**  
1.40Ω/meter max  
**Insulator Diameter:**  
(0.4 mm) .016"  
**Insulator Material:** FEP  
**Shield Material:**  
Silver Plated Copper  
**Jacket Material:** FEP  
**Jacket Diameter:**  
(0.81 mm) .032" dia.  
**Bend Radius:**  
5.0 mm  
**Jacket Temp Rating:**  
-40°C to +90°C  
**RoHS Compliant:** Yes

## ALSO AVAILABLE (MOQ Required)

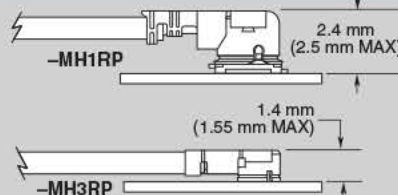
- Additional stripping and tinning options
- Additional end connector combinations
- Overall lengths
- Contact Samtec.

## EXTRACTION TOOLS

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

\* MH081 Series was previously RF081 Series

## APPLICATION



U.F.L and W.F.L Types

Micro High Frequency RF, MHF or SMA Bulkhead

(0.81 mm) .032" Diameter Cable

Mating PCB connectors available

## MATING SOLUTIONS

- Micro RF PCB connectors for Micro High Frequency RFs
- MH1RP end mates with RSP-122811-01 (Cycles: 30 max.)
- MH3RP end mates with RSP-122811-02

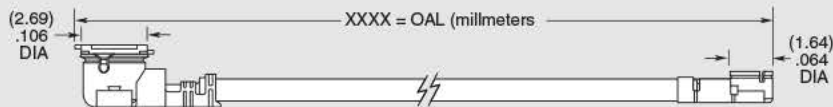
## MH081

## END 1 CONNECTOR

## END 2 CONNECTOR

## OVERALL LENGTH

Specify END OPTIONS from chart



## END OPTIONS

-MH1RP = MHF1 Type Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-MH3RP = MHF3 Type Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-01BJ1 = SMA Straight Bulkhead Jack -01BJ2 = SMA Straight Bulkhead Jack, Reversed Polarity	
-01SB1 = SMA Straight Jack, Sealed Bulkhead -01SR1 = SMA Straight Jack, Sealed Bulkhead, Reversed Polarity	
(30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-SING = Single Ended (End 2 callout)	
XXXXXX = Stripped & Tinned (End 2 callout)	

-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)

## 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.





MH113-MH1RP-MH1RP-0300

MH113-MH1RP-01BJ1-0300

MH113\* SERIES

# MICRO HIGH FREQUENCY RF CABLES

## SPECIFICATIONS

For complete specifications see [www.samtec.com?MH113](http://www.samtec.com?MH113)

**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:**  
170V max  
**Dielectric Withstanding Voltage:**  
200 Vrms  
**Frequency Range:**  
0-3 GHz  
**Contact Resistance:**  
Center Contact: 6mΩ max  
Outer Contact: 2mΩ max  
**Insulator Resistance:**  
5,000 MΩ  
**Impedance:** 50Ω  
**RoHS Compliant:** Yes

### 1.13 mm Cable:

**Impedance:** 50Ω  
**Capacitance:**  
95 pF/meter  
**Max Attenuation (cable only):**  
2dB @ 1 GHz  
**Conductor Size:**  
32 AWG, (1.13 mm) .045" dia.  
**Conductor Material:**  
Silver Plated Copper  
**Conductor Resistance:**  
0.60Ω/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  
**RoHS Compliant:** Yes

## ALSO AVAILABLE (MOQ Required)

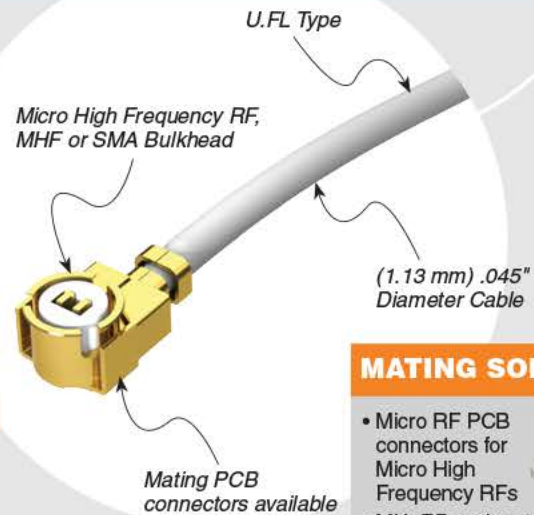
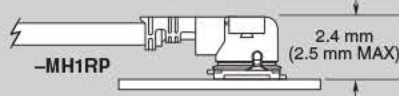
- Additional stripping and tinning options
- Additional end connector combinations
- Overall lengths
- Contact Samtec.

## EXTRACTION TOOL

- -MH1RP = RSP-122893-01

\* MH113 Series was previously RF113 Series

## APPLICATION



## MATING SOLUTIONS

- Micro RF PCB connectors for Micro High Frequency RFs
- MH1RP end mates with RSP-122811-01 (Cycles: 30 max.)



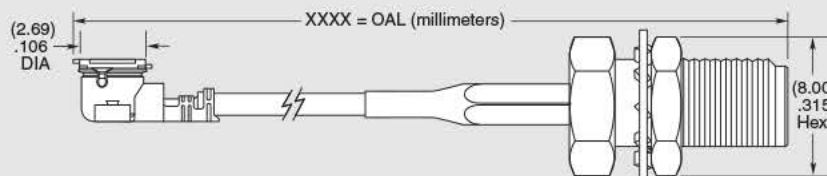
MH113

END 1 CONNECTOR

END 2 CONNECTOR

OVERALL LENGTH

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)

## END OPTIONS

-MH1RP = MHF1 Type Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-01BJ1 = SMA Straight Bulkhead Jack -01BJ2 = SMA Straight Bulkhead Jack, Reversed Polarity	
-01SB1 = SMA Straight Jack, Sealed Bulkhead -01SR1 = SMA Straight Jack, Sealed Bulkhead, Reversed Polarity (30μ" (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.

RF174-07SP1-01BJ1-0300



RF174-01RP1-02RP1-0200

# 50Ω RG 174 CABLE ASSEMBLIES

## SPECIFICATIONS

For complete specifications see [www.samtec.com?RF174](http://www.samtec.com?RF174)

### RF Connector:

**Outer Contact Material:**  
 Ni plated Brass (BNC)  
 Au plated Brass (SMB & SMA)  
 Au plated BeCu (MCX & MMCX)  
**Center Contact Material:**  
 Au plated Brass (BNC-P, MCX-P, MMCX-P & SMA-P)  
 Au plated BeCu (SMB-P & SMA-J)  
 Au plated Phos. Bronze (BNC-J)  
**Insulator Material:**  
 PTFE

**Operating Temperature:**  
 -50°C to +90°C

**Insulator Resistance:**  
 5,000 MΩ

**Impedance:**  
 50Ω

**Frequency Range:**  
 0-6 GHz  
 (Cable & connector dependent)

**RoHS Compliant:**  
 Yes

### RG 174 Cable:

**Impedance:**  
 50Ω  
**Capacitance:**  
 101.024 pF/meter  
**Max Attenuation (cable only):**  
 1.4dB @ 1 GHz for 1 meter  
**Conductor Size:**  
 26 AWG, (0.48 mm) .019" dia.  
**Conductor Material:**  
 Copper  
**Insulator Material:**  
 LEP  
**Shield Material:**  
 Tin Copper  
**Jacket Material:**  
 PVC

**Jacket Diameter:**  
 (2.70 mm) .106"  
**Jacket Color:**  
 Black

**Bend Radius:**  
 25.4 mm  
**RoHS Compliant:**  
 Yes

**Mates with:**  
 MCX, MMCX, MMCXV,  
 SMA, SMB5, BNC5,  
 TNC, NTPPE

## THINK OUTSIDE THE CATALOG

- Create a full system: cable assembly and board level mates, 50Ω and 75Ω solutions
- 24-hour samples on standard products
- Visit: [rf.samtec.com](http://rf.samtec.com)



Standard performance 26 AWG RG 174 coax cable

2.3dK

Plugs and Jacks

Straight or Right Angle

Single or Double Ended

CABLE TYPE

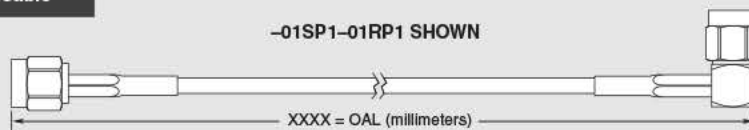
END 1 CONNECTOR

END 2 CONNECTOR

RF174 = RG 174 Cable

Specify END OPTIONS from chart

-01SP1-01RP1 SHOWN



END OPTIONS	
-01SP1 = SMA Straight Plug (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	
-01RP1 = SMA Right Angle Plug (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	
-07SP1 = SMB Straight Plug (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	
-07RP1 = SMB Right Angle Plug (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	
-02SJ1 = MCX Straight Jack (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	

END OPTIONS	
-02RP1 = MCX Right Angle Plug (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	
-02SP1 = MCX Straight Plug (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	
-03SP1 = MMCX Straight Plug (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	
-03RP1 = MMCX Right Angle Plug (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	
-V3SP1 = MMCXV Straight Plug, High Vibration (30µ" (0.76 µm) Gold on Center Contact, Nickel on Shell)	
-V3RP1 = MMCXV Right Angle Plug, High Vibration (30µ" (0.76 µm) Gold on Center Contact, Nickel on Shell)	
-V3SJ1 = MMCXV Straight Jack, High Vibration (30µ" (0.76 µm) Gold on Center Contact, Nickel on Shell)	





RF174-03RP1-07RP1-0200



RF174-02RP1-02SP1-0200



RF174-04BJ2-07SP1-0100

**RF174 SERIES**



Heavy Gold plated

Standard heat shrink wraps

Choice of RF connector styles

**ALSO AVAILABLE**  
(MOQ Required)

- Additional stripping and tinning options
- IP67 TNC option
- Additional plating options
- Additional end connector combinations
- Knurled nuts with BNC option
- Contact Samtec.



Variety of Bulkhead Jacks

Single or Double ended

**OTHER SOLUTIONS**

- Cable connector kits (see cable components catalog pages)

**OVERALL LENGTH**

—“XXXX”

= Overall Length in millimeters —0100 (100 mm) minimum  
(Cable lengths larger than 1000 millimeters are not supported by S.I. Test data)

END OPTIONS	
<p>–04SP3 = BNC Straight Plug (10µ" (0.25 µm) Gold on Center Contact, Nickel on Shell)</p>	
<p>–05SP3 = TNC Straight Plug (10µ" (0.25 µm) Gold on Center Contact, Nickel on Shell)</p>	
<p>–07BJ1 = SMB Bulkhead Jack (30µ" (0.76 µm) Gold on Center Contact, Gold flash on Shell)</p>	
<p>–01BJ1 = SMA Straight Bulkhead Jack –01SB1 = SMA Straight Bulkhead Jack, Sealed –01SR1 = SMA Straight Bulkhead Jack, Sealed, Reversed Polarity –01BR1 = SMA Straight Bulkhead Jack, Reversed Polarity (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)</p>	

END OPTIONS	
<p>–01PN1 = SMA 4-Hole Panel Mount Jack (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)</p>	
<p>–04BJ2 = BNC Bulkhead Jack (30µ" (0.76 µm) Gold on Center Contact, Nickel on Shell)</p>	
<p>–05BJ3 = TNC Bulkhead Jack (10µ" (0.25 µm) Gold on Center Contact, Nickel on Shell)</p>	
<p>–06BJ2 = N Type Bulkhead Jack (30µ" (0.76 µm) Gold on Center Contact, Nickel on Shell)</p>	

END OPTIONS	
<p>–SING = Single Ended (End 2 Callout)</p>	
<p>XXXXXX = Stripped &amp; Tinned (End 2 Callout)</p>	

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.



RF316-07SP1-01BJ1-0300



RF316-01RP1-02RP1-0200

# 50Ω RG 316 CABLE ASSEMBLIES

## SPECIFICATIONS

For complete specifications see [www.samtec.com?RF316](http://www.samtec.com?RF316)

### RF Connector:

**Outer Contact Material:**  
Ni plated Brass (BNC)  
Au plated Brass (SMB & SMA)  
Au plated BeCu (MCX & MMCX)  
**Center Contact Material:**  
Au plated Brass (BNC-P, MCX-P, MMCX-P & SMA-P)  
Au plated BeCu (SMB-P & SMA-J)  
Au plated Phos. Bronze (BNC-J)  
**Insulator Material:**  
PTFE

### Operating Temperature:

-50°C to +165°C

### Insulator Resistance:

5,000 MΩ

### Impedance:

50Ω

### Frequency Range:

0-6 GHz  
(Cable & connector dependent)

### RoHS Compliant:

Yes

### RG 316 Cable:

#### Impedance:

50Ω

#### Capacitance:

96.432 pF/meter

#### Max Attenuation

(cable only):

1.25dB @ 1 GHz for 1 meter

#### Conductor Size:

26 AWG, (0.51 mm) .020" dia.

#### Conductor Material:

Silver Plated Copper

#### Insulator Material:

PTFE

#### Shield Material:

Silver Plated Copper Clad Steel

#### Jacket Material:

FEP

#### Jacket Diameter:

(2.54 mm) .100"

#### Jacket Color:

Amber

#### Bend Radius:

12.7 mm

#### RoHS Compliant:

Yes

### Mates with:

MCX, MMCX, MMCXV,  
SMA, SMB5, BNC5,  
TNC, NTPPE

## THINK OUTSIDE THE CATALOG

- Create a full system: cable assembly and board level mates, 50Ω and 75Ω solutions
- 24-hour samples on standard products
- Visit: [rf.samtec.com](http://rf.samtec.com)



High performance 26 AWG  
RG 316 coax cable

Plugs and  
Jacks

Straight or  
Right Angle

Double shielded  
RG 316 cable  
also available  
(RS316 Series)

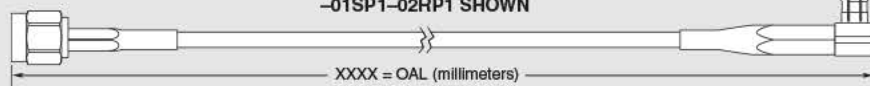
CABLE TYPE

END 1  
CONNECTOREND 2  
CONNECTOR

**RF316**  
= RG 316 Cable,  
Single Braid Shield

Specify END OPTIONS from chart

-01SP1-02RP1 SHOWN



END OPTIONS	
-01SP1 = SMA Straight Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-01RP1 = SMA Right Angle Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-07SP1 = SMB Straight Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-07RP1 = SMB Right Angle Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-02SJ1 = MCX Straight Jack (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	

END OPTIONS	
-02RP1 = MCX Right Angle Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-02SP1 = MCX Straight Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-03SP1 = MMCX Straight Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-03RP1 = MMCX Right Angle Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-V3SP1 = MMCXV Straight Plug, High Vibration (30μ" (0.76 μm) Gold on Center Contact, Nickel on Shell)	
-V3RP1 = MMCXV Right Angle Plug, High Vibration (30μ" (0.76 μm) Gold on Center Contact, Nickel on Shell)	
-V3SJ1 = MMCXV Straight Jack, High Vibration (30μ" (0.76 μm) Gold on Center Contact, Nickel on Shell)	

## OTHER SOLUTIONS

- Double shielded RG 316 cable available, see RS316 Series
- Cable connector kits (see cable components catalog pages)





RF316-03RP1-07RP1-0200



RF316-02RP1-02SP1-0200



RF316-04BJ2-07SP1-0100

**RF316 SERIES**



**ALSO AVAILABLE**  
(MOQ Required)

- Additional stripping and tinning options
- IP68 Sealed AccliMate™ end options
- IP67 TNC option
- Additional plating options
- Additional end connector combinations
- Knurled nuts with BNC option
- Contact Samtec.

**OVERALL LENGTH**

—“XXXX”

= Overall Length in millimeters -0100 (100 mm) minimum  
(Cable lengths larger than 1000 millimeters are not supported by S.I. Test data)

END OPTIONS		END OPTIONS		END OPTIONS																								
-04SP3 = BNC Straight Plug (10µ" (0.25 µm) Gold on Center Contact, Nickel on Shell)		-01PN1 = SMA 4-Hole Panel Mount Jack (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)		-SING = Single Ended (End 2 Callout)																								
-05SP3 = TNC Straight Plug (10µ" (0.25 µm) Gold on Center Contact, Nickel on Shell)		-04BJ2 = BNC Bulkhead Jack (30µ" (0.76 µm) Gold on Center Contact, Nickel on Shell)		XXXXXX = Stripped & Tinned (End 2 Callout)																								
-07BJ1 = SMB Bulkhead Jack (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)		-05BJ3 = TNC Bulkhead Jack (10µ" (0.25 µm) Gold on Center Contact, Nickel on Shell)																										
-01BJ1 = SMA Straight Bulkhead Jack		-06BJ2 = N Type Bulkhead Jack (30µ" (0.76 µm) Gold on Center Contact, Nickel on Shell)		<b>STRIPPED &amp; TINNED</b> (Dimensions in mm)																								
-01SB1 = SMA Straight Bulkhead Jack, Sealed				<table border="1"> <thead> <tr> <th>CALLOUT</th> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>-303030</td> <td>3.0</td> <td>3.0</td> <td>3.0</td> </tr> <tr> <td>-303040</td> <td>3.0</td> <td>3.0</td> <td>4.0</td> </tr> <tr> <td>-403030</td> <td>4.0</td> <td>3.0</td> <td>3.0</td> </tr> <tr> <td>-403040</td> <td>4.0</td> <td>3.0</td> <td>4.0</td> </tr> <tr> <td>-404040</td> <td>4.0</td> <td>4.0</td> <td>4.0</td> </tr> </tbody> </table>	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
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																									
-01SR1 = SMA Straight Bulkhead Jack, Sealed, Reversed Polarity				Both center conductor and braid shield are stripped, only the center conductor is tinned.																								
-01BR1 = SMA Straight Bulkhead Jack, Reversed Polarity (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)																												



# 50Ω RG 178 CABLE ASSEMBLIES

## SPECIFICATIONS

For complete specifications see [www.samtec.com?RF178](http://www.samtec.com?RF178)

### RF Connector:

**Outer Contact Material:**  
Au plated Brass (SMA & SMB)  
Au plated BeCu (MCX & MMCX)  
Nickel (BNC & TNC)

### Center Contact Material:

Au plated Brass (MCX-P, MMCX-P, BNC, TNC & SMB)  
Au plated BeCu (SMA-J & MCX-J)

### Insulator Material:

PTFE

### Operating Temperature:

-50°C to +165°C

### Frequency Range:

0-5 GHz (Connector dependent)

### Insulator Resistance:

5,000 MΩ

### Impedance:

50Ω

### RoHS Compliant:

Yes

### RG 178 Cable:

#### Impedance:

50Ω

#### Capacitance:

89.61 pF/meter

#### Propagation Delay:

4.83 nsec/meter

#### Max Attenuation (cable only):

1.7dB @ 1 GHz for 1 meter

#### Conductor Size:

30 AWG, (0.31 mm) .012" dia.

#### Conductor Material:

Silver Plated Copper

#### Conductor Resistance:

0.34Ω/meter max

#### Current Rating:

3A DC

#### Insulator Diameter:

(0.86 mm) .034"

#### Insulator Material:

PTFE

#### Dielectric Constant:

2.1dK

#### Shield Material:

Silver Plated Copper Clad Steel

#### Jacket Material:

FEP

#### Jacket Diameter:

(1.80 mm) .071"

#### Jacket Temp Rating:

-50°C to +165°C

#### Jacket Color:

Amber

#### Bend Radius:

10.2 mm

#### RoHS Compliant:

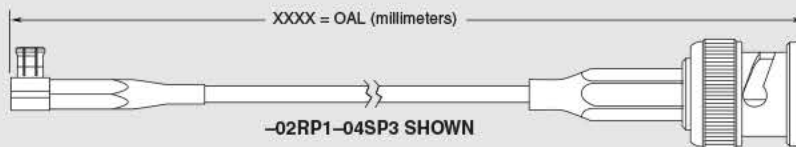
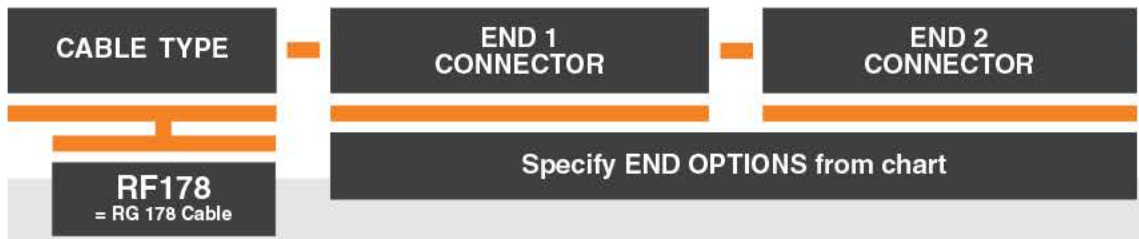
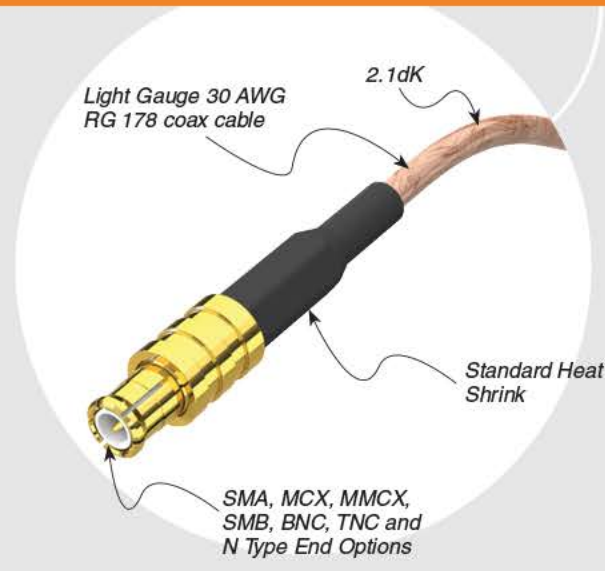
Yes

### Mates with:

MCX, MMCX, BNC5,  
TNC, SMA, SMB5, NTPE

## THINK OUTSIDE THE CATALOG

- Create a full system: cable assembly and board level mates, 50Ω and 75Ω solutions
- 24-hour samples on standard products
- Visit: [rf.samtec.com](http://rf.samtec.com)



END OPTIONS		END OPTIONS	
-01BJ1 = SMA Straight Bulkhead Jack		-02SP1 = MCX Straight Plug	
-01BR1 = SMA Straight Bulkhead Jack, Reversed Polarity		-03SP1 = MMCX Straight Plug	
(30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)		-03RP1 = MMCX Right Angle Plug	
-02SJ1 = MCX Straight Jack		(30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	
(30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)			
-02RP1 = MCX Right Angle Plug			
(30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)			



RF178-04SP3-02SJ1-0100

RF178-01BJ1-03RP1-0200

RF178-07BJ2-03SP1-0200

**RF178 SERIES**

Straight or Right Angle

Variety of Bulkhead Jacks

Single or Double ended

**ALSO AVAILABLE**  
(MOQ Required)

- Additional stripping and tinning options
- IP67 TNC option
- Additional plating options
- Additional end connector combinations Contact Samtec.

**OTHER SOLUTIONS**

- Cable connector kits (see cable components catalog pages)

**OVERALL LENGTH**

—“XXXX”

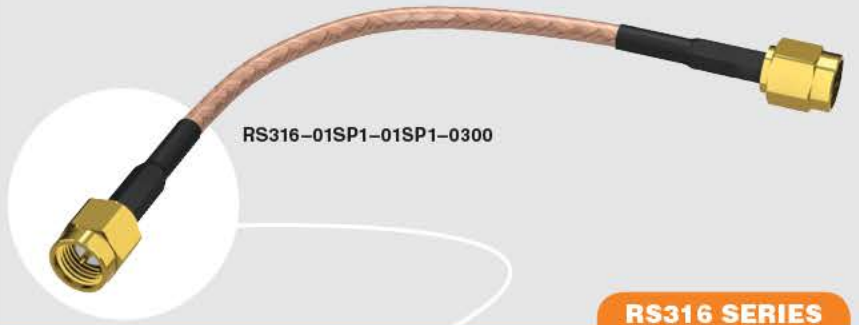
= Overall Length in millimeters -0100 (100 mm) 3.94" minimum

END OPTIONS		END OPTIONS	
-04SP3 = BNC Straight Plug (10µ" (0.25 µm)) Gold on Center Contact, Nickel on Shell)		-05BJ3 = TNC Straight Bulkhead Jack (10µ" (0.25 µm)) Gold on Center Contact, Nickel on Shell)	
-05SP3 = TNC Straight Plug (10µ" (0.25 µm)) Gold on Center Contact, Nickel on Shell)		-06BJ2 = NType Straight Bulkhead Jack (30µ" (0.76 µm)) Gold on Center Contact, Nickel on Shell)	
-04BJ2 = BNC Straight Bulkhead Jack (30µ" (0.76 µm)) Gold on Center Contact, Nickel on Shell)		-SING = Single Ended (End 2 Callout)	
-07BJ2 = SMB Straight Bulkhead Jack (30µ" (0.76 µm)) Gold on Center Contact, Nickel on Shell)		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.



RS316 SERIES

# 50Ω DOUBLE SHIELDED RG 316 CABLE

## SPECIFICATIONS

For complete specifications see [www.samtec.com?RS316](http://www.samtec.com?RS316)

### RF Connector:

Outer Contact Material:  
Ni plated Brass (BNC),  
Au plated Brass (SMA),  
Au plated BeCu (MCX, MMCX)

Center Contact Material:  
Au plated Brass  
(SMA, MCX, MMCX),  
Au plated Phosphor Bronze  
(BNC)

Insulator Material:  
PTFE

Operating Temperature:  
-50°C to +165°C

Insulator Resistance:  
5,000 MΩ

Impedance: 50Ω

Frequency Range:  
0-6 GHz  
(Cable & connector dependent)

RoHS Compliant: Yes

### RG 316 DS Cable:

Impedance: 50Ω

Capacitance:

95.8 pF/meter

Max Attenuation

(cable only):

1.4dB @ 2 GHz for 1 meter

Conductor Size:

26 AWG, (0.51 mm) .020" dia.

Conductor Material:

Silver Plated Copper

Insulator Material: FEP

Shield 1 Material:

Silver Plated Copper

Shield 2 Material:

Silver Plated Copper

Jacket Material: FEP

Jacket Diameter:

(2.90 mm) .114"

Jacket Color: Amber

Bend Radius:

12.8 mm

RoHS Compliant: Yes

Mates with:  
SMA, MCX,  
MMCX, TNC, BNC

## THINK OUTSIDE THE CATALOG

- Create a full system: cable assembly and board level mates, 50Ω and 75Ω solutions
- 24-hour samples on standard products
- Visit: [rf.samtec.com](http://rf.samtec.com)



Straight SMA Plugs



Double shielded,  
26 AWG RG 316  
coax cable

## ALSO AVAILABLE (MOQ Required)

- Additional stripping and tinning options
- Contact Samtec.



## OTHER SOLUTIONS

- Single shielded RG 316 cable available, see RF316 Series
- Cable connector kits (see cable components catalog pages)

END OPTIONS	
-01SP1 = SMA Straight Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
02SJ1 = MCX Straight Jack (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-02SP1 = MCX Straight Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-03SP1 = MMCX Straight Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
05SP3 = TNC Straight Plug (10μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)	

END OPTIONS	
-01BJ1 = SMA Straight Bulkhead Jack (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-04BJ2 = BNC Bulkhead Jack (30μ" (0.76 μm) Gold on Center Contact, Nickel 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.



RF058-01SP1-01SP1-0100



RF058-05SR3-05SR3-0100

**RF058 SERIES**

# 50Ω RG 58 CABLE ASSEMBLIES

**SPECIFICATIONS**

For complete specifications see [www.samtec.com?RF058](http://www.samtec.com?RF058)

**RF Connector:**

**Outer Contact Material:**  
Ni plated Brass (TNC, N Type), Au plated Ni (SMA)

**Center Contact Material:**  
Au plated Ni (TNC, N Type), Au plated Brass (SMA)

**Insulator Material:**  
PTFE

**Insulator Resistance:**  
5,000 MΩ

**Frequency Range:**  
0-1 GHz

**Impedance:**  
50Ω

**RoHS Compliant:**  
Yes

**RG 58 Cable:**

**Impedance:**  
50Ω

**Capacitance:**  
101pF/meter

**Max Attenuation (cable only):**  
0.8dB @ 1 GHz

**Conductor Size:**  
20 AWG, (0.90 mm) .036" dia.

**Conductor Material:**  
Tinned Copper

**Insulator Diameter:**  
(2.95 mm) .116"

**Insulator Material:**  
Solid Polyethylene

**Shield Material:**  
Tinned Copper

**Jacket Material:**  
PVC

**Jacket Diameter:**  
(4.95 mm) .195" dia.

**Bend Radius:**  
48.3 mm

**Jacket Temp Rating:**  
-40°C to +85°C

**RoHS Compliant:**  
Yes

**Mates with:**  
TNC, SMA, NTPE

**THINK OUTSIDE THE CATALOG**

- Create a full system: cable assembly and board level mates, 50Ω and 75Ω solutions
- 24-hour samples on standard products
- Visit: [rf.samtec.com](http://rf.samtec.com)



20 AWG  
RG 58 coax cable



Single or Double Ended

SMA, TNC or N Type end options

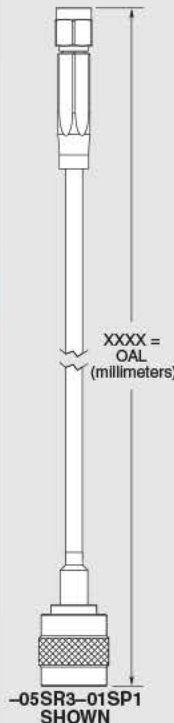
**RF058**

**END 1 CONNECTOR**

**END 2 CONNECTOR**

**OVERALL LENGTH**

Specify END OPTIONS from chart



END OPTIONS	
-01SP1 = SMA Straight Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Outer Contact and Shell)	
-05SR3 = TNC Reversed Polarity Straight Plug (10μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)	
-06SP3 = NType Straight Plug (10μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)	
-01BJ1 = SMA Straight Bulkhead Jack -01SB1 = SMA Straight Bulkhead Jack, Sealed (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Outer Contact and Shell)	
-SING = Single Ended (End 2 Callout)	
-XXXXXX = Stripped & Tinned (End 2 Callout)	

–“XXXX” = Overall Length in millimeters –0100 (100 mm) 3.94" minimum

**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.

**ALSO AVAILABLE (MOQ Required)**

- Additional stripping and tinning options
  - Additional plating options
  - Additional end connector options
- Contact Samtec.

**OTHER SOLUTIONS**

- Cable connector kits (see cable components catalog pages)



RF047-11RP9-11SP9-0100



RF047-01SP1-11SP9-0100

## RF047 SERIES

# 50Ω .047" DIA FLEXIBLE COAX CABLE

## SPECIFICATIONS

For complete specifications see [www.samtec.com?RF047](http://www.samtec.com?RF047)

### RF Connector:

**Outer Contact Material:**

Brass (SMA),  
BeCu (HMHF1)

**Contact Material:**

Brass (SMA),  
BeCu (HMHF1)

**Insulator Material:**

PTFE

**Impedance:**

50Ω

**Frequency Range:**

0-10 GHz (HMHF1)

0-20 GHz (SMA)

**V.S.W.R.:**

1.4 max (SMA)

**Dielectric Withstanding:**

1,000 Vrms (SMA)

**Contact Resistance (SMA):**

Center Contact: 6mΩ max

Outer Contact: 2mΩ max

**Insulator Resistance (SMA):**

5,000 MΩ min

### CCA-047 (.047")

**Cable:**

**Impedance:**

50Ω microwave

**Capacitance:**

95.14 pF/meter

**Max Attenuation (cable only):**

1.15 @ 1 GHz for 1 meter

**Conductor Size:**

30 AWG (0.29 mm) .011" dia.

**Conductor Material:**

Silver plated copper

**Insulator Material:**

FEP

**Shield Material:**

Metallic Alloy

**Jacket Material:**

FEP

**Jacket Diameter:**

(1.42 mm) .056" dia.

**Bend Radius:**

5 mm

Mates with:

SMA, RSP-122811-01

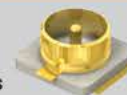
HMHF1 U.FL plugs  
to 500 cycles

(1.2 mm) .047" DIA  
flexible coax cable

High frequency  
performance to 10 GHz  
with high cycle U.FL

## MATING SOLUTION

- Micro RF PCB connectors for Micro High Frequency RFs
- HMHF1 end mates with RSP-122811-01 (Cycles: 30 max.)



### CABLE TYPE

**RF047**  
= (1.2 mm) .047" DIA  
30 AWG Flexible coax cable

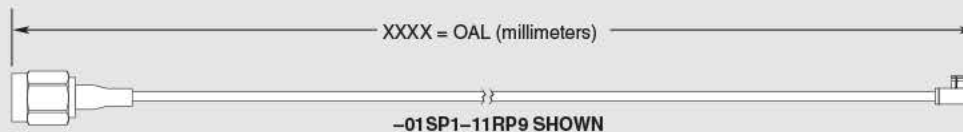
### END 1 CONNECTOR

Specify END OPTIONS from chart

### END 2 CONNECTOR

### OVERALL LENGTH

– "XXXX"  
= Overall Length  
in millimeters  
–0100 (100 mm) 3.94"  
minimum



## ALSO AVAILABLE (MOQ Required)

- Additional stripping and tinning options Contact Samtec.

## OTHER SOLUTIONS

- Cable connector kits (see cable components catalog pages)

### END OPTIONS

–01SP1 = SMA Straight Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
–11SP9 = HMHF1 U.FL Straight Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
–11RP9 = HMHF1 U.FL Right Angle Plug (30μ" (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.





RF405-01SP1-01RP1-0500

RF405-00SJ7-00SJ7-0500

## RF405 SERIES

# 50Ω .086" DIA SEMI-FLEXIBLE CABLE

## SPECIFICATIONS

For complete specifications see [www.samtec.com?RF405](http://www.samtec.com?RF405)

### RF Connector:

#### Shell Material:

Brass (SMA),  
Au plated BeCu (SMP)

#### Contact Material:

Brass (SMA),  
Au plated BeCu (SMP)

#### Impedance:

50Ω

#### Frequency Range:

0-20 GHz (SMA),  
DC to 20 GHz (SMP)

#### V.S.W.R.:

1.4 max (SMA, SMP)

#### Dielectric Withstanding:

1,000 Vrms (SMA),  
500 Vrms min (SMP)

#### Contact Resistance

(SMA & SMP):  
Center Contact: 6mΩ max  
Outer Contact: 2mΩ max

#### Insulator Resistance

(SMA & SMP):  
5,000 MΩ min

### RG 405 (.086")

#### Cable:

Impedance:  
50Ω microwave

#### Capacitance:

96.79 pF/meter

#### Max Attenuation (cable only):

1.20 @ 1 GHz for 1 meter

#### Conductor Size:

24 AWG (0.56 mm) .022" dia.

#### Conductor Material:

Silver plated copper clad steel

#### Insulator Material:

PTFE

#### Shield Material:

Tinned Copper

#### Bend Radius:

3.18 mm

#### RoHS Compliant:

Yes

Mates with:  
SMA, SMP

## THINK OUTSIDE THE CATALOG

- Create a full system: cable assembly and board level mates, 50Ω and 75Ω solutions
- 24-hour samples on standard products
- Visit: [rf.samtec.com](http://rf.samtec.com)



Hand-formable  
semi-flexible cable

(2.18 mm)  
.086" DIA cable

Choice of SMA or  
SMP terminations

### CABLE TYPE

### END 1 CONNECTOR

### END 2 CONNECTOR

### OVERALL LENGTH

#### RF405

= (2.18 mm) .086" DIA  
24 AWG Semi-flexible  
coax cable

Specify  
END OPTIONS  
from chart

–“XXXX”

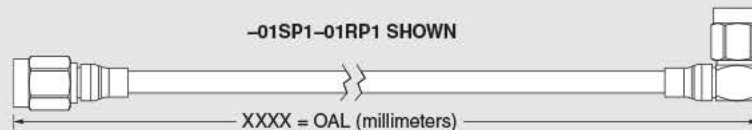
= Overall Length in millimeters  
–0100 (100 mm) 3.94" minimum

### STRIPPED & TINNED (Dimensions in mm)

CALLOUT	A	B
-3030	3.0	3.0
-4030	4.0	3.0
-4040	4.0	4.0

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

-01SP1-01RP1 SHOWN



XXXX = OAL (millimeters)

## ALSO AVAILABLE (MOQ Required)

- Additional stripping and tinning options
- Contact Samtec.

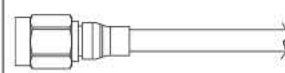
## OTHER SOLUTIONS

- Cable connector kits (see cable components catalog pages)

Note: Cable lengths longer than (1000 mm) 39.40" are not supported with S.I. test data.

### END OPTIONS

-01SP1 = SMA  
Straight Plug  
(30μ" (0.76 μm) Gold on  
Center Contact,  
Gold Flash on Shell)

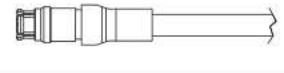


-01RP1 = SMA  
Right Angle Plug  
(30μ" (0.76 μm) Gold on  
Center Contact,  
Gold Flash on Shell)



### END OPTIONS

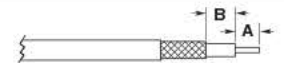
-00SJ7 = SMP  
Straight Jack  
(10μ" (0.25 μm) Gold on  
Center Contact,  
Gold Flash on Shell)



-00RJ7 = SMP  
Right Angle Jack  
(10μ" (0.25 μm) Gold on  
Center Contact,  
Gold Flash on Shell)



XXXX =  
Stripped & Tinned  
(End 2 callout)





RF402-01SP1-01RP1-0500

RF402-01RP1-01SP1-0500

## RF402 SERIES

# 50Ω .141" DIA SEMI-FLEXIBLE CABLE

## SPECIFICATIONS

For complete specifications see [www.samtec.com?RF402](http://www.samtec.com?RF402)

### RF Connector:

Shell Material: Brass  
 Contact Material: Brass  
 Insulator Material: PTFE  
 Impedance: 50Ω  
 Frequency Range: 0-20 GHz  
 V.S.W.R: 1.4 max  
 Dielectric Withstanding: 1,000 Vrms  
 Contact Resistance: Center Contact: 6mΩ max  
 Outer Contact: 2mΩ max  
 Insulator Resistance: 5,000 MΩ min

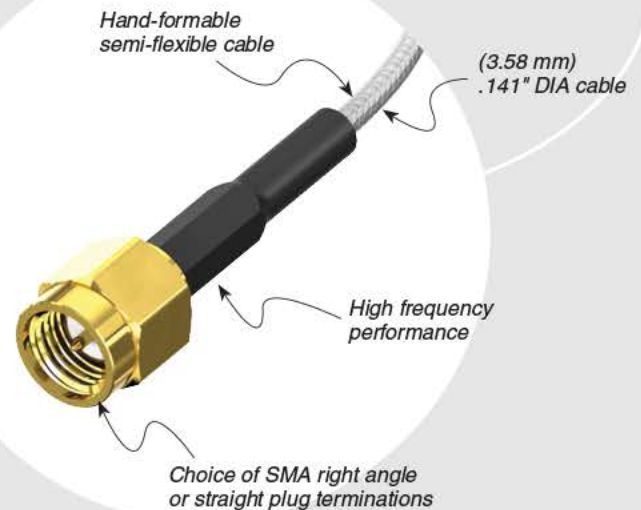
### RG 402 (.141")

Cable:  
 Impedance: 50Ω microwave  
 Capacitance: 96.79 pF/meter  
 Max Attenuation (cable only): 0.48 @ 1 GHz for 1 meter  
 Conductor Size: 19 AWG (0.92 mm) .036" dia.  
 Conductor Material: Silver plated copper clad steel  
 Insulator Material: PTFE  
 Shield Material: Tinned Copper  
 Bend Radius: 6.35 mm  
 RoHS Compliant: Yes

Mates with:  
**SMA**

## THINK OUTSIDE THE CATALOG

- Create a full system: cable assembly and board level mates, 50Ω and 75Ω solutions
- 24-hour samples on standard products
- Visit: [rf.samtec.com](http://rf.samtec.com)



### CABLE TYPE

**RF402**  
 = (3.58 mm) .141" DIA  
 19 AWG Semi-flexible  
 coax cable

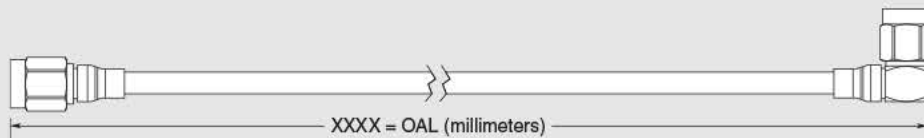
### END 1 CONNECTOR

Specify END OPTIONS from chart

### END 2 CONNECTOR

### OVERALL LENGTH

– “XXXX”  
 = Overall Length  
 in millimeters  
 –0100 (100 mm) 3.94"  
 minimum



## ALSO AVAILABLE (MOQ Required)

- Additional stripping and tinning options  
 Contact Samtec.

## OTHER SOLUTIONS

- Cable connector kits (see cable components catalog pages)

Note: Cable lengths longer than (1000 mm) 39.40" are not supported with S.I. test data.

### END OPTIONS

<b>-01SP1 = SMA</b> Straight Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
<b>-01RP1 = SMA</b> Right Angle Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
<b>XXXX =</b> Stripped & Tinned (End 2 callout)	

### STRIPPED & TINNED (Dimensions in mm)

CALLOUT	A	B
-3030	3.0	3.0
-4030	4.0	3.0
-4040	4.0	4.0

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





RFA6T, RFB6T SERIES

# 75Ω OPTIMIZED BNC CABLE ASSEMBLIES

## SPECIFICATIONS

For complete specifications see [www.samtec.com?RFA6T](http://www.samtec.com?RFA6T) or [www.samtec.com?RFB6T](http://www.samtec.com?RFB6T)

### RF Connector:

**Outer Contact Material:**  
Ni plated Brass (BNC),  
Au plated BeCu (DIN),  
Au plated Phosphor Bronze (HDBNC)

**Center Contact Material:**  
Gold plated Brass

**Insulator Material:**  
PTFE

**Operating Temperature:**  
-65°C to +125°C

**Impedance:**

75Ω ± 3Ω (-ST)

75Ω ± 4Ω (-RA)

**Frequency Range:**  
0-3.5 GHz \*

**Working Voltage:**  
500 Vrms max

**Dielectric Withstanding:**  
1500 Vrms min \*

**Contact Resistance:**

Center Contact: 1.5mΩ max

Outer Contact: 0.4mΩ max

RoHS Compliant: Yes

### RG 6/1694A Cable:

**Impedance:**  
75Ω ± 3Ω

**Capacitance:**  
54 ± 3pF/meter

**Max Attenuation**

(cable only):  
0.21dB @ 1GHz for 1 meter

**Conductor Size:**  
18 AWG, (1.02 mm) .040" dia.

**Conductor Material:**  
Bare Copper

**Insulator Material:**  
Gas Injected Foamed Polyethylene

**Shield Material:**  
Tinned Copper Braid over Aluminum Foil Wrap

**Jacket Material:** PVC

**Jacket Diameter:**  
(7.00 mm) .275"

**Bend Radius:** 69.85 mm

**Jacket Color:** Black

RoHS Compliant: Yes

\* See connector component pages for specific range.

Mates with:  
BNC7T, DIN7A, HDBNC

18 AWG 75Ω  
RG 6 coax cable,  
or 1694A Belden cable

## THINK OUTSIDE THE CATALOG

- Create a full system: cable assembly and board level mates, 50Ω and 75Ω solutions
- 24-hour samples on standard products
- Visit: [rf.samtec.com](http://rf.samtec.com)



## ALSO AVAILABLE (MOQ Required)

- Additional stripping and tinning options
  - Additional plating options
- Contact Samtec.

## OTHER SOLUTIONS

- Hand tool available. Contact [RFGroup@samtec.com](mailto:RFGroup@samtec.com)
- Cable connector kits (see cable components catalog pages)

### CABLE TYPE

### END 1 CONNECTOR

### END 2 CONNECTOR

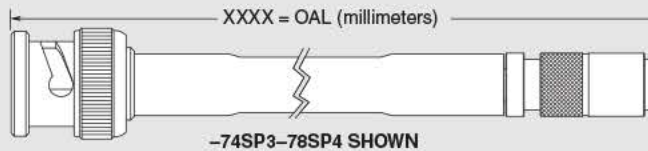
### OVERALL LENGTH

RFA6T  
= RG 6 Cable

RFB6T  
= Belden  
1694A Cable

Specify END OPTIONS from chart

—“XXXX”  
= Overall Length  
in millimeters  
—0300 (300 mm)  
11.81" minimum



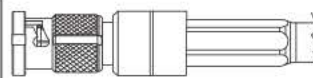
### STRIPPED & TINNED (Dimensions in mm)

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

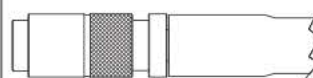
Both center conductor and braid shield are stripped, only the center conductor is tinned.

### END OPTIONS

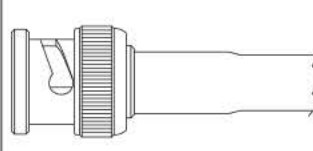
-H4SP3 = 75Ω High Density BNC Straight Plug  
(10μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)



-78SP4 = 75Ω DIN Straight Plug  
(10μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)

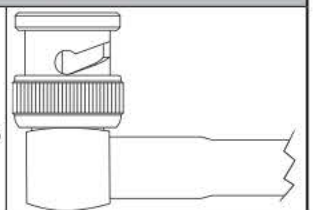


-74SP3\* = 75Ω BNC Straight Plug  
(10μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)  
  
(\*Die Cast also available = -D4SP3)



### END OPTIONS

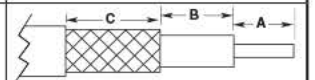
-74RP3 = 75Ω BNC Right Angle Plug  
(10μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)

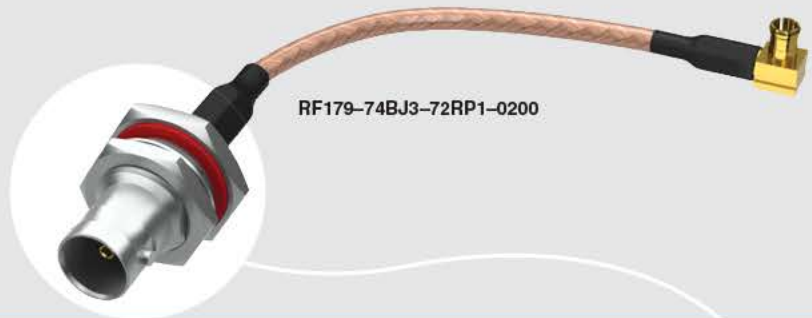


-SING = Single Ended (End 2 callout)



-XXXXXX = Stripped & Tinned (End 2 callout) (See chart for callout)





RF179-74BJ3-72RP1-0200

# 75Ω OPTIMIZED RG 179 CABLES

## SPECIFICATIONS

For complete specifications see [www.samtec.com?RF179](http://www.samtec.com?RF179)

### RF Connector:

Outer Contact Material:  
Ni plated Brass

(BNC)  
Au plated Brass  
(SMB)

Au plated BeCu  
(MCX, MMCX7, DIN)

### Center Contact Material:

Au plated Brass  
(BNC-P, MCX, MMCX7)

Au plated BeCu  
(SMB)

Au plated Copper Alloy  
(DIN, BNC-J)

Insulator Material:  
PTFE

Operating Temperature:  
-50°C to +165°C

Impedance:  
75Ω

Frequency Range:  
0-4 GHz \*

(Cable & connector dependent)

RoHS Compliant:  
Yes

### RG 179 Cable:

Impedance:  
75Ω ±3Ω

Capacitance:  
64pF/meter

Propagation Delay:  
4.83 nsec/meter

Max Attenuation  
(cable only):

0.8dB @ 1GHz for 1 meter

Conductor Size:  
30 AWG, (0.31 mm) .012" dia.

Conductor Material:  
Silver Plated Copper

Conductor Resistance:  
0.34Ω/meter max

Current Rating:  
3A DC

Insulator Diameter:  
(1.6 mm) .063"

Insulator Material:  
PTFE

Dielectric Constant:  
1.8 dK

Shield Material:  
Silver Plated Copper

Jacket Material:  
FEP

Jacket Diameter:  
(2.54 mm) .100"

Bend Radius:  
10.2 mm

Jacket Temp Rating:  
-55°C to +165°C

Jacket Color:  
Amber

RoHS Compliant:  
Yes

\* See connector component pages for specific range.

Note:  
Designed to meet SMPTE 424M 3G-SDI specifications.

Mates with:  
BNC7T, MCX7, MMCX7,  
SMB7H, DIN7A

## THINK OUTSIDE THE CATALOG

- Create a full system: cable assembly and board level mates, 50Ω and 75Ω solutions
- 24-hour samples on standard products
- Visit: [rf.samtec.com](http://rf.samtec.com)



30 AWG  
75Ω RG 179  
coax cable



Standard Heat Shrink

Single or Double Ended

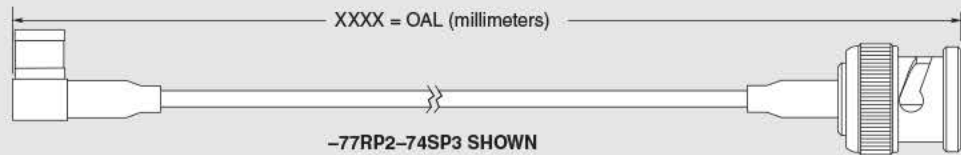
CABLE TYPE

END 1 CONNECTOR

END 2 CONNECTOR

RF179  
= RG 179 Cable

Specify END OPTIONS from chart



END OPTIONS		END OPTIONS	
-73SP4 = 75Ω MMCX7 Straight Plug (10μ" (0.25 μm) Gold on Center Contact, Gold Flash on Shell)		-72RP1 = 75Ω MCX Right Angle Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-73RP1 = 75Ω MMCX7 Right Angle Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)		-72SP1 = 75Ω MCX Straight Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-73SJ4 = 75Ω MMCX7 Straight Jack (10μ" (0.25 μm) Gold on Center Contact, Gold Flash on Shell)		-77SP1 = 75Ω SMB Straight Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	





RF179-78SP4-77SP1-0200



RF179-72SP1-73SJ4-0100

**RF179 SERIES**



Wide variety of 75Ω end options including BNC, MCX and SMB

Straight or Right Angle terminations



**ALSO AVAILABLE**  
(MOQ Required)

- Additional stripping and tinning options
- Additional plating options
- Additional end connector combinations Contact Samtec.

**OTHER SOLUTIONS**

- Cable connector kits (see cable components catalog pages)

**OVERALL LENGTH**

—“XXXX”

= Overall Length in millimeters -0100 (100 mm) 3.94" minimum

**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.

**END OPTIONS**

-77RP1 = 75Ω SMB Right Angle Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-74SP3 = 75Ω BNC Straight Plug -D4SP3 = 75Ω BNC Die Cast Straight Plug (10μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)	
-74BJ3 = 75Ω BNC Bulkhead Jack (10μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)	

**END OPTIONS**

-78SP4 = 75Ω DIN Straight Plug (10μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)	
-SING = Single Ended (End 2 callout)	
XXXXXX = Stripped & Tinned (End 2 callout)	



RFB8T SERIES

# 75Ω OPTIMIZED 1855A CABLE ASSEMBLIES

## SPECIFICATIONS

For complete specifications see [www.samtec.com?RFB8T](http://www.samtec.com?RFB8T)

**RF Connector:**  
**Outer Contact Material:** Ni plated Brass (BNC)  
 Au plated BeCu (DIN)  
**Center Contact Material:** Au plated Brass  
**Operating Temperature:** -65°C to +125°C  
**Impedance:** 75Ω ±2Ω (ST), 75Ω ±4Ω (RA)  
**Frequency Range:** 0-3.5 GHz\*  
**Working Voltage:** 250 Vrms (DIN), 330 Vrms (BNC)  
**Dielectric Withstanding:** 750 Vrms (DIN), 1000 Vrms (BNC)  
**Contact Resistance:** Center Contact: Testing Now!  
 Outer Contact: Testing Now!  
**RoHS Compliant:** Yes

**1855A Cable:**  
**Impedance:** 75Ω ±3Ω  
**Capacitance:** 56 ±3pF/meter  
**Max Attenuation (cable only):** 0.37dB @ 1GHz for 1 meter  
**Conductor Size:** 23 AWG, (0.58 mm) .023" dia.  
**Conductor Material:** Bare Copper  
**Insulator Material:** Gas Injected Foamed Polyethylene  
**Shield Material:** Tin Copper  
**Jacket Material:** PVC  
**Jacket Diameter:** (4.03 mm) .159"  
**Bend Radius:** 38.1 mm  
**Jacket Color:** Black  
**RoHS Compliant:** Yes

## ALSO AVAILABLE (MOQ Required)

- Additional stripping and tinning options
  - Additional plating options
- Contact Samtec.

## OTHER SOLUTIONS

- Hand tool available. Contact [RFGroup@samtec.com](mailto:RFGroup@samtec.com)
- Cable connector kits (see cable components catalog pages)

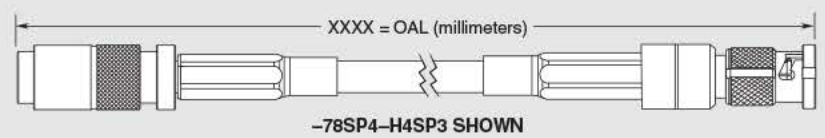
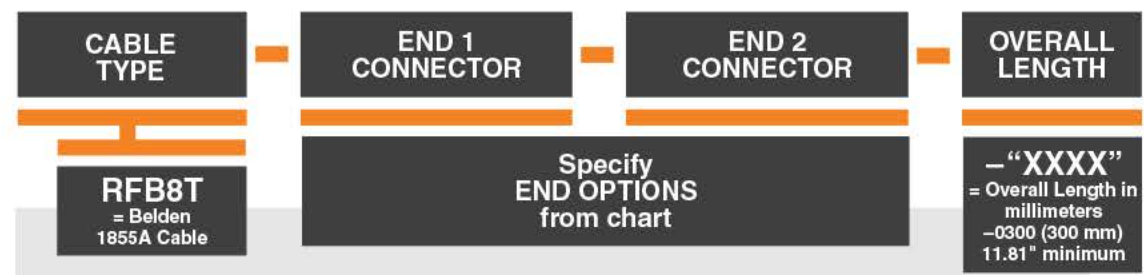
\* See connector component pages for specific range.

**Note:** Designed to meet SMPTE 424M 3G-SDI specifications.

Mates with: DIN7A, HDBNC

## THINK OUTSIDE THE CATALOG

- Create a full system: cable assembly and board level mates, 50Ω and 75Ω solutions
- 24-hour samples on standard products
- Visit: [rf.samtec.com](http://rf.samtec.com)



### 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.

END OPTIONS	
-H4SP3 = 75Ω High Density BNC Straight Plug (10μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)	
-78SP4 = 75Ω DIN Straight Plug (10μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)	

END OPTIONS	
-SING = Single Ended (End 2 callout)	
-XXXXXX = Stripped & Tinned (End 2 callout) (See chart for callout)	





# 50Ω & 75Ω CONNECTORS

## SUBMINATURE CONNECTORS

50Ω Passivated Stainless Steel 2.92 Jacks & Cable Components (292PS, 292PS-CA) .....	45-46
50Ω SMA Jacks & Cable Components (SMA, SMA-CA) .....	47-49
50Ω SMB Jacks & Plugs (SMB5) .....	50
75Ω True75™ SMB Jacks & Plugs (SMB7H) .....	51
50Ω SMP Jacks/Plugs & Adaptor (SMP) .....	52
75Ω True75™ DIN 1.0/2.3 Jacks & Plugs (DIN7A) .....	53

## MINI & MICRO-MINATURE CONNECTORS

50Ω MMCX & MCX Jacks & Plugs (MMCX, MMCX-SW, MCX) .....	54-56
50Ω MMCX & MCX Cable Components (MMCX-CA, MCX-CA) .....	57
75Ω True75™ MMCX & MCX Jacks & Plugs (MMCX7, MCX7) .....	58-59

## BAYONET & N TYPE CONNECTORS

75Ω True75™ High Density BNC Jacks & Cable Components (HDBNC, HDBNC-CA) .....	60-61
75Ω True75™ BNC Jacks & Plugs (BNC7T) .....	62
50Ω BNC Bulkhead Jacks & Plugs (BNC5) .....	63
N Type RF Cable Components (NTPE) .....	64

## ADAPTORS

50Ω & 75Ω Adaptors (ADP5, ADP7) .....	65-66
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## APPLICATIONS

50Ω Cable & Connectors .....	6-7
75Ω Cable & Connectors .....	8-9

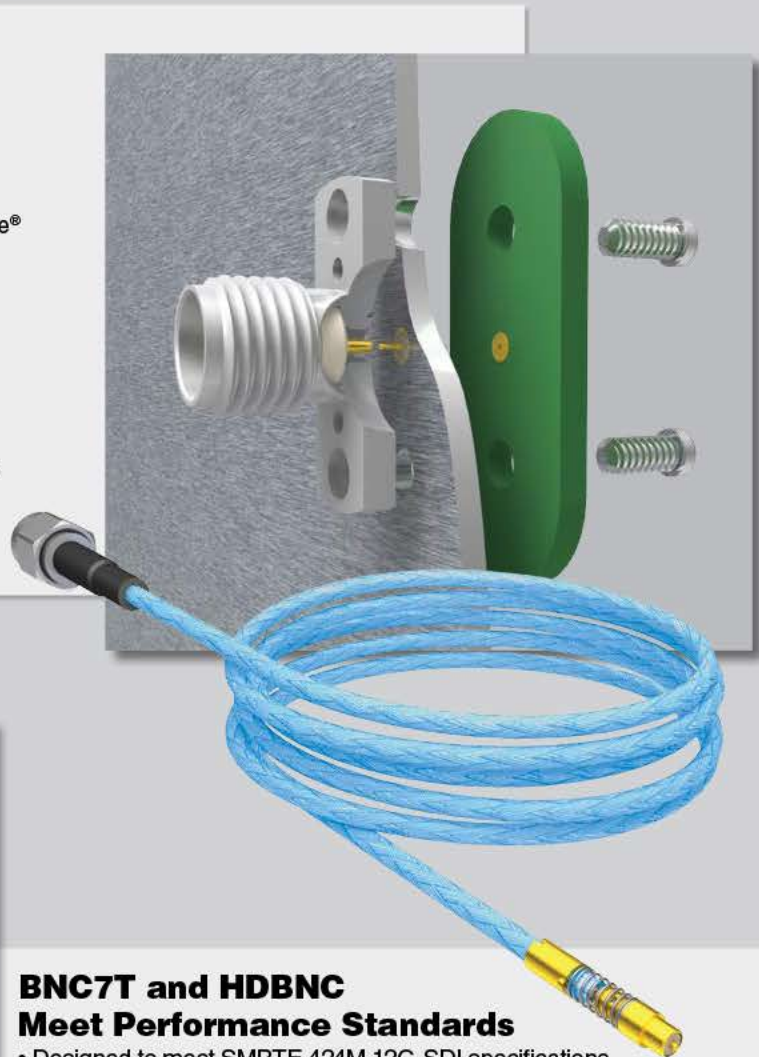


# HIGH SPEED RF SOLUTIONS

## Cable Assemblies And Board Level Connectors In Development

- 2.4 mm with performance up to 50 GHz
- 1.85 mm with performance up to 65 GHz
- High speed solutions will complement Bulls Eye®
- Compression mount to board
- 50Ω impedance
- Passivated stainless steel
- Vertical orientation board level connectors
- Straight cable connector end options

For more information on high speed RF solutions, contact [RFGroup@samtec.com](mailto:RFGroup@samtec.com)



## 12G SDI

BNC7T-TH



BNC7T-EM



HDBNC-EM



HDBNC-TH



## BNC7T and HDBNC Meet Performance Standards

- Designed to meet SMPTE 424M 12G-SDI specifications
- Ideal for the ever-evolving demands of the broadcast video industry
- Combined with other Samtec products such as SEARAY® and Edge Rate® on boards to produce 12G-SDI applications
- Through-hole and edge mount jacks available
- HDBNC provides 4X the panel density of traditional BNCs

For more information on 12G-SDI interconnect solutions, contact [RFGroup@samtec.com](mailto:RFGroup@samtec.com)





292PS-J-P-HP-ST-PN2



## 292PS SERIES

# 50Ω SMA 2.92 JACKS

## SPECIFICATIONS

For complete specifications and assembly instructions see [www.samtec.com?292PS-PN](http://www.samtec.com?292PS-PN)

**Shell Material:**

Stainless Steel

**Insert:**

Stainless Steel

**Socket:**

BeCu

**Insulator Material:**

PCTFE

**Impedance:**

50Ω

**Frequency Range:**

Testing Now!

**V.S.W.R.:**

Testing Now!

**Working Voltage:**

Testing Now!

**Dielectric Withstanding:**

Testing Now!

**Contact Resistance:**

Testing Now!

**Operating Temperature:**

Testing Now!

**RoHS Compliant:**

Yes

**Lead-Free Solderable:**

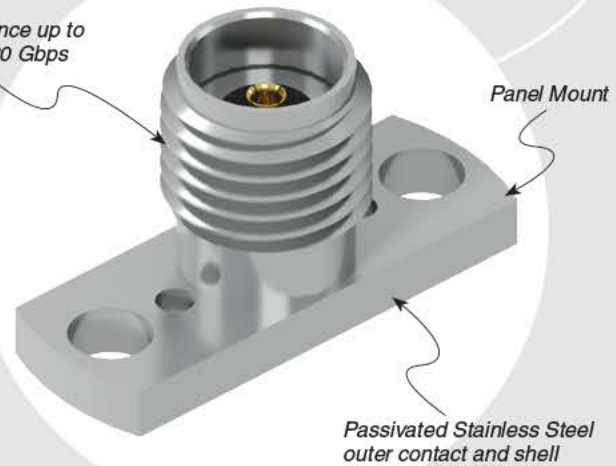
Yes

Mates with:  
RF23S, RF405, BE25S

## APPLICATION



Performance up to  
40 GHz/80 Gbps



TYPE

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

**292PS**  
= Passivated  
Stainless Steel

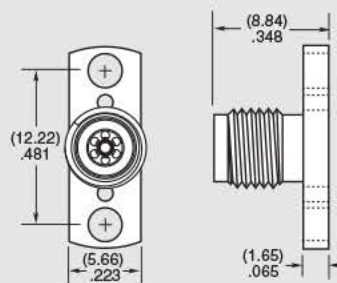
**-J**  
= Jack

**-P**  
= PCB  
Mount

**-HP**  
= 30μ"  
(0.76 μm) Gold  
center contact,  
Passivated  
outer contact

**-ST**  
= Straight

**-PN2**  
= Panel Mount





292PS-J-C-HP-ST-CS3



292PS-P-C-HP-ST-CS3

## 292PS-CA SERIES

# 50Ω SMA 2.92 COMPONENTS

## SPECIFICATIONS

For complete specifications and assembly instructions see [www.samtec.com?292PS-CA](http://www.samtec.com?292PS-CA)

**Shell Material:**

Stainless Steel

**Contact Material:**

Brass

**Cable Body:**

Stainless Steel

**Socket:**

BeCu

**Insulator Material:**

PCTFE

**Insert Material:**

Stainless Steel

**TYPE**

**292PS**  
= Passivated  
Stainless Steel

**GENDER**

**-J**  
= Jack

**TYPE**

**-C**  
= Cable

**PLATING**

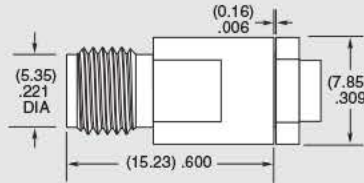
**-HP**  
= 30μ" (0.76 μm)  
Gold center contact,  
Passivated  
outer contact

**ORIENTATION**

**-ST**  
= Straight

**TERMINATION**

**-CS3**  
= MWC-2350-01  
23 AWG  
Microwave  
Cable



## SPECIFICATIONS

For complete specifications and assembly instructions see [www.samtec.com?292PS-CA](http://www.samtec.com?292PS-CA)

**Shell Material:**

Stainless Steel

**Contact Material, Nut:**

Brass

**Cable Body:**

Stainless Steel

**Insert Material:**

Stainless Steel

**Socket:**

BeCu

**Insulator Material:**

PCTFE

**Gasket:**

Silicone

**C-Ring:**

Stainless Steel

**TYPE**

**292PS**  
= Passivated  
Stainless Steel

**GENDER**

**-P**  
= Plug

**TYPE**

**-C**  
= Cable

**PLATING**

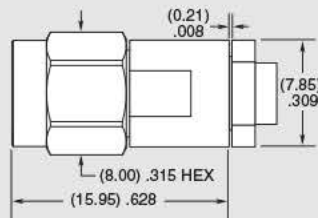
**-HP**  
= 30μ" (0.76 μm)  
Gold center contact,  
Passivated  
outer contact

**ORIENTATION**

**-ST**  
= Straight

**TERMINATION**

**-CS3**  
= MWC-2350-01  
23 AWG  
Microwave  
Cable





SMA-P-C-H-ST-CA1

SMA-J-C-H-ST-BH1

SMA-J-C-H-ST-S10

SMA-J-C-H-ST-PN1

SMA-CA SERIES

# 50Ω SMA COMPONENTS

## SPECIFICATIONS

For complete specifications and assembly instructions see [www.samtec.com?SMA-CA](http://www.samtec.com?SMA-CA)

### Shell Material:

Brass

### Contact Material:

Brass

### Center Contact:

Soldered

### Outer Ferrule:

Crimped

### Operating Temperature:

-65°C to +125°C

### Voltage Rating:

335V

### Dielectric Withstanding Voltage:

1,000 Vrms

### Frequency Range:

0~20 GHz

(Cable dependent)

### Contact Resistance:

Center Contact: 6mΩ max

Outer Contact: 2mΩ max

### Insulator Resistance:

5,000 MΩ

### Impedance:

50Ω

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

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

SMA	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION
	<b>-P</b> = Plug	<b>-C</b> = Cable	<b>-H</b> = 30μ" (0.76 μm) Gold center contact, 3μ" (0.08 μm) Gold outer contact (-CA1, -CA10 only) <b>-HF</b> = 30μ" (0.76 μm) Gold center contact, 3μ" (0.08 μm) Gold outer contact (-CA7, -CA9, -CA1S only)	<b>-ST</b> = Straight <b>-RA</b> = Right Angle	<b>-CA1</b> = RG 174 / 316 Cable <b>-CA7</b> = RG 405 (.086" DIA) Semi-flexible Cable <b>-CA9</b> = RG 402 (.141" DIA) Semi-flexible Cable <b>-C10</b> = RG 58 Cable (-ST only) <b>-CA1S</b> = RG 316 Double Shielded Cable (-ST only)

Supplied with pins and ferrules. See website for dimensions.



SMA-J-P-H-ST-TH1

SMA-J-P-H-RA-TH1



SMA-J-P-H-ST-EM1

# 50Ω SMA JACKS

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?SMA-TH](http://www.samtec.com?SMA-TH), [www.samtec.com?SMA-SM](http://www.samtec.com?SMA-SM), [www.samtec.com?SMA-EM](http://www.samtec.com?SMA-EM), [www.samtec.com?SMA-MT](http://www.samtec.com?SMA-MT) or [www.samtec.com?SMA-PN](http://www.samtec.com?SMA-PN)

### Contact Material:

BeCu

### Shell Material:

Brass

### Insulator Material:

PTFE (-PN)

### Operating Temp Range:

-65°C to +125°C

### Contact Resistance:

Center Contact: 6mΩ max

Outer Contact: 2mΩ max

### Insulator Resistance:

5,000 MΩ

### Impedance:

50Ω

### Dielectric Withstanding Voltage:

1,000 Vrms

### Frequency Range:

0-20 GHz

(Cable dependent)

### Working Voltage:

335V

### RoHS Compliant:

Yes

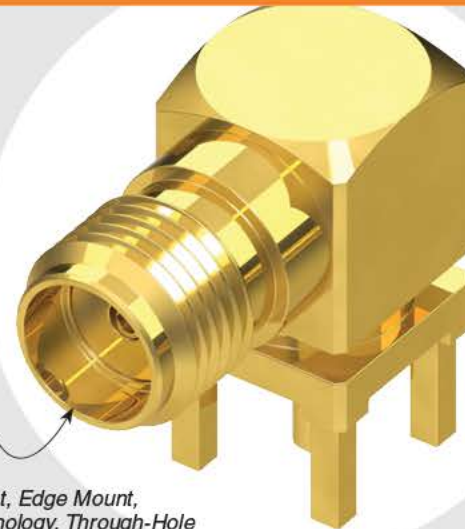
### Processing:

Lead-Free Solderable:

Yes

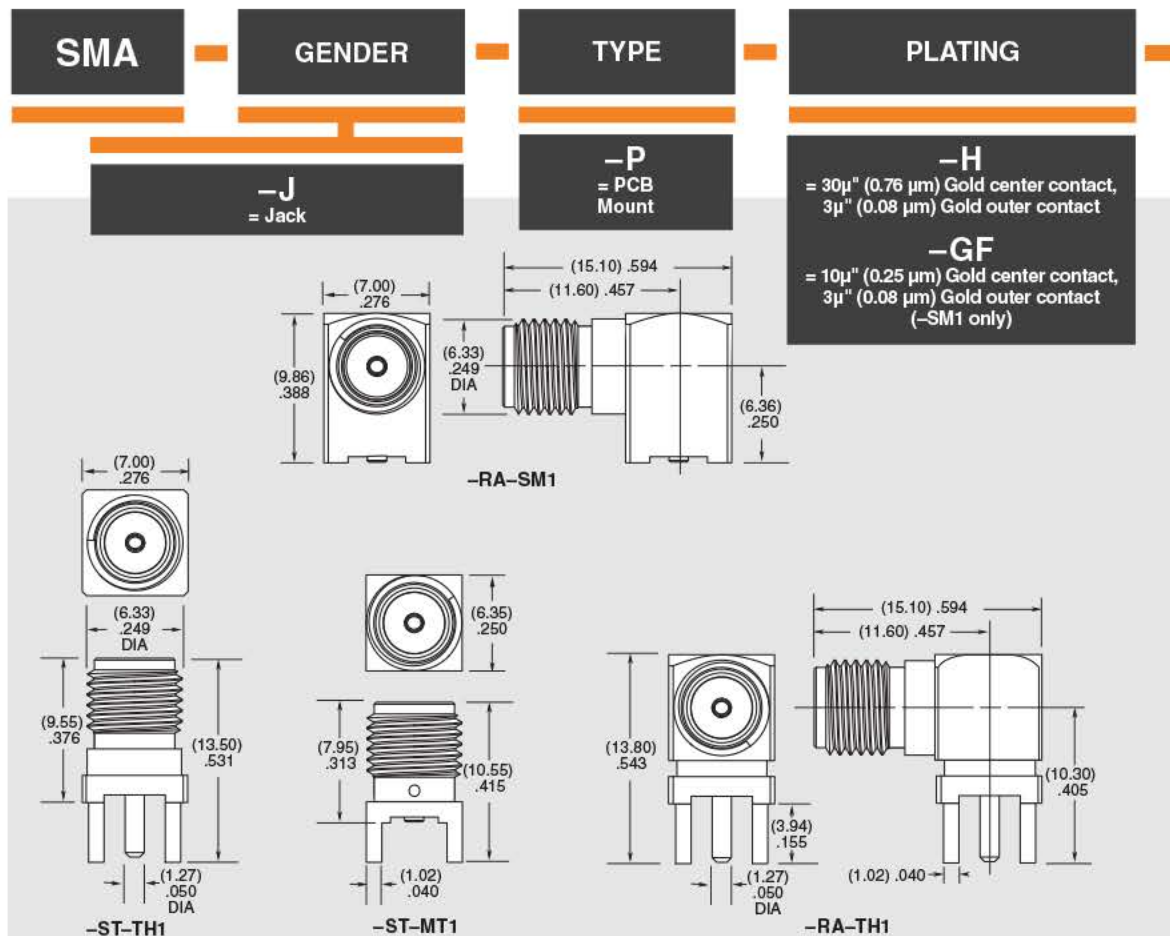
### Mates with:

RF174, RF316, RF058,  
RF405, RF402, RS316,  
GRF1H-C, IJ5H, RF23S,  
BE25S



Mates with a wide variety of cable assemblies

Panel Mount, Edge Mount,  
Mixed Technology, Through-Hole  
or Surface Mount termination



**Note:** While optimized for 50Ω applications, this connector can also perform well in certain 75Ω applications. Contact [RFGroup@samtec.com](mailto:RFGroup@samtec.com) for further information.





SMA-J-P-H-ST-PN4

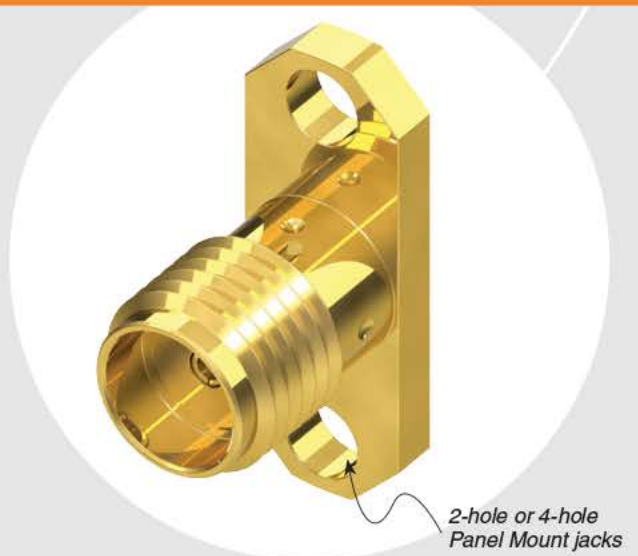


SMA-J-P-H-ST-EM3



SMA-J-P-H-ST-PN2

**SMA SERIES**

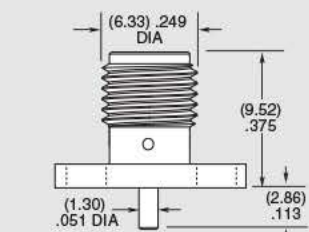
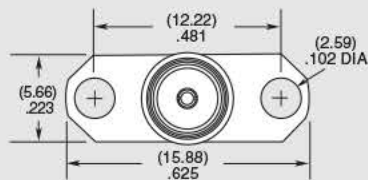
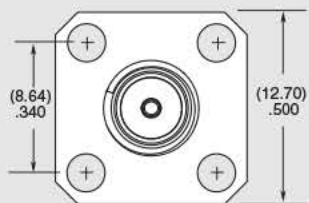


**ORIENTATION**

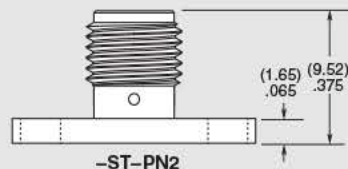
- ST  
= Straight
- RA  
= Right Angle

**TERMINATION**

- 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)
- PN2  
= 2-Hole Panel Mount (-ST only)
- PN4  
= 4-Hole Panel Mount (-ST only)



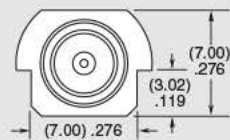
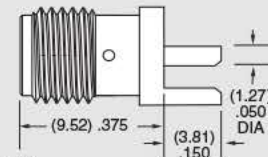
-ST-PN4



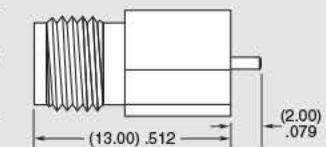
-ST-PN2



-ST-EM1



-ST-EM3





SMB5-P-C-H-ST-CA1



SMB5-P-C-H-RA-CA1

## SMB5 SERIES

# 50Ω SMB JACKS & PLUGS

## Mates with:

RF174, RF316, GRF1H-C

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?SMB5-TH](http://www.samtec.com?SMB5-TH)

## Shell Material:

Brass

## Contact Material:

Brass

## Insulator Material: PTFE

## Impedance: 50Ω

## Frequency Range: 0-4 GHz

## V.S.W.R: 1.5 max

## Working Voltage:

250 Vrms max

## Dielectric Withstanding:

750 Vrms min

## Contact Resistance:

Center Contact: 6mΩ max

Outer Contact: 2.5mΩ max

## Insulator Resistance:

1000 MΩ min

## Operating Temp Range:

-65°C to +165°C

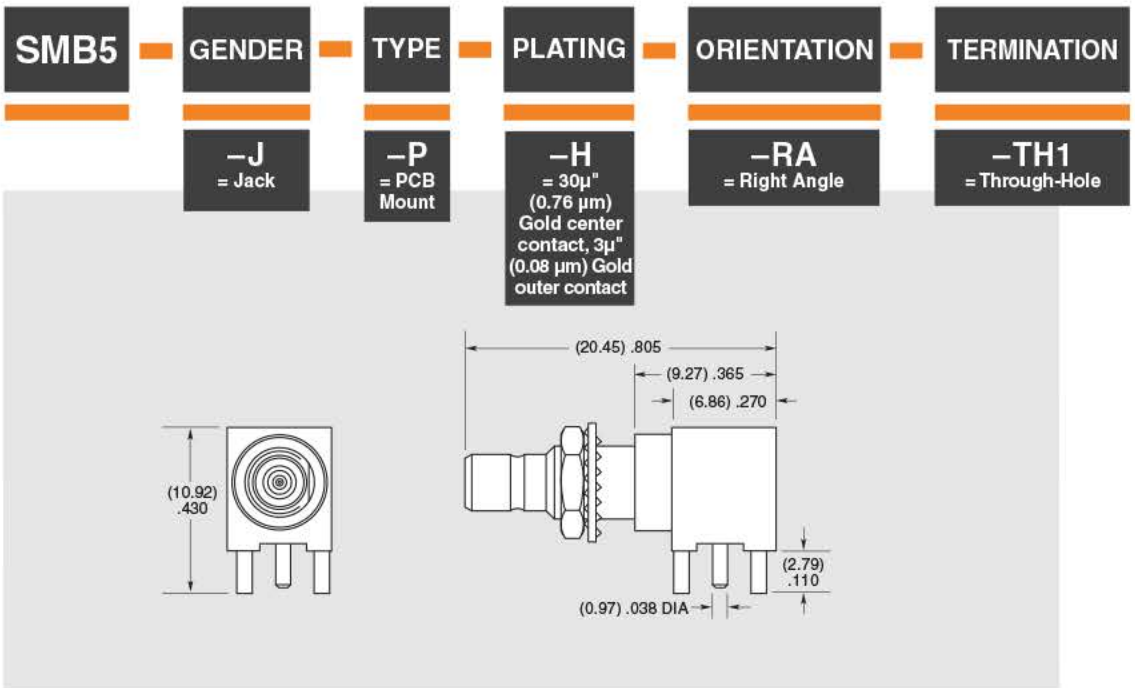
## RoHS Compliant: Yes

## Processing:

Lead-Free Solderable: Yes

Note: 75Ω version available.

See SMB7H Series.



## SPECIFICATIONS

For complete specifications and assembly instructions see [www.samtec.com?SMB5-CA](http://www.samtec.com?SMB5-CA)

## Shell Material:

Brass

## Contact Material:

Brass (-J),

Phosphor Bronze (-P-ST),

BeCu (-P-RA)

## Center Contact:

Soldered

## Outer Ferrule:

Crimped

## Insulator Material:

PTFE

## Impedance:

50Ω

## Frequency Range:

0-4 GHz

## V.S.W.R:

1.3 max (-ST),

1.5 max (-RA)

## Working Voltage:

335 Vrms max

## Dielectric Withstanding:

1000 Vrms min

## Contact Resistance:

Center Contact: 6mΩ max

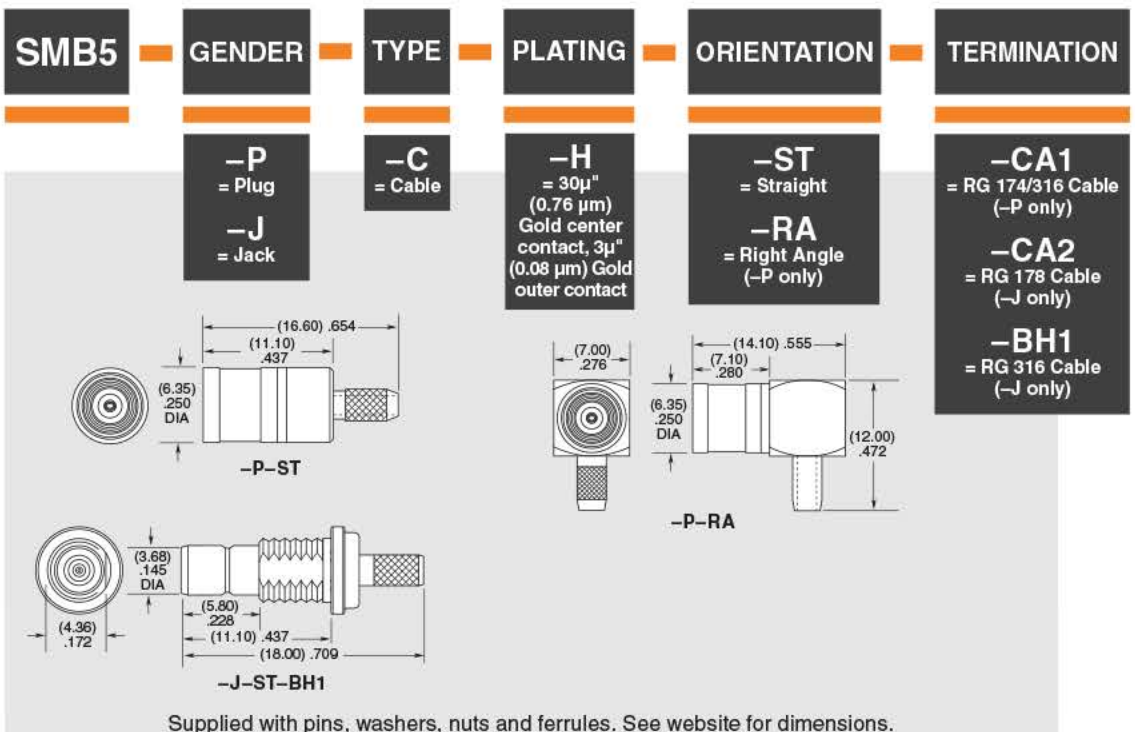
Outer Contact: 2.5mΩ max

## Insulator Resistance:

1000 MΩ min

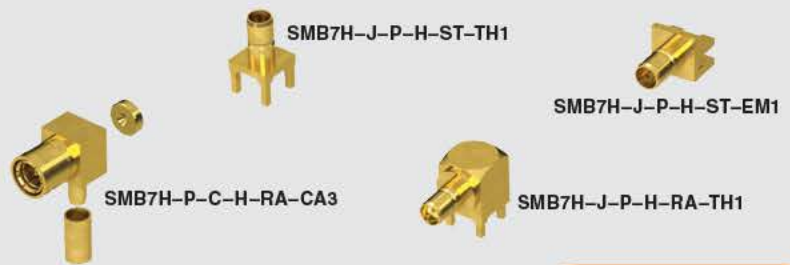
## Operating Temp Range:

-65°C to +165°C



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





## SMB7H SERIES

# 75Ω OPTIMIZED SMB JACKS & PLUGS

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?SMB7H-TH](http://www.samtec.com?SMB7H-TH) or [www.samtec.com?SMB7H-EM](http://www.samtec.com?SMB7H-EM)

Shell Material: Brass  
Contact Material: Brass  
Insulator Material: PTFE

Impedance:  
ST = 75Ω ±3Ω  
RA = 75Ω ±4Ω

Frequency Range:  
0-4 GHz

V.S.W.R.: 1.3 max  
(With optimized launch design)

Working Voltage:

335 Vrms max

Dielectric Withstanding:

1000 Vrms min

Contact Resistance:

Center Contact: 6mΩ max

Outer Contact: 1mΩ max

Insulator Resistance:

1000 MΩ min

Operating Temperature:

-65°C to +165°C

RoHS Compliant: Yes

Processing:

Lead-Free Solderable: Yes

Note:  
Designed to meet SMPTE  
424M 3G-SDI specifications.

## SMB7H

## GENDER

-J

= Jack

## TYPE

-P

= PCB  
Mount

## PLATING

-H

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

## ORIENTATION

-ST

= Straight

-RA

= Right Angle

## TERMINATION

-TH1

= Through-hole  
(0.90 mm) .035" DIA  
Signal Pin

-TH2

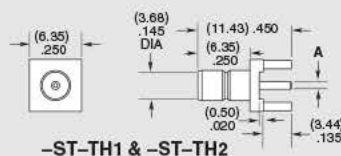
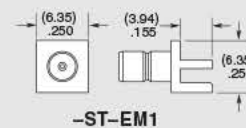
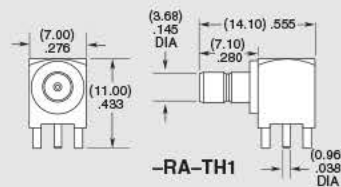
= Through-hole  
(0.51 mm) .020" DIA  
Signal Pin

-EM1

= Edge Mount  
(-ST only)

Mates with:

RF179, GRF7H-C



TERMINATION	A (DIA)
-TH1	(0.90) .035
-TH2	(0.51) .020

## SPECIFICATIONS

For complete specifications and assembly instructions see [www.samtec.com?SMB7H-CA](http://www.samtec.com?SMB7H-CA)

Shell Material:

Brass

Contact Material:

BeCu

Insulator Material:

PTFE

Center Contact:

Soldered

Outer Ferrule:

Crimped

Impedance:

75Ω

Frequency Range:

0-8 GHz (-ST)

0-7 GHz (-RA)

V.S.W.R.:

1.3 max

Working Voltage:

335 Vrms max

Dielectric Withstanding:

1000 Vrms min

Contact Resistance:

Center Contact: 6mΩ max

Outer Contact: 1mΩ max

Insulator Resistance:

1,000 MΩ min

Operating Temperature:

-65°C to +165°C

Note:  
Designed to meet SMPTE  
424M 3G-SDI specifications.

## SMB7H

## GENDER

-P

= Plug

## TYPE

-C

= Cable

## PLATING

-H

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

## ORIENTATION

-ST

= Straight

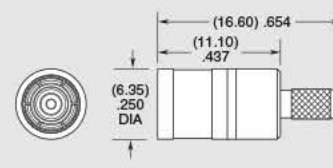
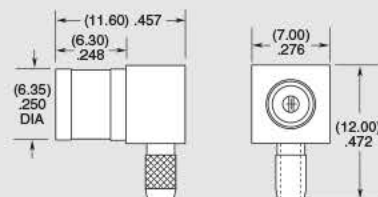
-RA

= Right Angle

## TERMINATION

-CA3

= RG 179 Cable



Supplied with pins and ferrules. See website for dimensions.



SMP-J-B-GF-ST-1450



SMP-J-C-GF-ST-CA5



SMP-PF-P-HH-ST-EM3



SMP-PF-P-GF-ST-TH2



SMP-J-C-GF-RA-CA7



SMP-PF-P-HH-ST-MT1



SMP SERIES

# 50Ω SMP JACKS/PLUGS & ADAPTOR

SMP-PF, SMP-PL,  
SMP-PS, SMP-PC

Mate with:  
SMP-B Bullet Adaptor

Cable Mates:

RF405, BE25S, RF25S

## SPECIFICATIONS

For complete specifications see  
www.samtec.com?SMP-TH,  
www.samtec.com?SMP-EM,  
www.samtec.com?SMP-MT1,  
www.samtec.com?SMP-B or  
www.samtec.com?SMP-CA

Shell Material:

Au plated Brass  
(-TH2, -EM3, -MT1)  
Au plated BeCu (-J-B, -J-C)

Contact Material:

Brass (-TH2, -EM3, -MT1)  
BeCu (-CA)

Insulator Material:

PTFE

Impedance:

50Ω

Frequency Range:

DC to 40 GHz,

DC to 20 GHz (25 AWG)

V.S.W.R. (Interface):

1.15: 1 max to 26.5 GHz,

1.5: 1 max to 40 GHz

Working Voltage:

335 Vrms min

Dielectric Withstanding:

500 Vrms min

Contact Resistance:

Center Contact: 6mΩ max

Outer Contact: 2mΩ max

Insulator Resistance:

5000 MΩ min

Engagement Force:

-PF: 15 lbs. max

-PL: 10 lbs. max

-PS & -PC: 2 lbs. max

Disengagement Force:

-PF: 2 lbs. min

-PL: 2 lbs. min

-PS & -PC: 0.5 lbs. min

Operating Temperature:

-65°C to +165°C

RoHS Compliant: Yes

Processing:

Lead-Free Solderable:

Yes

## ALTERNATIVE SOLUTIONS

- The SMP Series is an alternative to the Corning Gilbert GPO Series. A mini SMP Series, available as an ASO, is an alternative to the Corning Gilbert GPPO Series.

Note: While optimized for 50Ω applications, this connector can also perform well in certain 75Ω applications. Contact RFGGroup@samtec.com for further information.

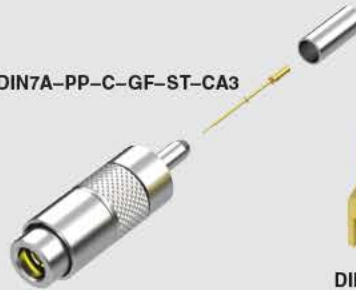
SMP	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION										
-PF	-PL	-PS	-PC	-ST	-TH2										
= Plug, Full Detent	= Plug, Limited Detent	= Plug, Smooth Bore	= Plug, Catcher's Mitt	= Straight	= Through-hole										
<p>-P = PCB Mount</p> <p>-PF/-PL/-PS-MT1</p>		<p>-GF = 10μ" (0.25 μm) Gold center contact, Gold Flash outer contact (-TH2 only)</p> <p>-HH = 30μ" (0.76 μm) Gold center and outer contact (-EM3 &amp; MT1 only)</p> <p>-HG = 30μ" (0.76 μm) Gold center contact, 10μ" (0.25 μm) Gold outer contact (-MT1 only)</p>		<table border="1"> <thead> <tr> <th>GENDER</th> <th>A DIA</th> </tr> </thead> <tbody> <tr> <td>-PF</td> <td>(4.19) .165</td> </tr> <tr> <td>-PL</td> <td>(4.19) .165</td> </tr> <tr> <td>-PS</td> <td>(5.99) .236</td> </tr> <tr> <td>-PC</td> <td>(5.99) .236</td> </tr> </tbody> </table>	GENDER	A DIA	-PF	(4.19) .165	-PL	(4.19) .165	-PS	(5.99) .236	-PC	(5.99) .236	<p>-EM3</p>
GENDER	A DIA														
-PF	(4.19) .165														
-PL	(4.19) .165														
-PS	(5.99) .236														
-PC	(5.99) .236														
<p>-PF/-PL/-PS-TH2</p>		<p>-PC-TH2</p>		<h3>APPLICATION</h3> <table border="1"> <thead> <tr> <th>LENGTH</th> <th>BOARD SPACE</th> </tr> </thead> <tbody> <tr> <td>-0645</td> <td>(9.05) .356</td> </tr> <tr> <td>-1450</td> <td>(17.10) .673</td> </tr> </tbody> </table>		LENGTH	BOARD SPACE	-0645	(9.05) .356	-1450	(17.10) .673				
LENGTH	BOARD SPACE														
-0645	(9.05) .356														
-1450	(17.10) .673														
<h3>EXTRACTION TOOL</h3> <ul style="list-style-type: none"> <li>• CAT-EX-SMP-01 Contact Samtec</li> </ul>															

SMP	J	TYPE	PLATING	ORIENTATION	BULLET LENGTH	CABLE END
-B	-C	-GF	-ST	-RA	-0645	-1450
= Bullet Adaptor	= Cable End	= 10μ" (0.25 μm) Gold center contact, Gold Flash outer contact	= Straight	= Right Angle (N/A with -B)	= 6.45 mm (.254")	= 14.50 mm (.571")
<p>-0645</p>		<p>-ST-CXX</p>		<p>-RA-CXX</p>		<p>Leave blank for cable end</p> <p>Leave blank for bullet type</p> <p>-CA7 = RG 405 (.086" DIA) Semi-flexible Cable</p> <p>-CA5 = CCA-25M Cable</p> <p>-CS5 = MWC-2550-01 25 AWG Microwave Cable</p>





DIN7A-PP-C-GF-ST-CA3



DIN7A-J-P-GF-RA-BH1

DIN7A-J-P-GF-ST-TH1



DIN7A SERIES

# 75Ω DIN 1.0/2.3 JACKS & PLUGS

## Mates with:

RFB8T, RFA6T, RFB6T,  
RF179, GRF7H-C

## SPECIFICATIONS

For complete specifications see  
www.samtec.com?DIN7A-TH,  
www.samtec.com?DIN7A-BH or  
www.samtec.com?DIN7A-CA

### Shell Material:

Brass

### Contact:

Copper Alloy

### Insulator Material:

PTFE

### Operating Temp Range:

-65°C to +125°C

### Impedance:

75Ω

### Frequency Range:

Testing Now! \*

### V.S.W.R.:

Testing Now!

### Working Voltage:

250 Vrms

### Dielectric Withstanding:

750 Vrms

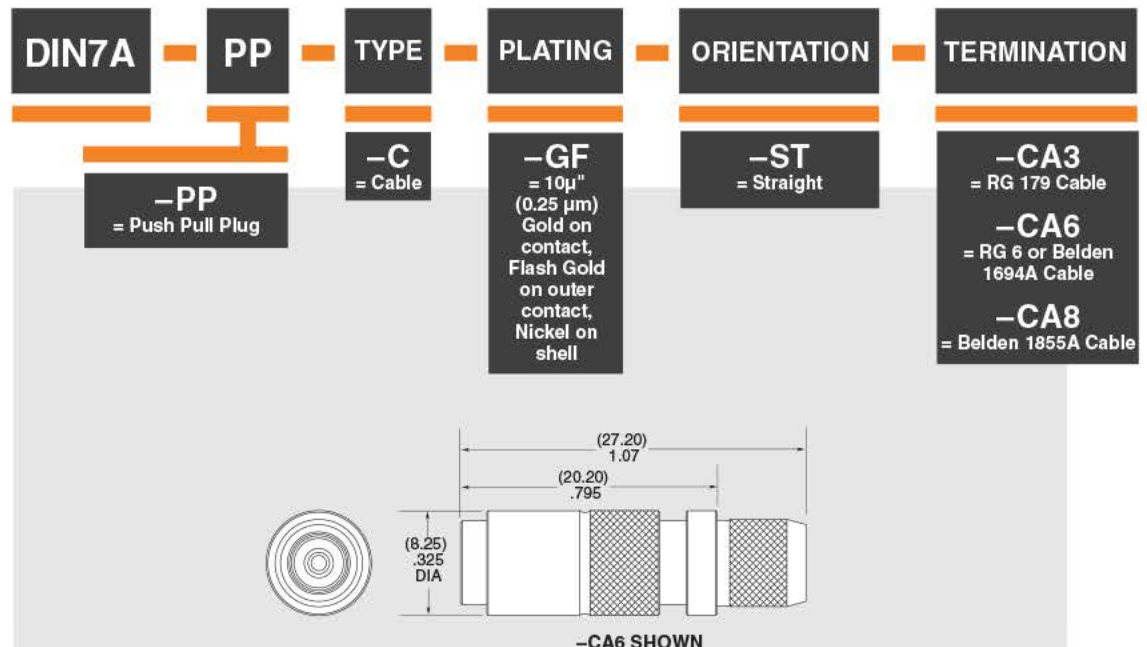
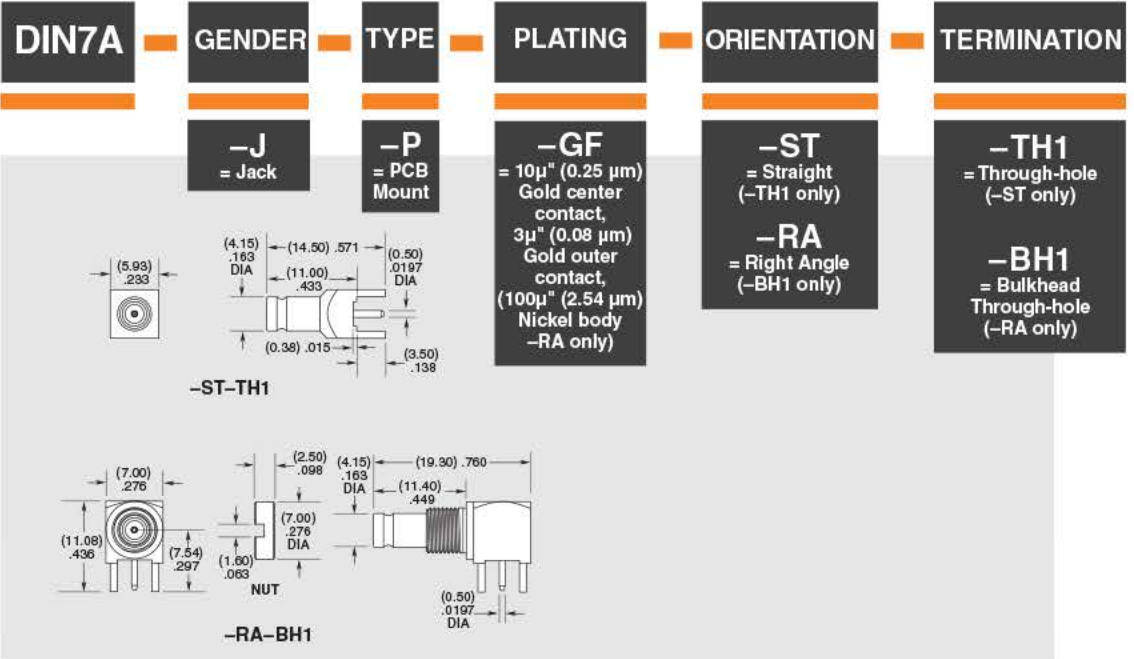
### Contact Resistance:

Center Contact: Testing Now!

Outer Contact: Testing Now!

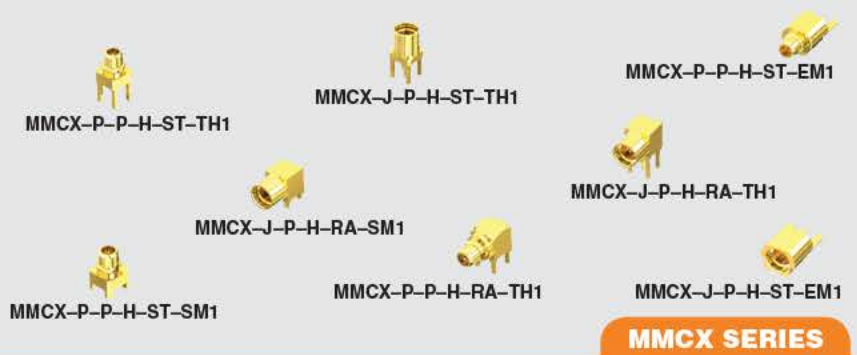
### Insulator Resistance:

Testing Now!



**Note:**  
Designed to meet SMPTE  
424M 3G-SDI specifications.

Supplied with pins and ferrules. See website for dimensions.



**MMCX SERIES**

# 50Ω MMCX MICRO-MINI JACKS & PLUGS

Mates with:  
RF174, RF316, RF178,  
RS316, GRF1H-C

**SPECIFICATIONS**

For complete specifications and recommended PCB layouts see [www.samtec.com?MMCX-EM](http://www.samtec.com?MMCX-EM), [www.samtec.com?MMCX-MT](http://www.samtec.com?MMCX-MT), [www.samtec.com?MMCX-SM](http://www.samtec.com?MMCX-SM) or [www.samtec.com?MMCX-TH](http://www.samtec.com?MMCX-TH)

- Contact Material:** BeCu  
**Insulator Material:** PTFE  
**Pin and Shell Material:** Brass  
**Operating Temp Range:** -65°C to +125°C  
**Insulation Resistance:** 1000MΩ min  
**Contact Resistance:** Center: 5mΩ  
 Outer: 2.5mΩ  
**Impedance:** 50Ω  
**Dielectric Withstanding Voltage:** 500 Vrms, 50Hz  
**Dielectric Working Voltage:** 170 Vrms, 50Hz  
**V.S.W.R.:** 1.3 max (-EM, -ST-SM1)  
 1.5 max (-RA-SM1)  
**Frequency Range:** 0-6 GHz  
**RoHS Compliant:** Yes  
**Processing:** Lead-Free Solderable  
 Yes

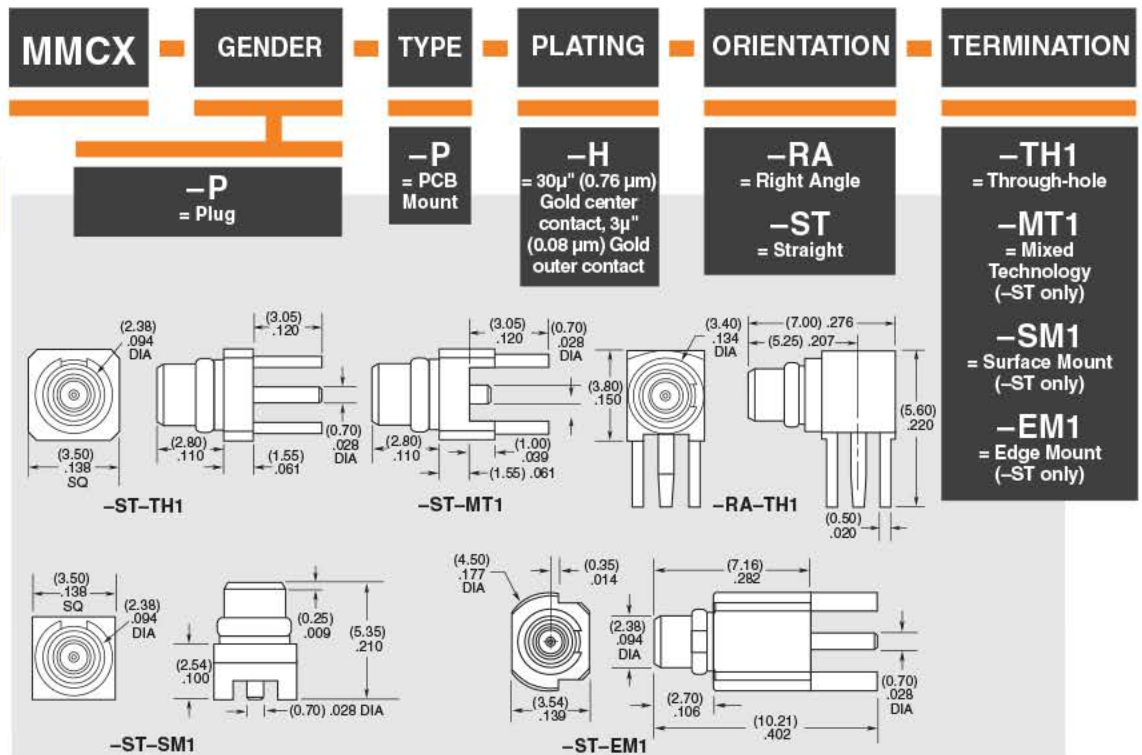
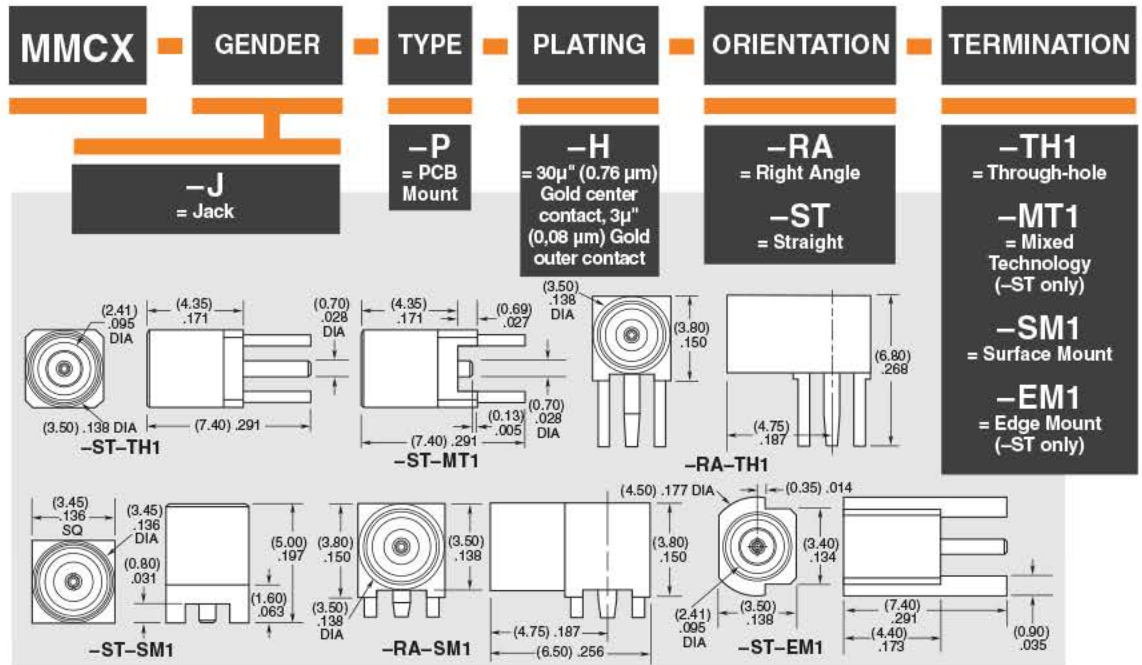
**OTHER SOLUTIONS**

- High Vibration jacks and plugs. These connectors are not changeable with the MMCX.

Contact Samtec.

**Notes:**  
Random vibration and Resonant Search test reports available online.

75Ω version available. See MMCX7 Series.







MMCX-J-P-HF-SW-EM1



MMCX-J-P-HF-SW-EM1

MMCX-SW SERIES

# 50Ω MMCX SWITCHABLE JACK

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?MMCX-SW](http://www.samtec.com?MMCX-SW)

- Contact Material:** BeCu
- Insulator Material:** PTFE
- Pin and Shell Material:** Brass
- Operating Temp Range:** -65°C to +125°C
- Insulation Resistance:** 500MΩ min
- Contact Resistance:** Center: 5mΩ max  
Outer: 3mΩ max
- Impedance:** 50Ω
- Dielectric Withstanding Voltage:** 250 Vrms min
- Dielectric Working Voltage:** 100 Vrms max
- V.S.W.R.:** 1.5 max
- Frequency Range:** Internal: 0~3 GHz  
External: 0~6 GHz
- Max Cycles:** 500
- RoHS Compliant:** Yes

**Processing:**  
Lead-Free Solderable: Yes

**Mates with:**  
RF316, RF178,  
RF174, GRF1H-C  
(-03SP1 or -03RP1)

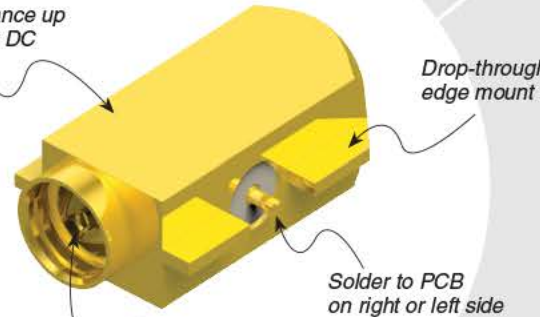
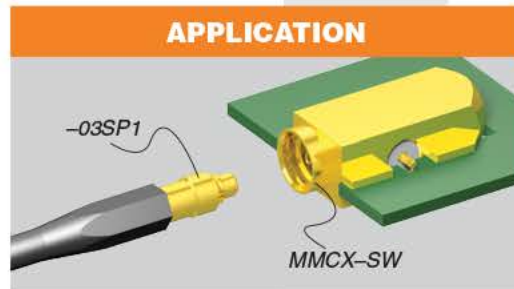
Performance up to 6 GHz DC

Drop-through edge mount

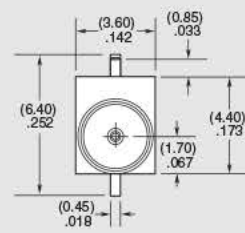
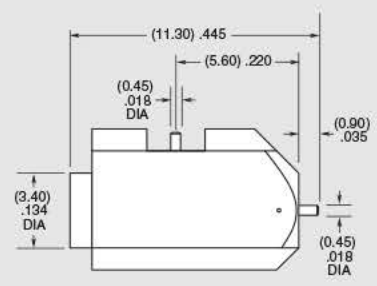
Solder to PCB on right or left side

Switches from internal antenna to external antenna when cable is mated

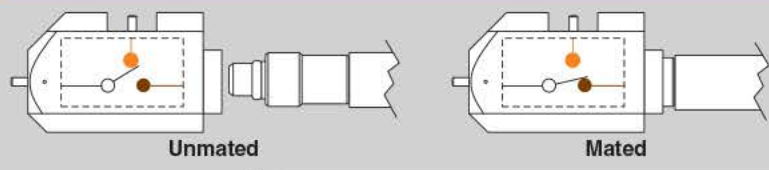
## APPLICATION



<b>MMCX</b>	<b>J</b>	<b>P</b>	<b>PLATING</b>	<b>ORIENTATION</b>	<b>TERMINATION</b>	<b>OPTION</b>
<p><b>-HF</b> = 30μ" (0.76 μm) Gold center contact, 5μ" (0.13 μm) Gold outer contact</p>				<p><b>-SW</b> = Switchable</p>	<p><b>-EM1</b> = Edge Mount</p>	<p>Leave blank for no Tape &amp; Reel</p> <p><b>-TR</b> = Tape &amp; Reel</p>



## APPLICATION





MCX SERIES

# 50Ω MCX MINI JACKS & PLUGS

Mates with:  
RF174, RF316, RF178,  
RS316, GRF1H-C

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?MCX-TH](http://www.samtec.com?MCX-TH), [www.samtec.com?MCX-SM](http://www.samtec.com?MCX-SM), [www.samtec.com?MCX-EM](http://www.samtec.com?MCX-EM) or [www.samtec.com?MCX-MT](http://www.samtec.com?MCX-MT)

Insulator Material:

PTFE

Contact Material:

BeCu, Brass (-P-TH)

Shell Material:

Brass

Operating Temp Range:

-65°C to +125°C

Insulation Resistance:

1000MΩ min

Contact Resistance:

Center: 5mΩ max

Outer: 2.5mΩ max

Impedance:

50Ω

V.S.W.R.:

1.3 max (-ST)

1.5 max (-RA)

Dielectric Withstanding Voltage:

1000 Vrms min, 50Hz

Dielectric Working Voltage:

335 Vrms max

Frequency Range:

0-6 GHz

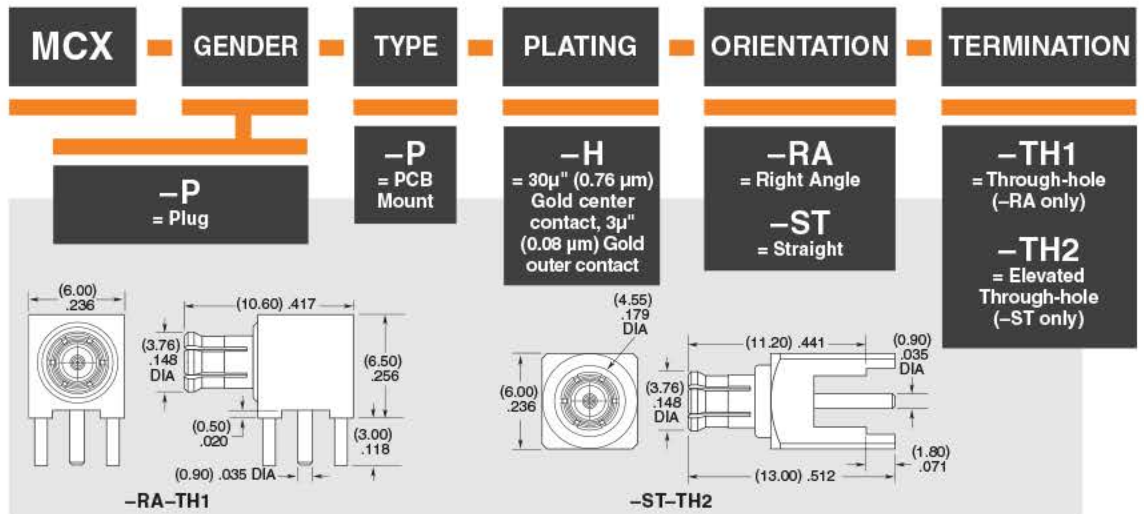
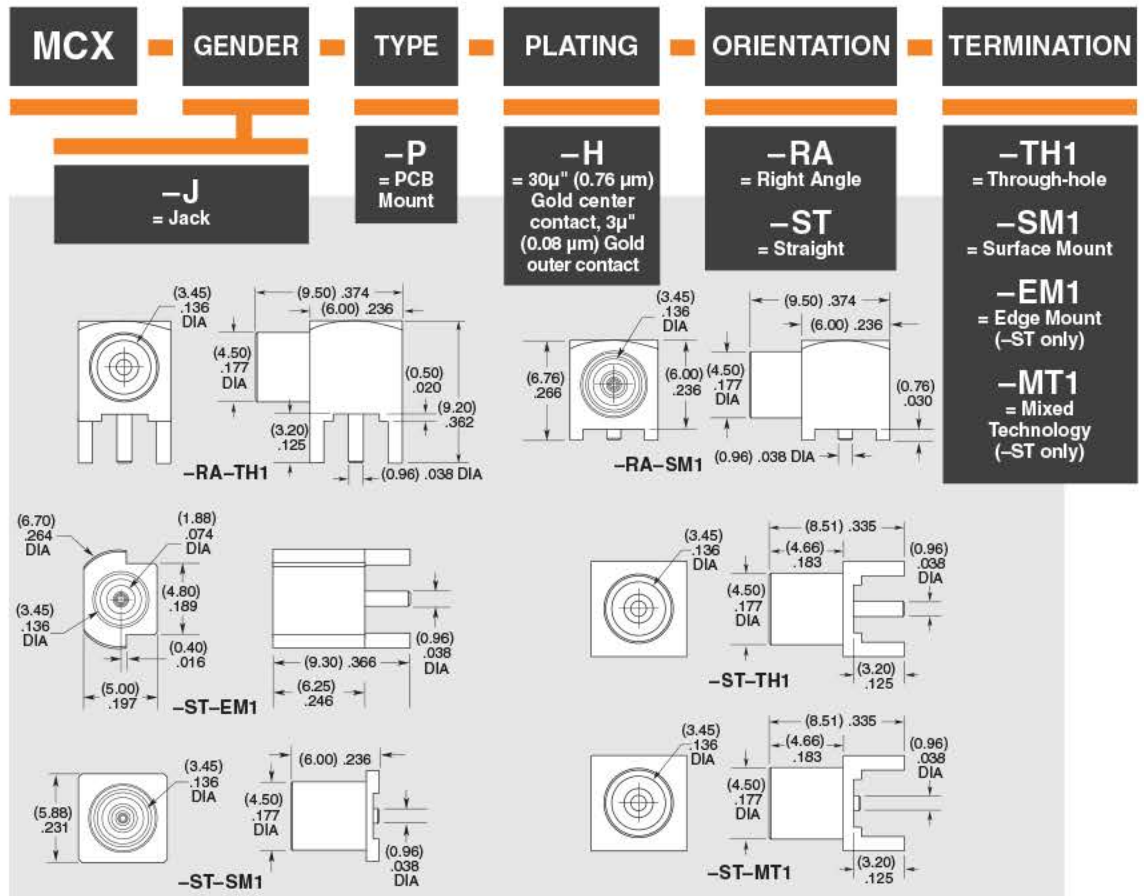
RoHS Compliant:

Yes

Processing:

Lead-Free Solderable:

Yes



Note: 75Ω version available. See MCX7 Series.





MMCX-P-C-H-RA-CA2



MCX-J-C-H-ST-CA1



MCX-P-C-H-RA-CA1



MMCX-CA, MCX-CA SERIES

# 50Ω MMCX & MCX COMPONENTS

## SPECIFICATIONS

For complete specifications and assembly instructions see [www.samtec.com?MMCX-CA](http://www.samtec.com?MMCX-CA)

### Shell Material:

Brass

### Insulator Material:

PTFE

### Lead, Contact Socket and Outer Conductor Material:

BeCu with Au plating

### Center Contact:

Soldered

### Outer Ferrule:

Crimped

### Operating Temp Range:

-65°C to +125°C

### Insulation Resistance:

1,000MΩ min

### Contact Resistance:

Center: 5mΩ

Outer: 2.5mΩ

### Impedance:

50Ω

### Dielectric Withstanding Voltage:

500 Vrms, 50Hz

### Dielectric Working Voltage:

170 Vrms, 50Hz

### Frequency Range:

0-6 GHz

(Cable dependent)

MMCX

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

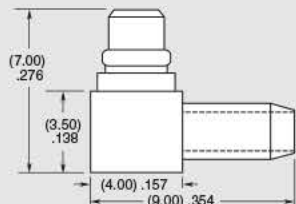
-P  
= Plug-C  
= Cable

**-H**  
= 30μ" (0.76 μm)  
Gold center contact, 3μ"  
(0.08 μm) Gold outer contact  
(-CA1 & -CA2 only)

**-HF**  
= 30μ" (0.76 μm)  
Gold center contact, 3μ"  
(0.08 μm) Gold outer contact  
(-CA1S only)

-RA  
= Right Angle-ST  
= Straight-CA1  
= RG 174/316 Cable-CA2  
= RG 178 Cable

**-CA1S**  
= RG 316 Cable,  
Double Shield  
(-ST only)



-RA-CA1 &amp; -RA-CA2



-ST-CA1, -ST-CA2 &amp; -ST-CA1S

Supplied with pins and ferrules. See website for dimensions.

## SPECIFICATIONS

For complete specifications and assembly instructions see [www.samtec.com?MCX-CA](http://www.samtec.com?MCX-CA)

### Insulator Material:

PTFE

### Contact Material:

BeCu

### Shell and Pin Material:

Brass

### Center Contact:

Soldered

### Outer Ferrule:

Crimped

### Operating Temp Range:

-65°C to +125°C

### Insulation Resistance:

1,000MΩ

### Contact Resistance:

Center: 5mΩ

Outer: 2.5mΩ

### Impedance:

50Ω

### Frequency Range:

0-6 GHz

(Cable dependent)

### V.S.W.R.:

1.5 max (-RA)

1.3 max (-ST)

### Dielectric Withstanding Voltage:

1,000 Vrms min, 50Hz

### Dielectric Working Voltage:

335 Vrms max

MCX

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

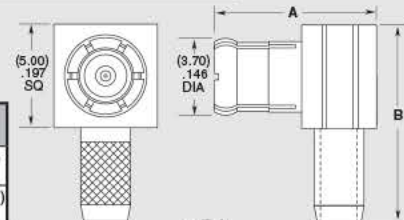
-J  
= Jack-P  
= Plug-C  
= Cable

**-H**  
= 30μ" (0.76 μm)  
Gold center contact,  
3μ" (0.08 μm)  
Gold outer contact  
(-CA1 & -CA2 only)

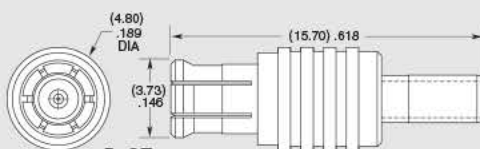
**-HF**  
= 30μ" (0.76 μm)  
Gold center contact,  
3μ" (0.08 μm)  
Gold outer contact  
(-CA1S only)

-RA  
= Right Angle  
(-P only)-ST  
= Straight-CA1  
= RG 174/316 Cable-CA2  
= RG 178 Cable

**-CA1S**  
= RG 316 Cable,  
Double Shield  
(-ST only)



-RA



-P-ST



J-ST

Supplied with pins and ferrules. See website for dimensions.

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



MMCX7-J-P-GF-RA-TH1



MMCX7-J-P-GF-ST-TH1



MMCX7-P-P-GF-ST-TH1

MMCX7 SERIES

# 75Ω MICRO-MINI SYSTEMS

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?MMCX7-TH](http://www.samtec.com?MMCX7-TH)

- Shell Material:** Brass
- Insulator Material:** PTFE
- Contact Material:** BeCu
- Pin Material:** Brass
- Operating Temp Range:** -65°C to +125°C
- Insulation Resistance:** 600 MΩ min
- Contact Resistance:** Center: Testing Now!  
Outer: 25 mΩ
- Impedance:** 75Ω
- Dielectric Withstanding Voltage:** 500 Vrms, 50 Hz
- Dielectric Working Voltage:** 170 Vrms, 50 Hz
- Frequency Range:** 0-6 GHz
- RoHS Compliant:** Yes
- Processing:** Lead-Free Solderable: Yes

### MMCX7

### GENDER

### TYPE

### PLATING

### ORIENTATION

### TERMINATION

Mates with:  
MMCX7-P, RF179,  
GRF7H-C

**-J**  
= Jack

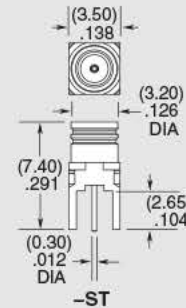
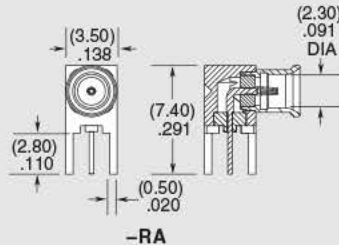
**-P**  
= PCB Mount

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

**-RA**  
= Right Angle

**-ST**  
= Straight

**-TH1**  
= Through-hole



## OTHER SOLUTIONS

- 75Ω Cable Components available
- Contact Samtec.

### MMCX7

### GENDER

### TYPE

### PLATING

### ST

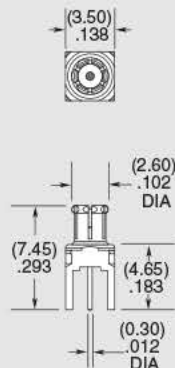
### TH1

Mates with:  
MMCX7-J, RF179,  
GRF7H-C

**-P**  
= Plug

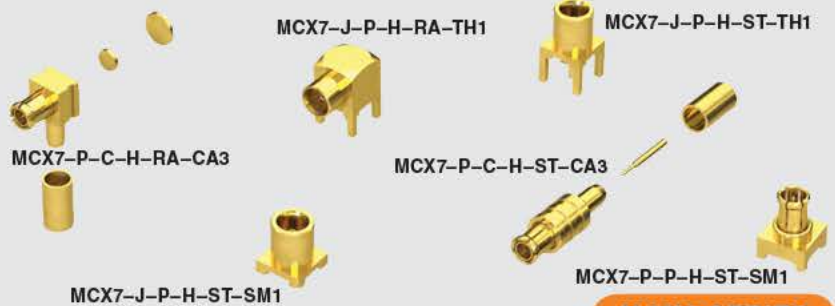
**-P**  
= PCB Mount

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



**Note:** Designed to meet SMPTE 424M 3G-SDI specifications.




**MCX7 SERIES**

# 75Ω OPTIMIZED MCX JACKS & PLUGS

**SPECIFICATIONS**

For complete specifications and recommended PCB layouts see [www.samtec.com?MCX7-SM](http://www.samtec.com?MCX7-SM) or [www.samtec.com?MCX7-TH](http://www.samtec.com?MCX7-TH)

**Shell Material:** Brass  
**Contact Material:** BeCu  
**Insulator Material:** PTFE  
**Impedance:** ST = 75Ω ±3Ω  
 RA = 75Ω ±4Ω  
**Frequency Range:** 0-6 GHz  
**V.S.W.R.:** 1.3 max (With optimized launch design)  
**Working Voltage:** 170 Vrms max  
**Dielectric Withstanding:** 500 Vrms min  
**Contact Resistance:** Center Contact: 5mΩ max  
 Outer Contact: 2.5mΩ max  
**Insulator Resistance:** 1000 MΩ min  
**Engagement Force:** 4.5 lbs max (-ST only)  
**Disengagement Force:** 2.3 lbs max (-ST only)  
**Operating Temperature:** -65°C to +125°C  
 RoHS Compliant: Yes

**Processing:**  
 Lead-Free Solderable: Yes

**MCX7**
**GENDER**
**TYPE**
**PLATING**
**ORIENTATION**
**TERMINATION**

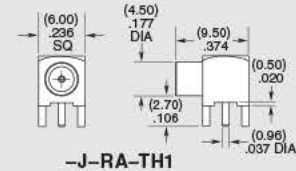
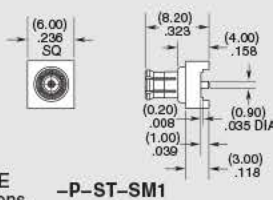
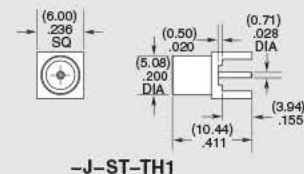
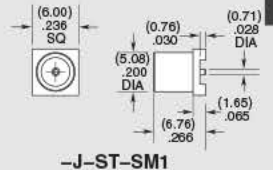
Mates with:  
 RF179,  
 GRF7H-C

-P  
= Plug  
-J  
= Jack

-P  
= PCB Mount  
-H  
= 30μ" (0.76 μm)  
Gold center contact,  
3μ" (0.08 μm)  
Gold outer contact

-ST  
= Straight  
-RA  
= Right Angle  
(-J-TH1 only)

-SM1  
= Surface Mount  
(-ST only)  
-TH1  
= Through-hole  
(-J only)



**Note:**  
 Designed to meet SMPTE  
 424M 3G-SDI specifications.

**SPECIFICATIONS**

For complete specifications and assembly instructions see [www.samtec.com?MCX7-CA](http://www.samtec.com?MCX7-CA)

**Contact Material:** Brass  
**Finger Shell Material:** BeCu  
**Body Material:** Brass  
**Insulator Material:** PTFE  
**Center Contact:** Soldered  
**Outer Ferrule:** Crimped  
**Impedance:** 75Ω  
**Frequency Range:** 0-6 GHz (-ST)  
 0-4.5 GHz (-RA)  
**V.S.W.R.:** 1.3 max  
**Working Voltage:** 170 Vrms max  
**Dielectric Withstanding:** 500 Vrms min  
**Contact Resistance:** Center Contact: 5mΩ max  
 Outer Contact: 2.5mΩ max  
**Insulator Resistance:** 1,000 MΩ min  
**Operating Temperature:** -65°C to +125°C

**MCX7**
**GENDER**
**TYPE**
**PLATING**
**ORIENTATION**
**TERMINATION**

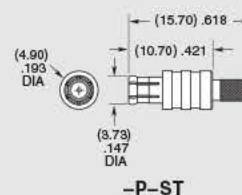
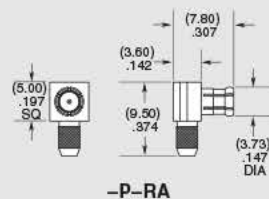
-P  
= Plug

-C  
= Cable

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

-ST  
= Straight  
-RA  
= Right Angle

-CA3  
= RG 179 Cable



**Note:**  
 Designed to meet SMPTE  
 424M 3G-SDI specifications.

Supplied with pins and ferrules. See website for dimensions.



-EM & -TH only



HDBNC-J-P-GN-ST-EM1



HDBNC-J-P-GN-ST-BH1



HDBNC-J-P-GN-RA-BH1



HDBNC-J-P-GN-ST-TH1

**HDBNC SERIES**

# 75Ω HIGH DENSITY BNC JACKS

**SPECIFICATIONS**

For complete specifications and recommended PCB layouts see [www.samtec.com?HDBNC-TH](http://www.samtec.com?HDBNC-TH), [www.samtec.com?HDBNC-BH1](http://www.samtec.com?HDBNC-BH1) or [www.samtec.com?HDBNC-EM](http://www.samtec.com?HDBNC-EM)

- Shell Material:** Au plated Brass
- Contact Material:** Copper Alloy
- Insulator Material:** PTFE
- Impedance:** 75Ω ±2Ω
- Frequency Range:** -EM & -TH: 0-12 GHz  
-RA: 0-6 GHz
- V.S.W.R:** 1.45 max (with optimized launch design)
- Working Voltage:** 330 Vrms max
- Dielectric Withstanding:** 1500 Vrms min
- Contact Resistance:** Center Contact: 1.5mΩ max  
Outer Contact: 0.4mΩ max
- Operating Temperature:** -65°C to +125°C
- RoHS Compliant:** Yes
- Lead-Free Solderable:** Yes

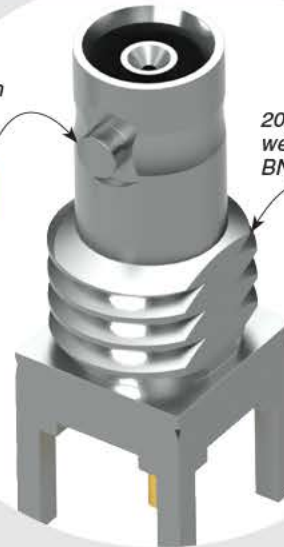
Mates with: RFB6T, RFB8T, RFA6T

**4X THE PANEL DENSITY**



Patented design and bayonet latch

20% reduction in weight of traditional BNCs

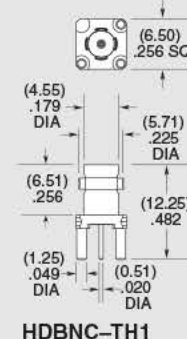
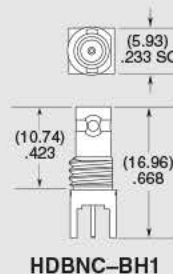
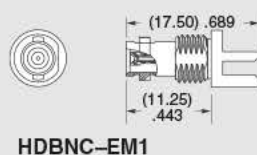
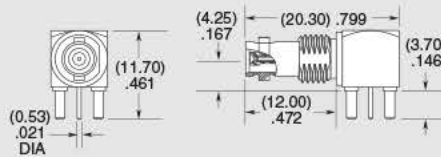


Extended performance of 12G for high density -EM & -TH terminations

**EXTRACTION TOOL**

- Hand tool for quickly installing/uninstalling Contact Samtec.

HDBNC	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION
-J	= Jack	-P = PCB Mount	-GN = 10μ" (0.25 μm) Gold contact, 100μ" (2.54 μm) Nickel shell	-ST = Straight  -RA = Right Angle	-BH1 = Through-hole (1.60 mm) .062 Board  -BH2 = Through-hole (2.36 mm) .093 Board (-RA only)  -EM1 = Edge Mount (-ST only)  -TH1 = Through-hole (-ST only)



Notes: Compatible with Amphenol's HD-BNC™

Designed to meet SMPTE 424M 12G-SDI specifications.





HDBNC-P-C-GN-ST-CA8



HDBNC-P-C-GN-ST-CA6



HDBNC-CA SERIES

# 75Ω HIGH DENSITY BNC COMPONENTS

## SPECIFICATIONS

For complete specifications and assembly instructions see [www.samtec.com?HDBNC-CA](http://www.samtec.com?HDBNC-CA)

### Shell Material:

Brass

### Contact Material:

Brass

### Center Contact:

Soldered

### Outer Ferrule:

Crimped

### Impedance:

75Ω

### Working Voltage:

330 Vrms max

### Dielectric Withstanding:

1000 Vrms

### Operating Temperature:

-65°C to +125°C

## EXTRACTION TOOL

- Hand tool for quickly installing/uninstalling Contact Samtec.

Crimp style plugs use industry standard termination tools

True75™ 3G-SDI performance

Choice of RG 6, Belden 1694A or Belden 1855A cable terminations

HDBNC

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

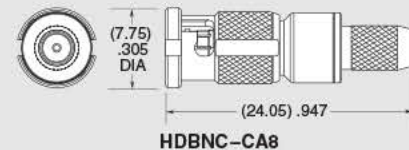
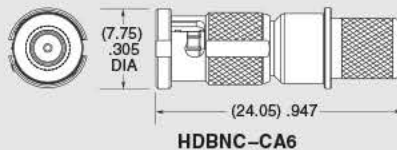
-P  
= Plug

-C  
= Cable

-GN  
= 10μ"  
(0.25 μm)  
Gold on contact,  
Nickel on outer  
contact and shell

-ST  
= Straight

-CA6  
= RG 6  
or Belden 1694A Cable  
  
-CA8  
= Belden 1855A Cable



**Notes:**  
Compatible with Amphenol's HD-BNC™

Designed to meet SMPTE 424M 3G-SDI specifications.

Supplied with pins and ferrules. See website for dimensions.



-EM &amp; -TH only

BNC7T-J-P-GN-ST-EM1

BNC7T-J-P-GN-RA-BH2D

BNC7T-J-C-GN-ST-BH3

BNC7T SERIES

# 75Ω OPTIMIZED BNC JACKS & PLUGS

Mates with:  
RF179, RFA6T,  
RFB6T, GRF7H-C

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?BNC7T-TH](http://www.samtec.com?BNC7T-TH), [www.samtec.com?BNC7T-BH](http://www.samtec.com?BNC7T-BH) or [www.samtec.com?BNC7T-EM](http://www.samtec.com?BNC7T-EM)

**Shell Material:**  
Ni plated Brass  
(-TH1, -BH1, -EM1, -EM2)  
Zinc (-TH2D, -BH2D,  
-EM1D, -EM2D)

**Contact Material:** Copper Alloy  
**Insulator Material:** PTFE

**Impedance:**  
ST = 75Ω ±2Ω  
RA = 75Ω ±4Ω

**Frequency Range:** 0-12 GHz  
**V.S.W.R.:** 1.45 max

**Working Voltage:** 500 Vrms  
**Dielectric Withstanding:**  
1500 Vrms min

**Contact Resistance:**  
Center Contact: 1.5mΩ max  
Outer Contact: 0.4mΩ max

**Operating Temperature:**  
-65°C to +125°C

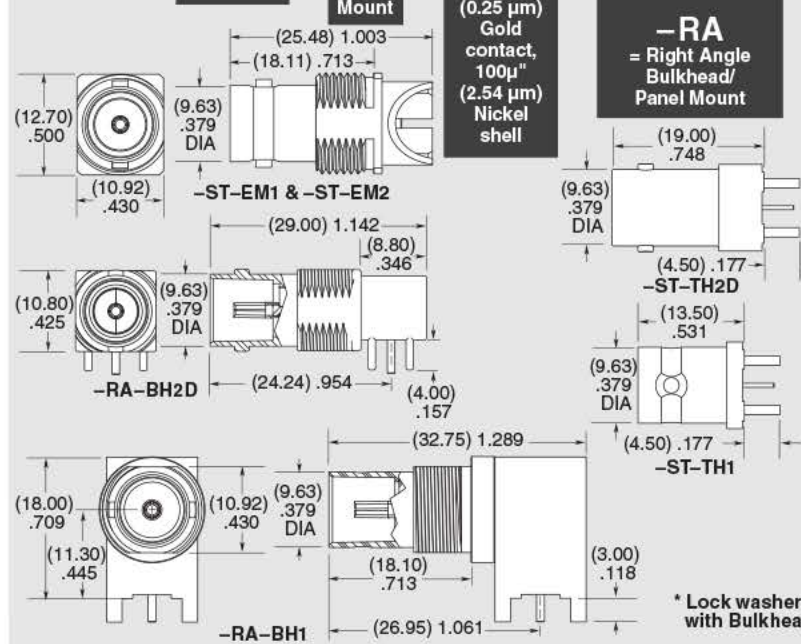
**RoHS Compliant:** Yes

**Lead-Free Solderable:** Yes

## TOOL

Tool for quickly installing/uninstalling knurl nut for BNC7T Series  
Part Number:  
TOOL-BNC7T-01

BNC7T	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION
	-J = Jack	-P = PCB Mount	-GN = 10μ" (0.25 μm) Gold contact, 100μ" (2.54 μm) Nickel shell	-ST = Straight -RA = Right Angle Bulkhead/Panel Mount	-TH1 = Standard Through-hole -TH2D = Tall Through-hole -BH1 = Standard Bulkhead Through-hole (-RA only) -BH2D = Low Profile Die Cast Bulkhead Through-hole (-RA only) -EM1* = Edge Mount Bulkhead/Panel Mount for (1.60 mm) .062" PCB (-ST only)
					-EM1D* = Edge Mount Die Cast 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) -EM2D* = Edge Mount Die Cast Bulkhead/Panel Mount for (2.40 mm) .093" PCB (-ST only)



## SPECIFICATIONS

For complete specifications and assembly instructions see [www.samtec.com?BNC7T-CA](http://www.samtec.com?BNC7T-CA)

**Shell Material:**  
Brass  
**Contact Material:**  
Brass (-P), Copper Alloy (-J)  
**Center Contact:**  
Soldered  
**Outer Ferrule:**  
Crimped

**Impedance:**  
75Ω

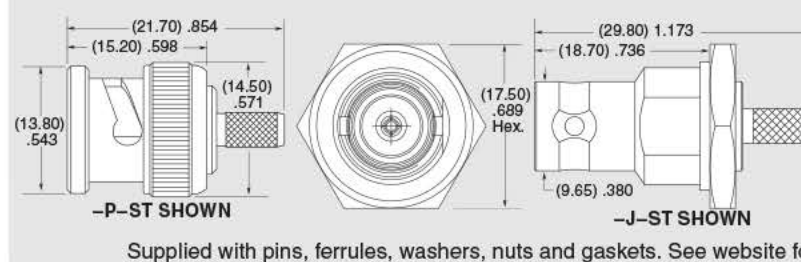
**Frequency Range:**  
0-4 GHz (-P), 0-3.5 GHz (-J)  
**V.S.W.R.:**  
1.3 max

**Working Voltage:** 500 Vrms  
**Dielectric Withstanding:**  
1500 Vrms min

**Contact Resistance:**  
Center Contact: 3mΩ max  
Outer Contact: 2mΩ max

**Insulator Resistance:**  
5,000 MΩ min  
**Operating Temperature:**  
-65°C to +125°C

BNC7T	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION
	-P = Plug -J = Jack	-C = Cable	-GN = 10μ" (0.25 μm) Gold on contact, Nickel on outer contact and shell	-ST = Straight -RA = Right Angle (-P only)	-CA3 = RG 179 Cable (-P only) -CA3D = RG 179 Cable Die Cast (-P-ST only) -BH3 = Bulkhead, RG 179 Cable (-J only)
					-CA6 = RG 6 or Belden 1694A Cable (-P only) -CA6D = RG 6 or Belden 1694A Cable Die Cast (-P-ST only)





INDEX

WEB

BNC5-P-C-GN-ST-CA1



BNC5-J-P-GN-RA-BH2D

BNC5 SERIES

# 50Ω BNC CABLE COMPONENTS

## SPECIFICATIONS

For complete specifications and assembly instructions see [www.samtec.com?BNC5-CA](http://www.samtec.com?BNC5-CA)

### Shell Material:

Brass

### Contact Material:

Brass (-P)

Copper Alloy (-J)

### Center Contact:

Soldered

### Outer Contact:

Crimped

### Impedance:

50Ω

### Frequency Range:

0-4 GHz

(Cable dependent)

### V.S.W.R.:

1.3 max

### Working Voltage:

500 Vrms max

### Dielectric Withstanding:

1500 Vrms min

### Contact Resistance:

Center Contact: 3mΩ max

Outer Contact: 2mΩ max

### Insulator Resistance:

5,000 MΩ min

### Operating Temp Range:

-65°C to +125°C



## OTHER SOLUTIONS

- 50Ω BNC Board Jacks
- 50Ω TNC Board Jacks
- 50Ω TNC Cable Components
- Contact Samtec.

BNC5

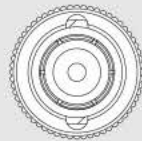
GENDER

TYPE

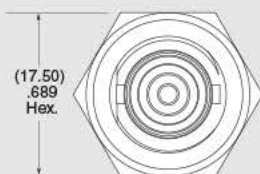
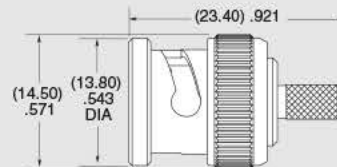
PLATING

ORIENTATION

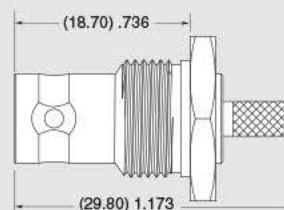
TERMINATION

-P  
= Plug-J  
= Jack-C  
= Cable-GN  
= 10μ"  
(0.25 μm)  
Gold on contact,  
Nickel on body-ST  
= Straight-CA1  
= RG 174 / 316 Cable  
(-P only)-CA2  
= RG 178 Cable  
(-P only)-BH1  
= Bulkhead,  
RG 174 / 316 Cable  
(-J only)-BH2  
= Bulkhead,  
RG 178 Cable  
(-J only)-BH1S  
= Bulkhead,  
RG 316 Cable,  
Double Shield  
(-J only)

-P



-J



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



NTPE-J-C-GN-ST-BH1

NTPE-J-C-GN-ST-BH1

NTPE SERIES

# 50Ω N TYPE RF COMPONENTS

## SPECIFICATIONS

For complete specifications and assembly instructions see [www.samtec.com?NTPE-CA](http://www.samtec.com?NTPE-CA)

**Shell Material:**

Brass

**Contact Material:**

Phosphor Bronze

**Insulator Material:**

PTFE

**Center Contact:**

Soldered

**Outer Contact:**

Crimped

**Impedance:**

50Ω

**Frequency Range:**

0-3 GHz

(Cable dependent)

**V.S.W.R.:**

1.3 max

**Working Voltage:**

1000 Vrms max

**Dielectric Withstanding:**

2500 Vrms min

**Contact Resistance:**

Center Contact: 3mΩ max

Outer Contact: 2mΩ max

**Insulator Resistance:**

5,000 MΩ min

**Operating Temp Range:**

-65°C to +125°C



NTPE

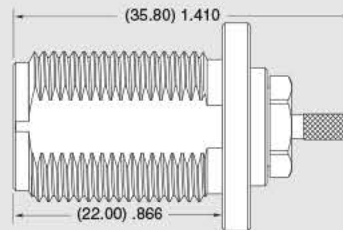
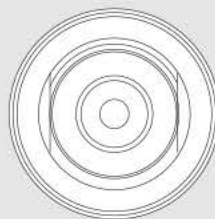
GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

-J  
= Jack-C  
= Cable-GN  
= 10μ"  
(0.25 μm)  
Gold on  
contact,  
Nickel on  
body-ST  
= Straight-BH1  
= Bulkhead,  
RG 174 &  
RG 316 Cable

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





ADP5-06SJ2-V3SJ1



ADP5-06SP2-V3SP1

ADP5 SERIES

# 50Ω OPTIMIZED ADAPTORS

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?ADP5](http://www.samtec.com?ADP5)

### Shell Material:

Brass

### Contact Material:

BeCu, Copper Alloy, Phosphor Bronze, or Brass

### Impedance:

50Ω

### Frequency Range:

0-6 GHz

### Contact Resistance:

Center:

5mΩ max (MMCXV),

3mΩ max (N Type)

Outer:

2mΩ max (N Type),

2.5mΩ max (MMCXV)

### Insulator Resistance:

5,000 mΩ min.

### Operating Temp Range:

-50°C to +165°C

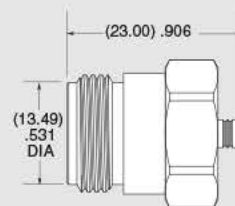
### Mates with:

RF174, RF316, RF178, RF058, GRF1H-C

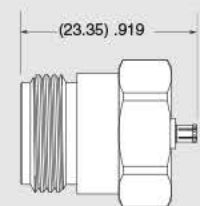


## N TYPE TO MMCXV

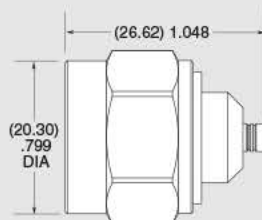
ADP5 ADAPTOR	PART NUMBER
N Type Jack to MMCXV Jack	ADP5-06SJ2-V3SJ1
N Type Jack to MMCXV Plug	ADP5-06SJ2-V3SP1
N Type Plug to MMCXV Jack	ADP5-06SP2-V3SJ1
N Type Plug to MMCXV Plug	ADP5-06SP2-V3SP1
Plating: N Type jack/plug = 30μ" (0.76 μm) Gold center contact, 100μ" (2.54 μm) Nickel outer contact  MMCXV jack/plug = 30μ" (0.76 μm) Gold center contact, Gold flash outer contact	



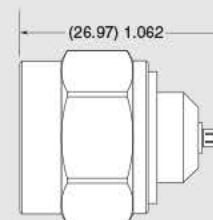
ADP5-06SJ2-V3SJ1



ADP5-06SJ2-V3SP1



ADP5-06SP2-V3SJ1



ADP5-06SP2-V3SP1



ADP7-04SP2-H4SJ2



ADP7-04SJ2-H4SP2

ADP7-04SJ2-H4SJ2



ADP7-04SP2-H4SP2

ADP7 SERIES

# 75Ω OPTIMIZED ADAPTORS

## Mates with:

RFA6T, RFB6T,  
RFB8T, RF179, HDBNC,  
BNC7T, MMCX7, GRF7H-C

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?ADP7](http://www.samtec.com?ADP7)

### Shell Material:

Brass

### Contact Material:

BeCu (Jack)

Brass (Plug to Plug)

### Impedance:

75Ω

### Frequency Range:

3 GHz +

### V.S.W.R.:

1.2 max (0-3 GHz)

### Working Voltage:

170 Vrms

### Dielectric Withstanding:

500 Vrms

### Contact Resistance:

Center: 1.5mΩ max

(BNC, HDBNC),

3mΩ max (N Type),

Outer: 0.4mΩ max

(BNC, HDBNC),

2mΩ max (N Type),

### Insulator Resistance:

5,000 mΩ min.

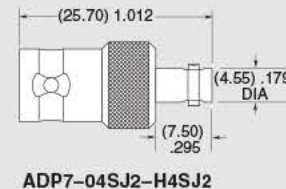
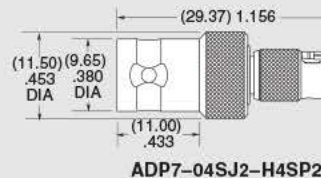
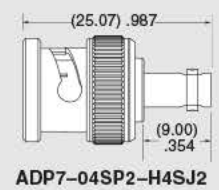
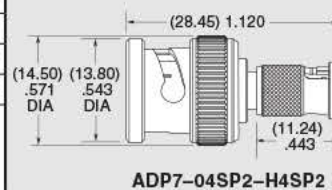
### Operating Temp Range:

-65°C to +165°C

## BNC TO HDBNC

ADP7 ADAPTOR	PART NUMBER
BNC Jack to HDBNC Jack	ADP7-04SJ2-H4SJ2
BNC Jack to HDBNC Plug	ADP7-04SJ2-H4SP2
BNC Plug to HDBNC Jack	ADP7-04SP2-H4SJ2
BNC Plug to HDBNC Plug	ADP7-04SP2-H4SP2

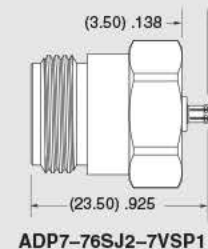
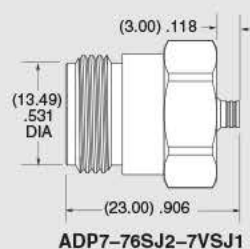
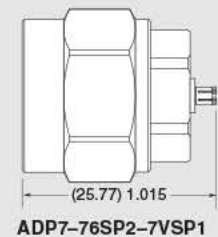
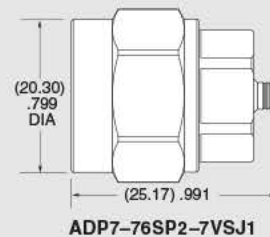
Plating:  
BNC jack/plug =  
30μ" (0.76 μm) Gold center contact,  
100μ" (2.54 μm) Nickel outer contact  
HDBNC jack/plug =  
30μ" (0.76 μm) Gold center contact,  
100μ" (2.54 μm) Nickel outer contact



## N TYPE TO MMCX7

ADP7 ADAPTOR	PART NUMBER
N Type Jack to MMCX7 Jack	ADP7-76SJ2-7VSJ1
N Type Jack to MMCX7 Plug	ADP7-76SJ2-7VSP1
N Type Plug to MMCX7 Jack	ADP7-76SP2-7VSJ1
N Type Plug to MMCX7 Plug	ADP7-76SP2-7VSP1

Plating:  
N Type jack/plug =  
30μ" (0.76 μm) Gold center contact,  
100μ" (2.54 μm) Nickel outer contact  
MMCX7 jack/plug =  
30μ" (0.76 μm) Gold center contact,  
Gold flash outer contact



Note:  
Designed to meet SMPTE  
424M 3G-SDI specifications.



# ORIGINAL RF SOLUTIONS

## 100Ω SYSTEMS

Shielded Twisted Pair Twinax Cable (C285).....	68
Twinax Jack (CJT).....	68

## 5.00 mm PITCH

50Ω Micro-Mini Ganged Cable (GRF1-C, GRF1H-C) .....	69-71
75Ω True75™ Micro-Mini Ganged Cable (GRF7H-C).....	72-73
50Ω Micro-Mini Ganged Connectors (GRF1-J, GRF1-P).....	74
75Ω Micro-Mini Ganged Connectors (GRF7-J, GRF7-P) .....	75

## 4.00 mm PITCH

50Ω IsoRate® Cable (IJ5C, IJ5H).....	76-77
50Ω IsoRate® Connectors (IJ5, IP5) .....	78-79
75Ω True75™ IsoRate® Connectors (IJ7, IP7) .....	80

## 0.635 mm PITCH

Q2™ High Speed Combo Connectors (QFS-RF, QMS-RF) .....	81
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## APPLICATIONS

Original RF Solutions.....	12
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C28S, CJT SERIES

# 100Ω SHIELDED TWISTED PAIR SYSTEM

## SPECIFICATIONS

For complete specifications see [www.samtec.com?C28S](http://www.samtec.com?C28S)

### RF Connector:

**Outer Contact Material:** Phosphor Bronze (Plug), Brass (Jack)  
**Center Contact Material:** Phosphor Bronze (Terminals), BeCu (Sockets)  
**Insulator Material:** PTFE

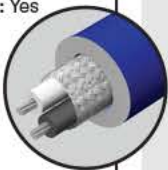
**Operating Temperature:** -40°C to +85°C  
**Voltage Rating:** 200 VAC  
**Frequency Range:** 0 - 4 GHz  
**Impedance:** 100Ω

**RoHS Compliant:** Yes

### Cable:

**Cable:** 28 AWG shielded twisted pair  
**Signal Routing:** 100Ω Differential  
**Jacket Material:** PVC  
**Insulator Material:** PTFE  
**RoHS Compliant:** Yes

**Note:** Cable lengths longer than 36.00" (0.92 meter) are not supported with S.I. test data.



TYPE	OVERALL LENGTH	END 1 CONNECTOR	END 2 CONNECTOR
Mates with: CJT, C28S	- "XX.XX" = Overall Length in Inches (101.6 mm) 04.00" minimum	Specify END OPTIONS from chart	
C28S = 28 AWG shielded twisted pair			
END OPTIONS			
-SPS8 = Straight Plug with Sockets (30μ" (0.76 μm) Gold on Center and Outer Contact, Gold Flash on Shell)			
-RPS8 = Right Angle Plug with Sockets (30μ" (0.76 μm) Gold on Center and Outer Contact, Gold Flash on Shell)			
-BJT8 = Bulkhead Jack with Terminals (30μ" (0.76 μm) Gold on Center and Outer Contact, Gold Flash on Shell)			
-SING = Single Ended (End 2 callout)			
-XXXXXX = Stripped & Tinned (End 2 callout) (See chart for callout)			

XX.XX = OAL (inches)

-RPS8-BJT8 SHOWN

**ALSO AVAILABLE (MOQ Required)**

- Additional stripping and tinning options
- Contact Samtec.

**STRIPPED & TINNED (Dimensions in inches)**

CALLOUT	A	B	C
-303030	.30	.30	.30
-303040	.30	.30	.40
-403030	.40	.30	.30
-403040	.40	.30	.40

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

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?CJT-TH](http://www.samtec.com?CJT-TH) or [www.samtec.com?CJT-BH](http://www.samtec.com?CJT-BH)

**Shell Material:** Brass  
**Insulator Material:** PTFE  
**Contact Material:** Phosphor Bronze  
**Frequency Range:** 0 - 4 GHz  
**Working Voltage:** 200 VAC  
**Impedance:** 100Ω  
**RoHS Compliant:** Yes  
**Lead-Free Solderable:** Yes

CJT	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION
Mates with: C28S	-T = Jack	-P = PCB Mount	-HH = 30μ" (0.76 μm) Gold on pins and outer contact	-ST = Straight -RA = Right Angle	-TH1 = Standard Through-hole -BH1* = Standard Bulkhead Through-hole (-RA only)

\* Lock washer, nut and gasket supplied unassembled with Bulkhead option.





(5.00 mm) .197"



GRF1-P-C-08-1000-C1-S-S

GRF1-P-C-04-0600-C1-S-S

GRF1-C SERIES

# 50Ω GANGED MICRO-MINI RF CABLE

## SPECIFICATIONS

For complete specifications see [www.samtec.com?GRF1-C](http://www.samtec.com?GRF1-C)

### Shell Material:

Brass

### Insulator Material:

PTFE

### Contact Material:

BeCu

### Pin Material:

Brass

### Plating:

30μ" (0.76 μm) Au over

50μ" (1.27 μm) Ni

### Operating Temp Range:

-40°C to +90°C

### Impedance:

50Ω

### RoHS Compliant:

Yes

### RG 316 Cable:

#### Impedance:

50Ω

#### Capacitance:

96.432 pF/meter

#### Propagation Delay:

4.83 nsec/meter

#### Max Attenuation

(cable only):

1.25dB @ 1 GHz for 1 meter

#### Conductor Size:

26 AWG, (0.51 mm) .020" dia.

#### Conductor Material:

Silver Plated Copper

#### Insulator Diameter:

(1.52 mm) .060"

#### Insulator Material:

PTFE

#### Shield Material:

Silver Plated Copper Clad Steel

#### Jacket Material:

FEP

#### Jacket Diameter:

(2.54 mm) .100"

#### Jacket Color:

Amber

#### Bend Radius:

12.7 mm

#### RoHS Compliant:

Yes

Mates with:

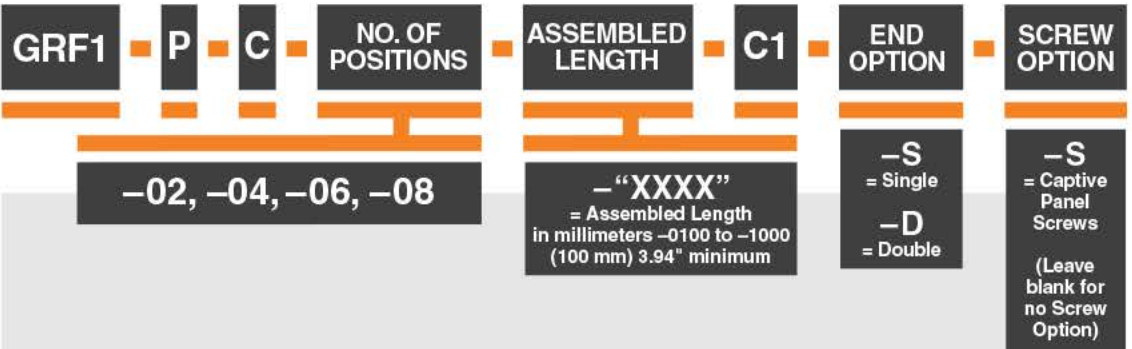
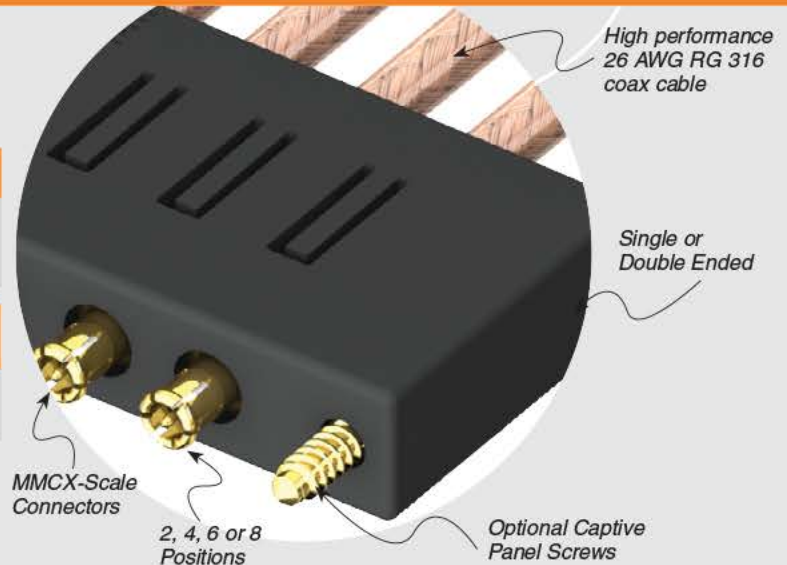
GRF1-J

## TOOLING

Application Tooling.  
Contact [atg@samtec.com](mailto:atg@samtec.com)  
for more information.

## OTHER SOLUTIONS

- 50Ω Board-to-Board system (see GRF1-J & GRF1-P Series)



## RECOGNITIONS

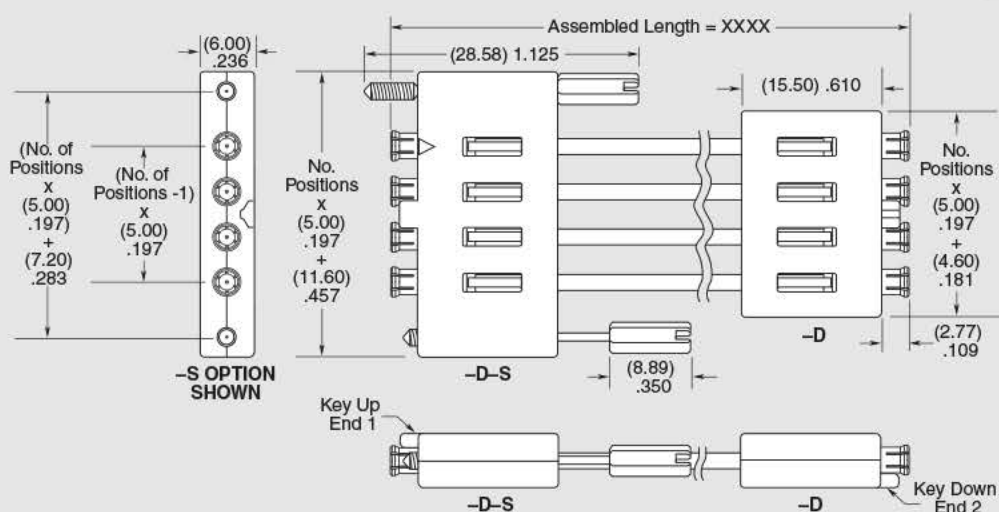
For complete scope of recognitions see [www.samtec.com/quality](http://www.samtec.com/quality)



### Notes:

Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

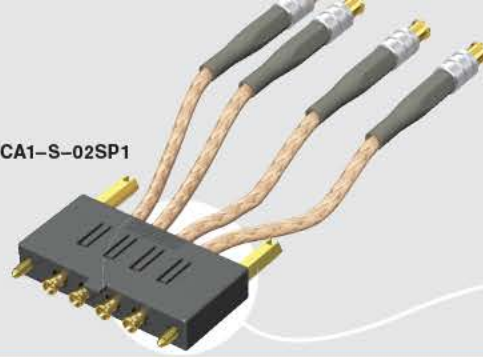
This Series is non-standard, non-returnable.





(5.00 mm) .197"

GRF1H-4-0300-1-CA1-S-02SP1



# 50Ω HYBRID MICRO-MINI RF CABLE

## SPECIFICATIONS

For complete specifications see  
www.samtec.com?GRF1H-C

### RF Connector:

#### Shell Material:

Brass  
(GRF, SMA, MCX, MMCX,  
SMB, BNC)

#### Insulator Material:

PTFE

#### Contact Material:

Brass  
(GRF, SMA, MCX, MMCX,  
SMB-J, BNC-P, TNC-P)  
Phosphor Bronze  
(SMB-P-ST, TNC-J, N Type)  
BeCu  
(SMB-P-RA)  
Copper Alloy  
(BNC-J)

#### Operating Temp Range:

-40°C to +90°C

#### Impedance:

50Ω

#### RoHS Compliant:

Yes

### RG 316 Cable:

#### Impedance:

50Ω

#### Capacitance:

96.432 pF/meter

#### Propagation Delay:

4.83 nsec/meter

#### Max Attenuation

(cable only):

1.25dB @ 1 GHz for 1 meter

#### Conductor Size:

26 AWG,

(0.51 mm) .020" dia.

#### Conductor Material:

Silver Plated Copper

#### Insulator Material:

PTFE

#### Shield Material:

Silver Plated

Copper Clad Steel

#### Jacket Material:

FEP

#### Jacket Diameter:

(2.54 mm) .100"

#### Jacket Color:

Amber

#### Bend Radius:

12.7 mm

#### RoHS Compliant:

Yes

### Mates with:

GRF1-J, SMA,  
MCX, SMB5, MMCX,  
BNC5, TNC, NTPE

High performance  
26 AWG RG 316  
coax cable

2, 4, 6 or 8  
Positions

MMCX-Scale  
Connectors

Optional Captive  
Panel Screws

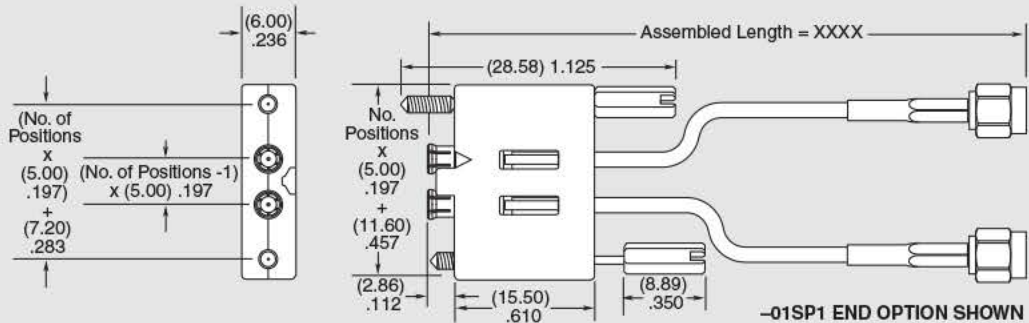
GRF1H

NO. OF  
POSITIONSASSEMBLED  
LENGTH

-2, -4, -6, -8

- "XXXX"

= Assembled Length in millimeters  
-0100 (0100 mm) 3.94" minimum



END OPTIONS		END OPTIONS	
-01SP1 = SMA Straight Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)		-07SP1 = SMB Straight Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-01RP1 = SMA Right Angle Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)		-07RP1 = SMB Right Angle Plug (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-01PN1 = SMA Straight Panel Mount Jack (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)		-02SJ1 = MCX Straight Jack (30μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	

### Notes:

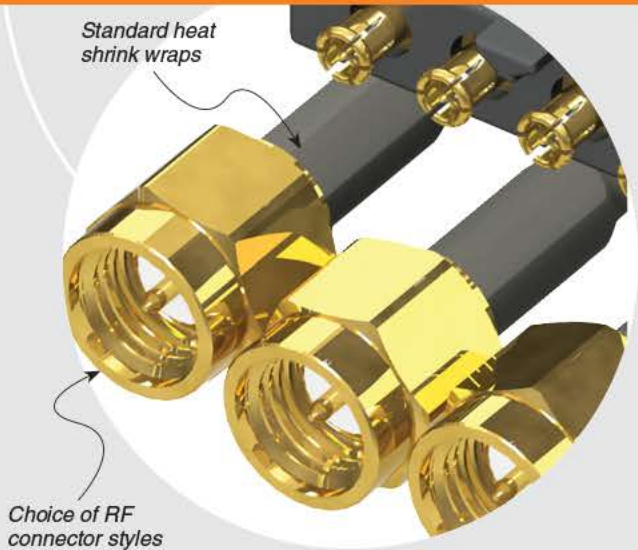
Cable lengths longer than  
40.00" (1 meter) are not  
supported with S.I. test data.

This Series is non-standard,  
non-returnable.





**GRF1H-C SERIES**



**END 1 PLATING**

**CABLE TYPE**

**SCREW OPTION**

**END 2 OPTION**

-1

= All Gold components

-CA1

= RG 316 cable

-S

= Captive Panel Screws  
(Leave blank for no Screw Option)

Specify END OPTIONS from chart

END OPTIONS	
-02SP1 = MCX Straight Plug (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	
-02RP1 = MCX Right Angle Plug (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	
-03SP1 = MMCX Straight Plug (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	
-03RP1 = MMCX Right Angle Plug (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	
-04SP3 = BNC Straight Plug (10µ" (0.25 µm) Gold on Center Contact, Nickel on Shell)	

END OPTIONS	
-05SP3 = TNC Straight Plug (10µ" (0.25 µm) Gold on Center Contact, Nickel on Shell)	
-01BJ1 = SMA Straight Bulkhead Jack	
-01BR1 = SMA Straight Bulkhead Jack, Reversed Polarity	
-01SB1 = SMA Straight Bulkhead Jack, Sealed	
-01SR1 = SMA Straight Bulkhead Jack, Sealed, Reversed Polarity	
(30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	

END OPTIONS	
-07BJ1 = SMB Straight Bulkhead Jack (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	
-04BJ2 = BNC Straight Bulkhead Jack (30µ" (0.76 µm) Gold on Center Contact, Nickel on Shell)	
-05BJ3 = TNC Straight Bulkhead Jack (10µ" (0.25 µm) Gold on Center Contact, Nickel on Shell)	
-06BJ2 = N Type Straight Bulkhead Jack (30µ" (0.76 µm) Gold on Center Contact, Nickel on Shell)	



(5.00 mm) .197"



GRF7H-4-0500-1-CA3-S-73SP1

# 75Ω HYBRID MICRO-MINI RF CABLE

## SPECIFICATIONS

For complete specifications see [www.samtec.com?GRF7H-C](http://www.samtec.com?GRF7H-C)

### RF Connector:

**Shell Material:**  
Brass  
(GRF, MCX, SMB,  
DIN, BNC, MMCX7-J)  
BeCu  
(MMCX7-P)

**Insulator Material:**  
PTFE

**Contact Material:**  
BeCu  
(GRF, SMB)  
Brass  
(MCX, BNC-P, MMCX7)  
Copper Alloy  
(DIN, BNC-J)

**Operating Temp Range:**  
-40°C to +90°C

**Impedance:**  
75Ω

**RoHS Compliant:**  
Yes

### RG 179 Cable:

**Impedance:**  
75Ω ±3Ω  
**Capacitance:**  
64 pF/meter  
**Max Attenuation  
(cable only):**  
0.8dB @ 1GHz for 1 meter  
**Conductor Size:**  
30 AWG, (0.31 mm) .012" dia.

**Conductor Material:**  
Silver Plated Copper  
**Insulator Material:**  
PTFE

**Shield Material:**  
Silver Plated Copper  
**Jacket Material:**  
FEP

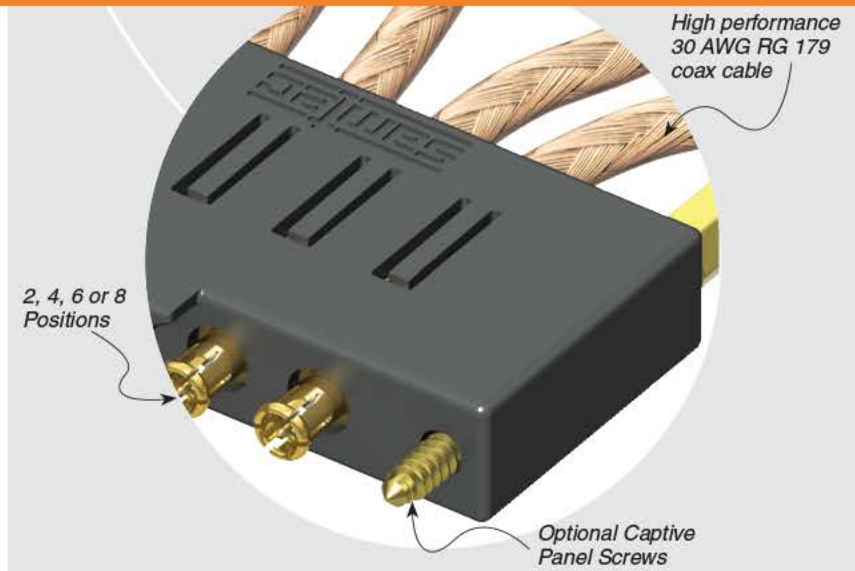
**Jacket Diameter:**  
(2.54 mm) .100"

**Jacket Color:**  
Amber

**Bend Radius:**  
10.2 mm

**RoHS Compliant:**  
Yes

**Mates with:**  
GRF7-J, MCX7, MMCX7,  
SMB7H, DIN7A, BNC7T

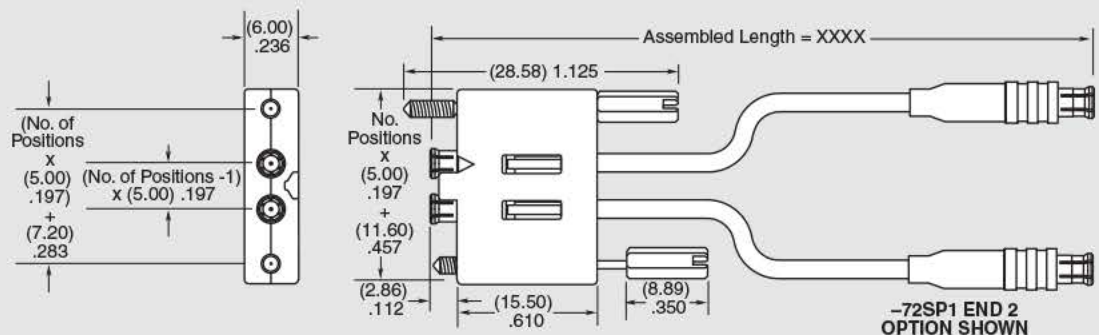


GRF7H

NO. OF  
POSITIONSASSEMBLED  
LENGTH

-2, -4, -6, -8

- "XXXX"

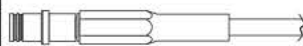
= Assembled Length in millimeters  
-0100 (100 mm) 3.94" minimum

### END OPTIONS

-73SP1 = 75Ω MMCX7  
Straight Plug  
(30μ" (0.76 μm) Gold  
on Center Contact,  
Gold Flash on Shell)



-73SJ1 = 75Ω MMCX7  
High Vibration Straight Jack  
(30μ" (0.76 μm) Gold  
on Center Contact,  
Gold Flash on Shell)



### END OPTIONS

-72SP1 = 75Ω MCX  
Straight Plug  
(30μ" (0.76 μm)  
Gold on Center Contact,  
Gold Flash on Shell)



-72RP1 = 75Ω MCX  
Right Angle Plug  
(30μ" (0.76 μm)  
Gold on Center Contact,  
Gold Flash on Shell)



### Notes:

Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Designed to meet SMPTE 424M 3G-SDI specifications.

This Series is non-standard, non-returnable.





GRF7H-2-0300-1-CA3-S-74BJ3

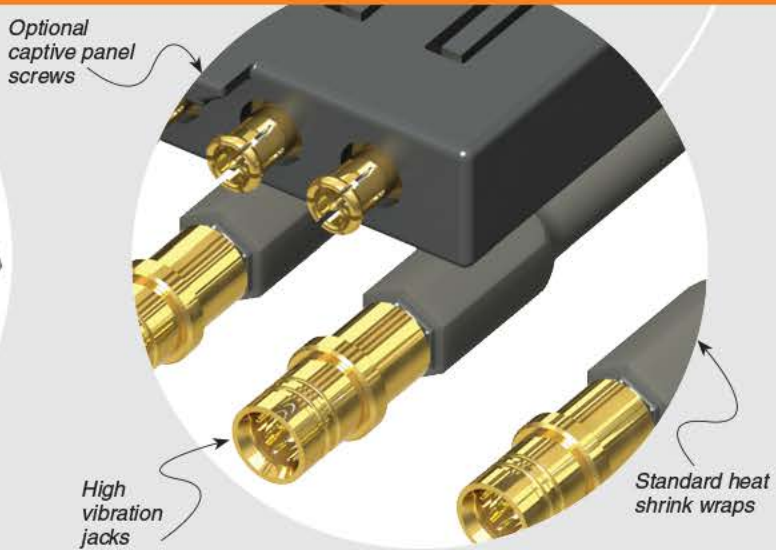


GRF7H-4-0800-1-CA3-73SJ1

**GRF7H-C SERIES**



Variety of standard straight and right angle plugs and jacks



Optional captive panel screws

High vibration jacks

Standard heat shrink wraps

**END 1 PLATING**

-1

= All Gold components

**CABLE TYPE**

-CA3

= RG 179 cable

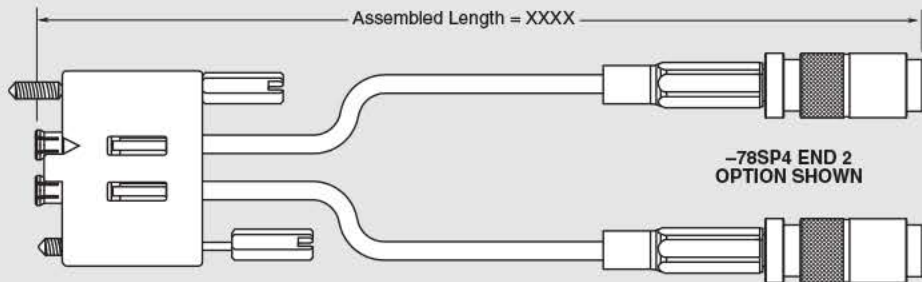
**SCREW OPTION**

-S

= Captive Panel Screws  
(Leave blank for no Screw Option)

**END 2 OPTION**

Specify END OPTIONS from chart



END OPTIONS	
-77RP1 = 75Ω SMB Right Angle Plug (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	
-77SP1 = 75Ω SMB Straight Plug (30µ" (0.76 µm) Gold on Center Contact, Gold Flash on Shell)	
-78SP4 = 75Ω DIN Straight Plug (10µ" (0.25 µm) Gold on Center Contact, Nickel on Shell)	

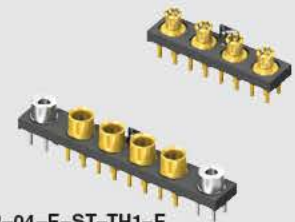
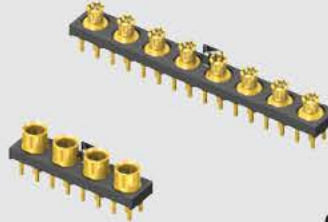
END OPTIONS	
-74BJ3 = 75Ω BNC Straight Bulkhead Jack (10µ" (0.25 µm) Gold on Center Contact, Nickel on Shell)	
-74SP3* = 75Ω BNC Straight Plug (10µ" (0.25 µm) Gold on Center Contact, Nickel on Shell) (*Die Cast also available = -D4SP3)	



(5.00 mm) .197"

GRF1-P-P-08-E-ST-TH1

GRF1-P-P-04-E-ST-TH1



GRF1-J-P-04-E-ST-TH1

GRF1-J-P-04-E-ST-TH1-E

GRF1-J, GRF1-P SERIES

# 50Ω GANGED MICRO-MINI RF SYSTEMS

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?GRF1-J](http://www.samtec.com?GRF1-J) or [www.samtec.com?GRF1-P](http://www.samtec.com?GRF1-P)

### Shell Material:

Brass

### Insulator Material:

PTFE

### Contact Material:

BeCu

### Pin Material:

Brass

### Plating:

30μ" (0.76 μm) Au

over 50μ" (1.27 μm) Ni

### Current Rating

(GRF1-J/GRF1-P):

Signals: 3.6 A per pin

(8 adjacent pins powered)

Grounds: 6.2 A per pin

(8 adjacent pins powered)

### Operating Temp Range:

-40°C to +90°C

### Insulation Resistance:

1000MΩ min

### Contact Resistance:

Center: 5mΩ

Outer: 2.5mΩ

### Impedance: 50Ω

### Dielectric Withstanding Voltage:

500 Vrms, 50Hz

### Dielectric Working Voltage:

170 Vrms, 50Hz

### Frequency Range: 0-6 GHz

RoHS Compliant: Yes

### Processing:

Lead-Free Solderable: Yes

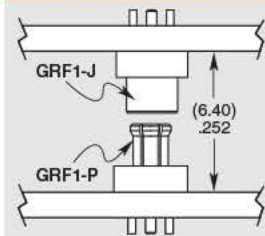
## RECOGNITIONS

For complete scope of recognitions see [www.samtec.com/quality](http://www.samtec.com/quality)



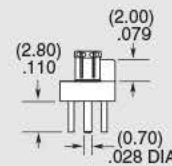
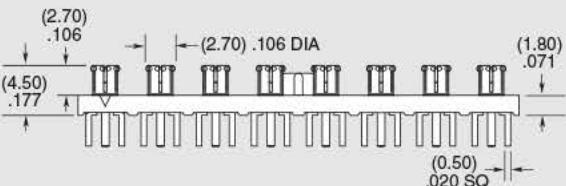
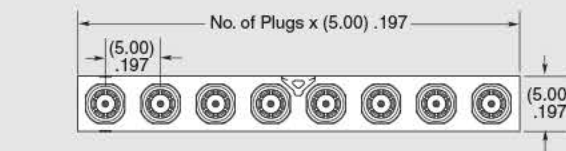
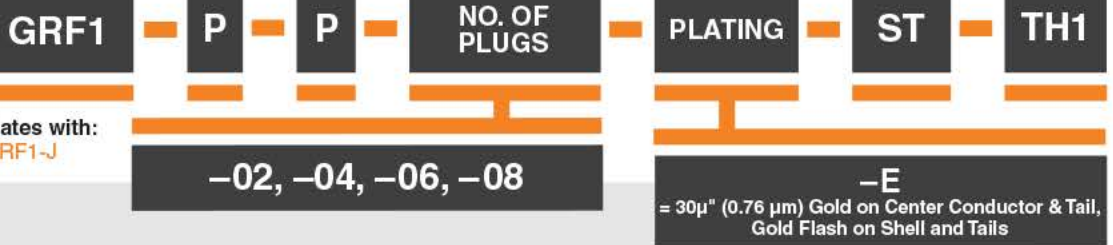
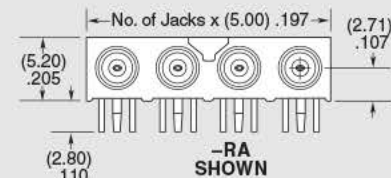
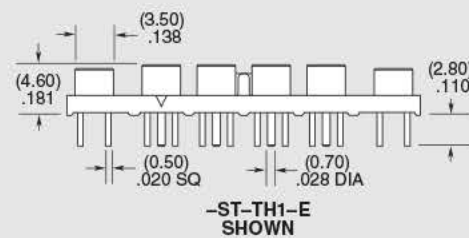
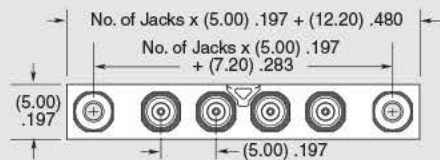
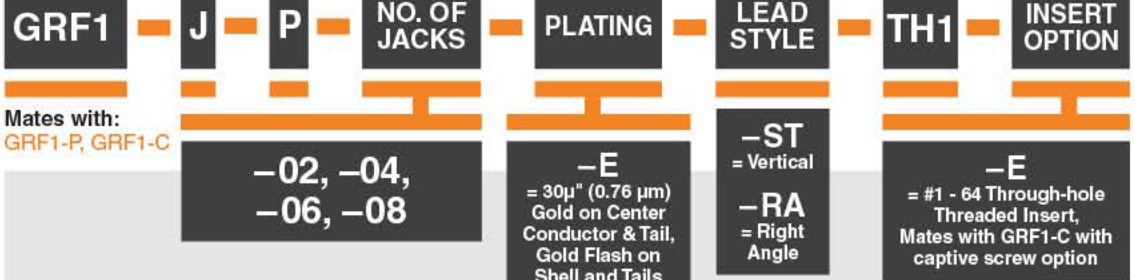
FILE NO. E111594

## APPLICATION



## OTHER SOLUTIONS

- Cable assembly (see GRF1-C Series)



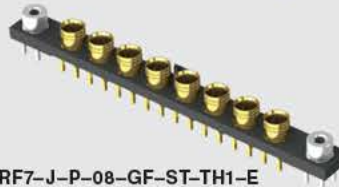




(5.00 mm) .197"

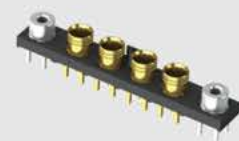


GRF7-P-P-02-GF-ST-TH1



GRF7-J-P-08-GF-ST-TH1-E

GRF7-P-P-04-GF-ST-TH1



GRF7-J-P-04-GF-ST-TH1-E

GRF7-J, GRF7-P SERIES

# 75Ω GANGED MICRO-MINI RF SYSTEMS

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?GRF7-J](http://www.samtec.com?GRF7-J) or [www.samtec.com?GRF7-P](http://www.samtec.com?GRF7-P)

### Housing Material:

ABS

### Shell Material:

Brass

### Insulator Material:

PTFE

### Contact Material:

BeCu

### Pin Material:

Brass

### Operating Temp Range:

-55°C to +125°C

### Insulation Resistance:

600 MΩ min

### Contact Resistance:

Center: Testing Now!

Outer: 25 mΩ

### Impedance:

75Ω

### Dielectric Withstanding Voltage:

500 Vrms, 50 Hz

### Dielectric Working Voltage:

170 Vrms, 50 Hz

### Frequency Range:

0-6 GHz

### RoHS Compliant:

Yes

### Processing:

Lead-Free Solderable:

Yes

GRF7

J

P

NO. OF JACKS

PLATING

LEAD STYLE

TH1

INSERT OPTION

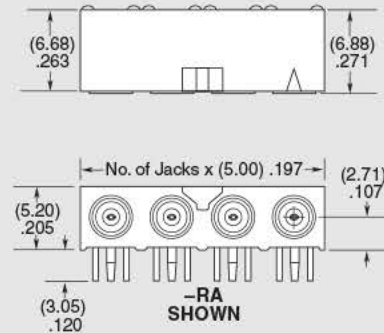
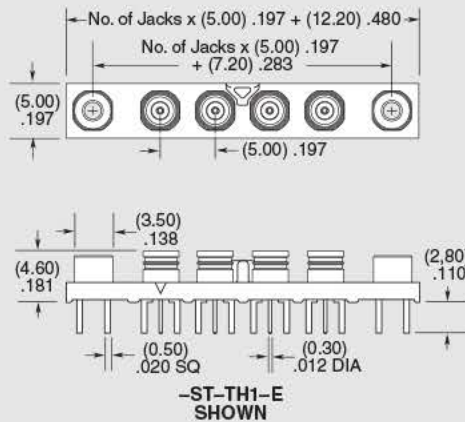
Mates with:  
GRF7-P, GRF7-C

-02, -04,  
-06, -08

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

-ST  
= Vertical  
  
-RA  
= Right Angle

-E  
= #1 - 64 Through-hole  
Threaded Insert,  
Mates with GRF7-C with  
captive screw option



## RECOGNITIONS

For complete scope of recognitions see [www.samtec.com/quality](http://www.samtec.com/quality)



FILE NO. E11594

GRF7

P

P

NO. OF PLUGS

PLATING

ST

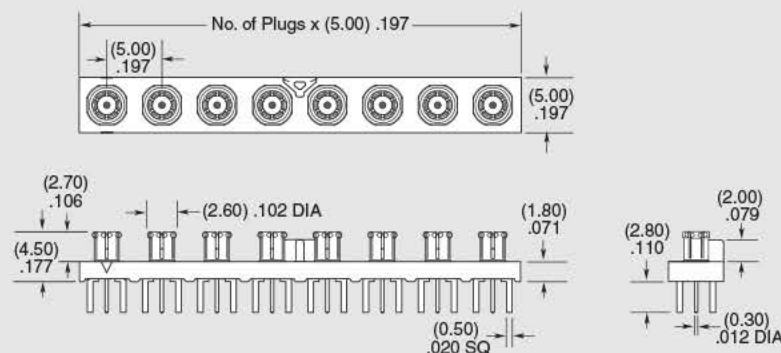
TH1

Mates with:  
GRF7-J

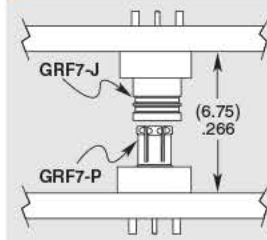
-02, -04, -06, -08

-GF

= 10μ" (0.25 μm) Gold center contact,  
3μ" (0.08 μm) Gold outer contact



## APPLICATION



## OTHER SOLUTIONS

- Cable assembly (see GRF7-C Series)

Note: Designed to meet SMPTE 424M 3G-SDI specifications.



(4.00 mm) .1575"

# 50Ω HIGH ISOLATION RF CABLE ASSEMBLY

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com/IJ5C](http://www.samtec.com/IJ5C)

- Insulator Material:** Black LCP
- Contact Material:** Copper Alloy
- Pin Material:** Copper Alloy
- Dielectric Material:** Black LCP
- Plating:** Au over 50µ" (1.27 µm) Ni
- Operating Temp Range:** -40°C to +90°C
- RoHS Compliant:** Yes

## RECOGNITIONS

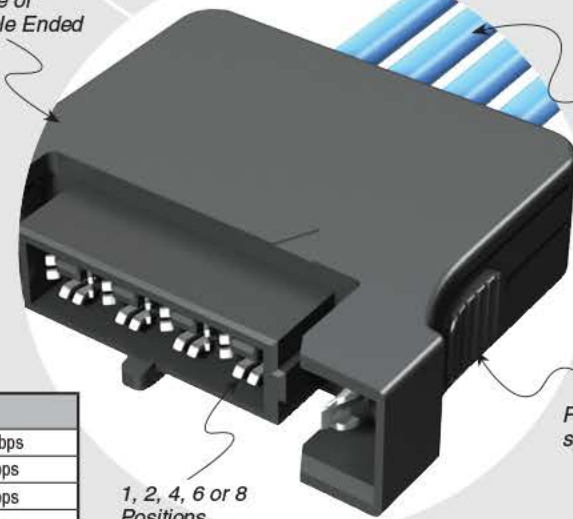
For complete scope of recognitions see [www.samtec.com/quality](http://www.samtec.com/quality)



Mates with: IP5



Single or Double Ended



High performance 26 AWG coax cable

Positive latching system

1, 2, 4, 6 or 8 Positions

1 Meter Cable Assembly	Frequency
Insertion Loss = 3 dB	9.5 GHz / 19.0 Gbps
Return Loss = 15 dB	2.2 GHz / 4.4 Gbps
VSWR = 1.4	2.1 GHz / 4.2 Gbps
Isolation = 60 dB	3.1 GHz / 6.2 Gbps

Performance and complete test data available at [www.samtec.com/IJ5C](http://www.samtec.com/IJ5C) or [contact\\_sig@samtec.com](mailto:contact_sig@samtec.com)

### Cable (-1):

- Conductor Size:** 26 AWG, (0.48 mm) .019" dia.
- Conductor Material:** Silver Plated Copper
- Insulator Diameter:** (1.27 mm) .050"
- Insulator Material:** Foamed FEP
- Shield Material:** Silver Plated Copper
- Jacket Material:** FEP
- Jacket Diameter:** (1.80 mm) .071"
- Bend Radius:** 3.175 mm
- Impedance:** 50Ω
- Current Rating:** 2.5A
- RoHS Compliant:** Yes

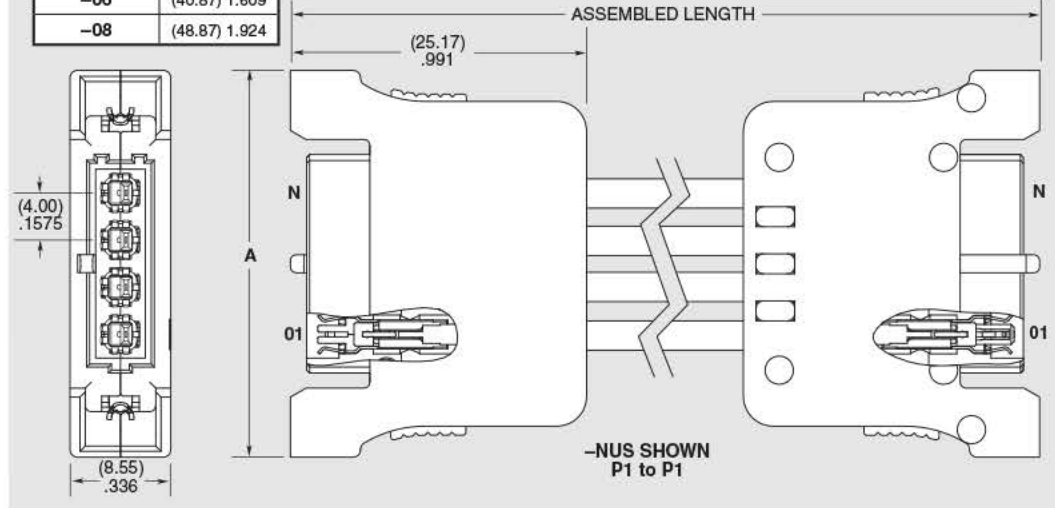
### Cable (-2):

- Conductor Size:** 26 AWG, (0.51 mm) .020" dia.
- Conductor Material:** Silver and Copper Plated Steel Wire
- Insulator Diameter:** (1.52 mm) .060"
- Insulator Material:** PTFE
- Shield Material:** Silver Plated Copper Wire
- Jacket Material:** FEP
- Jacket Diameter:** (2.54 mm) .100"
- Bend Radius:** 12.7 mm
- Impedance:** 50Ω
- Current Rating:** 5A DC
- RoHS Compliant:** Yes

**Note:** This Series is non-standard, non-returnable.

IJ5C	NO. OF POSITIONS	ASSEMBLED LENGTH	PLATING OPTION	END OPTION	END 2 OPTION	CABLE TYPE
	-01, -02, -04, -06, -08	- "XXXX" = Assembled Length in millimeters -0100 to -1000 (100 mm) 3.94" minimum	-S = 30µ" (0.76 µm) Gold on contact	-S = Single Ended -D = Double Ended	-NUS = Notch up, straight P1 to P1 -NDS = Notch down, straight P1 to PN	-1 = CTB-2650F-01 cable -2 = RG 316 cable

NO. OF POSITIONS	A
-01	(20.87) .822
-02	(24.87) .979
-04	(32.87) 1.294
-06	(40.87) 1.609
-08	(48.87) 1.924







# 50Ω HYBRID RF CABLE ASSEMBLY

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?IJ5H](http://www.samtec.com?IJ5H)

### Insulator Material:

Black LCP

### Contact Material:

Copper Alloy

### Pin Material:

Copper Alloy

### Dielectric Material:

Black LCP

### Plating:

Au over 50μ" (1.27 μm) Ni

### Operating Temp Range:

-40°C to +90°C

### RoHS Compliant:

Yes

### Cable (-2):

#### Conductor Size:

26 AWG,

(0.51 mm) .020" dia.

#### Conductor Material:

Silver and Copper

Plated Steel Wire

#### Insulator Diameter:

(1.52 mm) .060"

#### Insulator Material:

PTFE

#### Shield Material:

Silver Plated Copper Wire

#### Jacket Material:

FEP

#### Jacket Diameter:

(2.54 mm) .100"

#### Bend Radius:

12.7 mm

#### Impedance:

50Ω

#### Current Rating:

5A DC

#### RoHS Compliant:

Yes

### Mates with:

IP5, SMA, MCX, MMCX, SMB5

Low cost isolated transmission line system

RG 316 Cable

1, 2, 4, 6 or 8 Positions

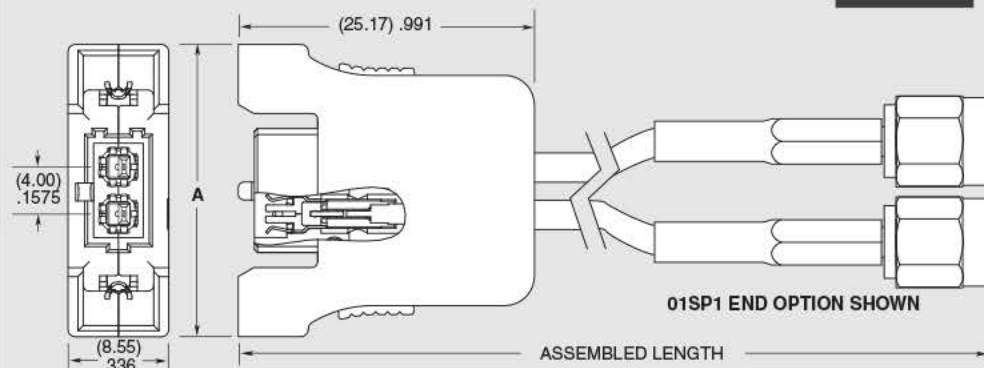
Positive latching

Choice of traditional RF end options



IJ5H	NO. OF POSITIONS	ASSEMBLED LENGTH	END 1 PLATING	CABLE TYPE	END 2 OPTION
	-01, -02, -04, -06, -08	- "XXXX" = Assembled Length in millimeters -0300 to -1000 (1000 mm) 39.40" maximum	-S = 30μ" (0.76 μm) Gold on contact	-2 = RG 316 cable	All Gold -01SP1 = SMA Straight Plug -02SP1 = MCX Straight Plug -03SP1 = MMCX Straight Plug -07SP1 = SMB Straight Plug Gold/Nickel combination -02SP2 = MCX Straight Plug -03SP2 = MMCX Straight Plug -07SP2 = SMB Straight Plug

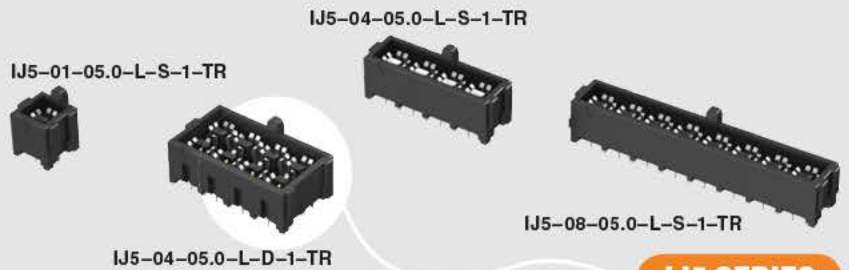
NO. OF POSITIONS	A
-01	(20.87) .822
-02	(24.87) .979
-04	(32.87) 1.294
-06	(40.87) 1.609
-08	(48.87) 1.924



**Note:**  
This Series is non-standard, non-returnable.



(4.00 mm) .1575"



IJ5 SERIES

# 50Ω HIGH ISOLATION RF JACKS

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com/IJ5](http://www.samtec.com/IJ5)

### Shell Material:

Copper Alloy

### Insulator Material:

Black LCP

### Contact Material:

Copper Alloy

### Dielectric Material:

Black LCP

### Plating:

Au or Sn over

50μ" (1.27 μm) Ni

### Current Rating (Vertical):

Signals: 2.36 A per pin

(2 adjacent pins powered)

Grounds: 4.4 A per pin

(2 adjacent pins powered)

### Operating Temp Range:

-55°C to +125°C

### Insulation Resistance:

&gt;35,000 MΩ

### Contact Resistance:

Center: &lt;34 mΩ

Outer: &lt;7 mΩ

### Dielectric Withstanding Voltage:

600 VAC

### Working Voltage:

200 VAC

RoHS Compliant: Yes

### Processing:

Lead-Free Solderable:

Yes

## RECOGNITIONS

For complete scope of recognitions see [www.samtec.com/quality](http://www.samtec.com/quality)



FILE NO. E111594

## ALSO AVAILABLE (MOQ Required)

- Other stack heights
  - Other PCB thicknesses
- Contact Samtec.

## OTHER SOLUTIONS

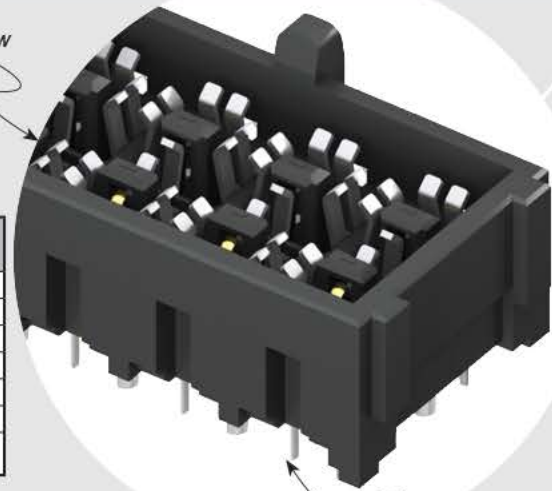
- 75Ω Board-to-Board system (see IJ7 & IP7 Series)
- Cable assembly (see IJ5C Series)

Mates with:  
IP5

IP5/IJ5 10 mm Stack Height	Frequency
Insertion Loss = 3 dB	10.5 GHz / 21.0 Gbps
Return Loss = 15 dB	5.5 GHz / 11.0 Gbps
VSWR = 1.4	5.4 GHz / 10.8 Gbps
Isolation = 60 dB	8.8 GHz / 17.6 Gbps
Isolation = 70 dB	7.6 GHz / 15.2 Gbps
Isolation = 80 dB	1.3 GHz / 2.6 Gbps

Complete test data available at [www.samtec.com/IJ5](http://www.samtec.com/IJ5) or contact [sig@samtec.com](mailto:sig@samtec.com)

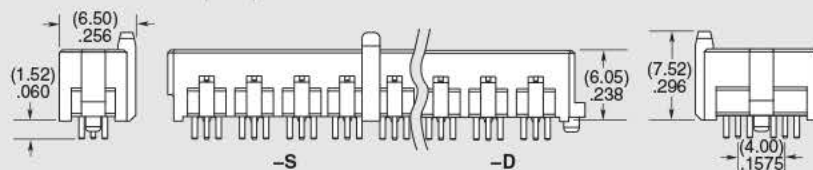
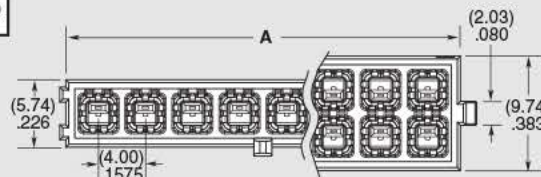
Single or  
Double Row



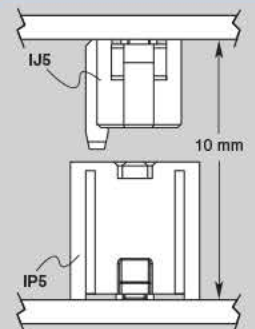
1, 2, 4, 6 or 8  
Positions



NO. OF JACKS	A
-01	(5.55) .219
-02	(9.55) .376
-04	(17.55) .691
-06	(25.55) 1.006
-08	(33.55) 1.321



## APPLICATION







(4.00 mm) .1575"

IP5-04-01-L-S-RA1-TR



IP5-04-05.0-L-S-1-TR

IP5-08-05.0-L-S-1-TR

IP5, IP5-RA SERIES

# 50Ω HIGH ISOLATION RF PLUGS

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?IP5](http://www.samtec.com?IP5)

**Shell Material:**

Copper Alloy  
**Insulator Material:**  
 Black LCP  
**Contact Material:**  
 Copper Alloy  
**Dielectric Material:**  
 Black LCP  
**Plating:**  
 Au or Sn over  
 50μ" (1.27 μm) Ni  
**Current Rating (Vertical):**  
 Signals: 2.36 A per pin  
 (2 adjacent pins powered)  
 Grounds: 4.4 A per pin  
 (2 adjacent pins powered)  
**Operating Temp Range:**  
 -55°C to +125°C  
**Insulation Resistance:**  
 IP5 = >35,000 MΩ  
 IP5-RA = 25,000 MΩ  
**Contact Resistance:**  
 IP5 = Center: <34 mΩ  
 IP5 = Outer: <7 mΩ  
 IP5-RA = Center: 20 mΩ  
 IP5-RA = Outer: 5 mΩ  
**Dielectric Withstanding Voltage:**  
 IP5 = 600 VAC  
 IP5-RA = 190 VAC  
**Working Voltage:**  
 IP5 = 200 VAC  
 IP5-RA = 190 VAC  
**RoHS Compliant:**  
 Yes

**Processing:**

Lead-Free Solderable:  
 Yes

## RECOGNITIONS

For complete scope of recognitions see [www.samtec.com/quality](http://www.samtec.com/quality)



## ALSO AVAILABLE (MOQ Required)

- Other stack heights
  - Other PCB thicknesses
- Contact Samtec.

## OTHER SOLUTIONS

- 75Ω Board-to-Board system (see IJ7 & IP7 Series)

**IP5** - **PLUGS PER ROW** - **05.0** - **PLATING** - **ROW OPTION** - **TAIL** - **OPTION** - **TR**

Mates with: **IJ5, IJ5C**

**-01, -02, -04, -06, -08**

**-L**  
= 10μ" (0.25 μm)  
Gold on contact area, Matte Tin on tail

**-S**  
= Single Row  
**-D**  
= Double Row (Not available with -01)

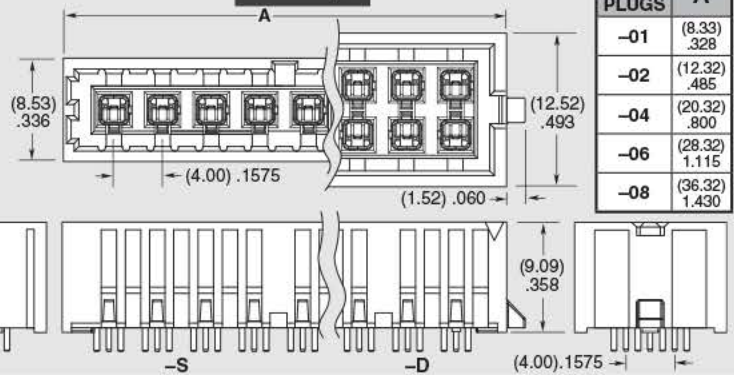
**-1**  
= (1.60 mm) .062" board thickness

**-L**  
= Cable Latch (Single Row only)

**-TR**  
= Tape & Reel

IP5/IJ5 10 mm Stack Height	Frequency
Insertion Loss = 3 dB	10.5 GHz / 21.0 Gbps
Return Loss = 15 dB	5.5 GHz / 11.0 Gbps
VSWR = 1.4	5.4 GHz / 10.8 Gbps
Isolation = 60 dB	8.8 GHz / 17.6 Gbps
Isolation = 70 dB	7.6 GHz / 15.2 Gbps
Isolation = 80 dB	1.3 GHz / 2.6 Gbps

Complete test data available at [www.samtec.com?IP5](http://www.samtec.com?IP5) or contact [sig@samtec.com](mailto:sig@samtec.com)



NO. OF PLUGS	A
-01	(8.33) .328
-02	(12.32) .485
-04	(20.32) .800
-06	(28.32) 1.115
-08	(36.32) 1.430

**IP5** - **PLUGS PER ROW** - **01** - **PLATING** - **S** - **TAIL OPTION** - **OPTION** - **TR**

Mates with: **IJ5, IJ5C**

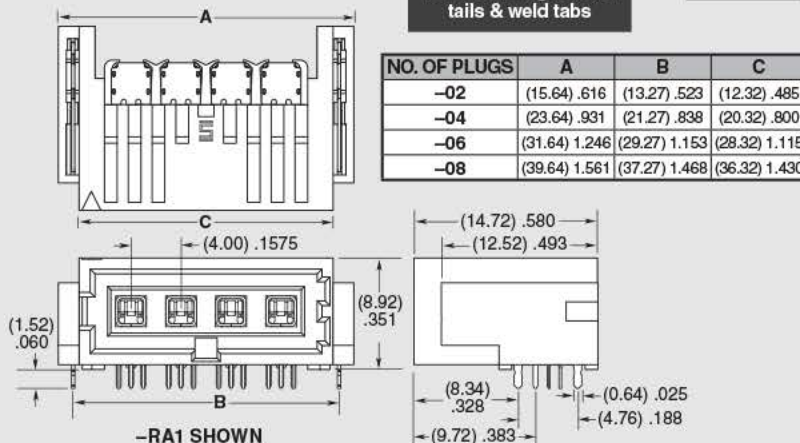
**-02, -04, -06, -08**

**-L**  
= 10μ" (0.25 μm)  
Gold on contact area, Matte Tin on grounds, tails & weld tabs

**-RA1**  
= (1.60 mm) .062" board thickness

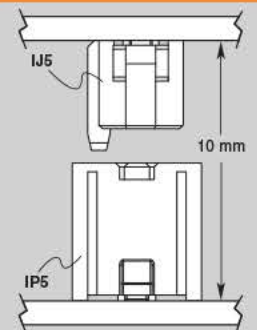
**-L**  
= Cable Latch

**-TR**  
= Tape & Reel



NO. OF PLUGS	A	B	C
-02	(15.64) .616	(13.27) .523	(12.32) .485
-04	(23.64) .931	(21.27) .838	(20.32) .800
-06	(31.64) 1.246	(29.27) 1.153	(28.32) 1.115
-08	(39.64) 1.561	(37.27) 1.468	(36.32) 1.430

## APPLICATION





Isolated Edge Rate Contact

IP7-02-05.0-L-S-1-TR



IJ7-06-05.0-L-S-1-TR



IP7, IJ7 SERIES

(4.00 mm) .1575"

# 75Ω HIGH ISOLATION RF PLUGS

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?IP7](http://www.samtec.com?IP7) or [www.samtec.com?IJ7](http://www.samtec.com?IJ7)

**Shell Material:**  
Copper Alloy

**Insulator Material:**  
Black LCP

**Contact Material:**  
Copper Alloy

**Pin Material:**  
Copper Alloy

**Dielectric Material:**  
Natural LCP

**Plating:**  
Au or Sn over

50μ" (1.27 μm) Ni

**Current Rating:**

Signals: 2.2 A per pin

(2 adjacent pins powered)

Grounds: 6.3 A per pin

(2 adjacent pins powered)

**Operating Temp Range:**

-55°C to +125°C

**Insulation Resistance:**

100,000 MΩ

**Contact Resistance:**

Signal: 26 mΩ

Grounds: 2.7 mΩ

**Impedance:** 75Ω

**Dielectric Withstanding Voltage:**

1950 VAC

**Working Voltage:**

650 VAC

**RoHS Compliant:** Yes

**Processing:**

Lead-Free Solderable: Yes

## RECOGNITIONS

For complete scope of recognitions see [www.samtec.com/quality](http://www.samtec.com/quality)



FILE NO. E111594

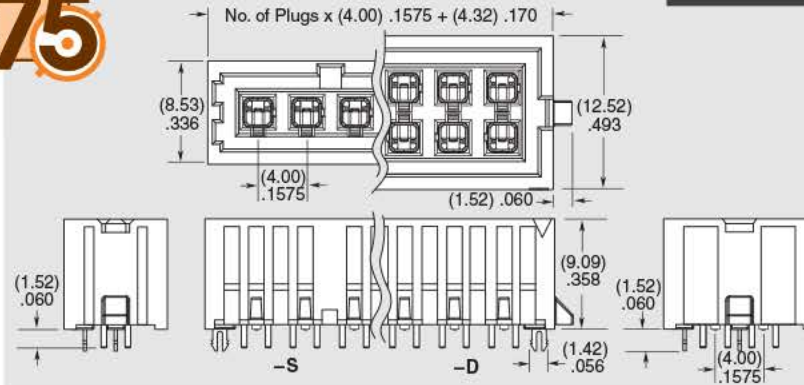
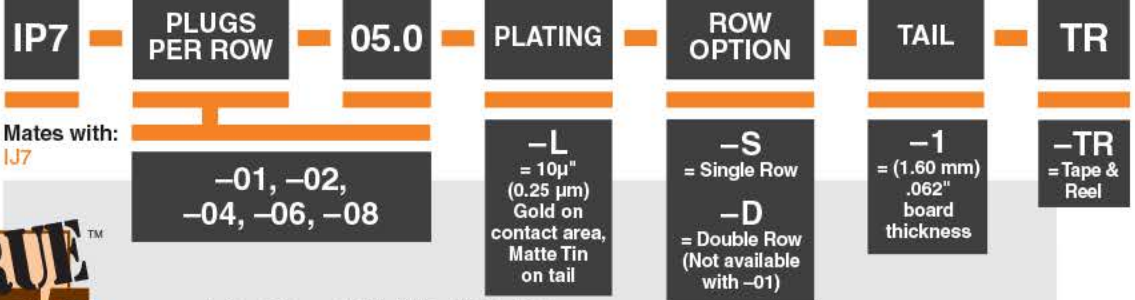
## ALSO AVAILABLE (MOQ Required)

- Other stack heights
  - Other PCB thicknesses
- Contact Samtec.

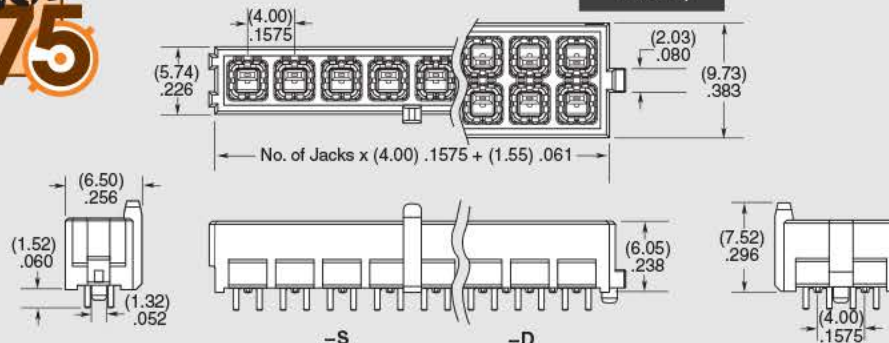
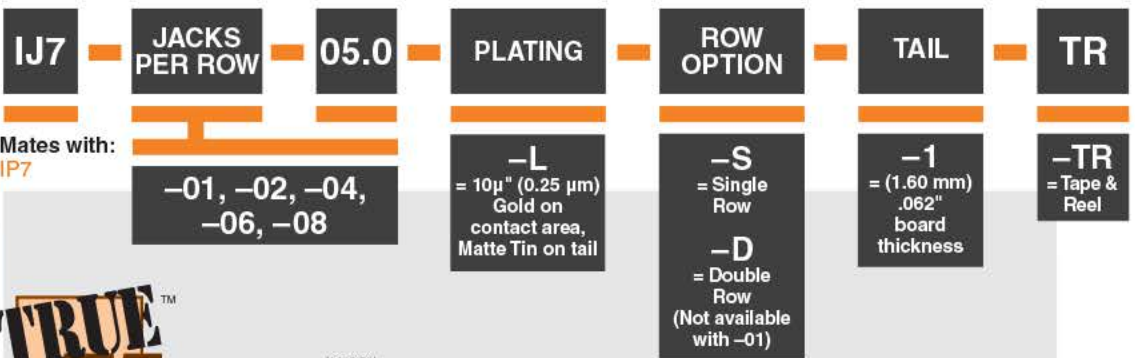
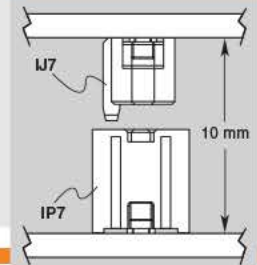
## OTHER SOLUTIONS

- 50Ω Board-to-Board system: (see IJ5 & IP5 series)
  - 75Ω right angle plugs
- Contact Samtec.

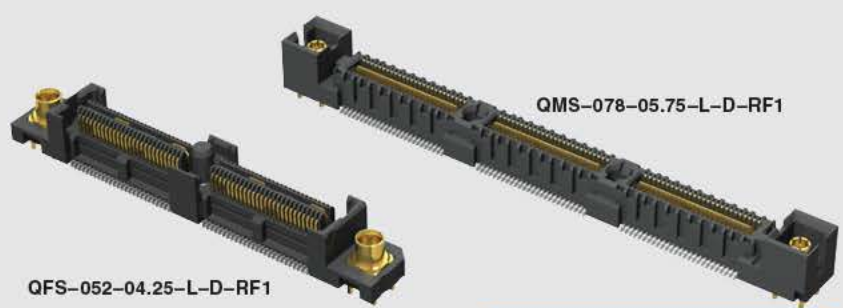
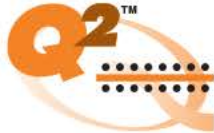
**Note:** Designed to meet SMPTE 424M 3G-SDI specifications.



## APPLICATION







(0.635 mm) .025"

QMS-RF, QFS-RF SERIES

# HIGH SPEED COMBO RF

Board Mates:  
QMS-RF, QFS-RF

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?QMS](http://www.samtec.com?QMS) or [www.samtec.com?QFS](http://www.samtec.com?QFS)

**Insulator Material:**  
Liquid Crystal Polymer  
**Contact, Terminal & Ground Plane Material:**  
Phosphor Bronze

**Plating:**  
Au over 50µ" (1.27 µm) Ni  
(Tin on Ground Plane Tail)  
**Voltage Rating:**  
300 VAC mated with QMS/QFS  
**Operating Temp:**  
-55°C to +125°C  
**RoHS Compliant:**  
Yes

**Processing:**  
**Lead-Free Solderable:**  
Yes  
**SMT Lead Coplanarity:**  
(0.10 mm) .004" max (026-078)  
**Board Stacking:**  
For applications requiring more than two connectors per board, contact [ipg@samtec.com](mailto:ipg@samtec.com)

## RECOGNITIONS

For complete scope of recognitions see [www.samtec.com/quality](http://www.samtec.com/quality)



## ALSO AVAILABLE (MOQ Required)

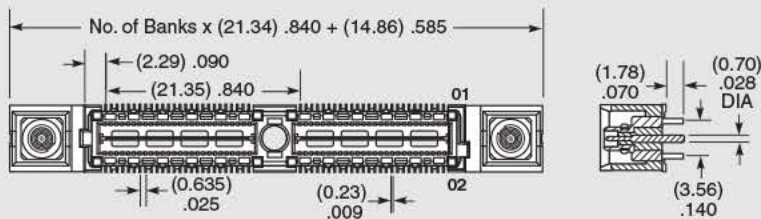
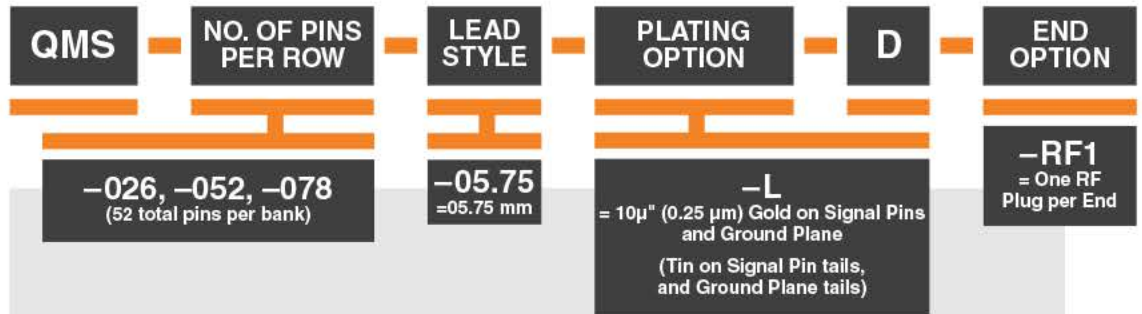
- Differential Pairs
  - Retention Pins
  - 2 RF Connectors/End
  - Hot Pluggable
- Contact Samtec.

## APPLICATIONS

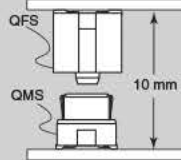


See SO Series for precision machined standoffs.

Note: Some lengths, styles and options are non-standard, non-returnable.



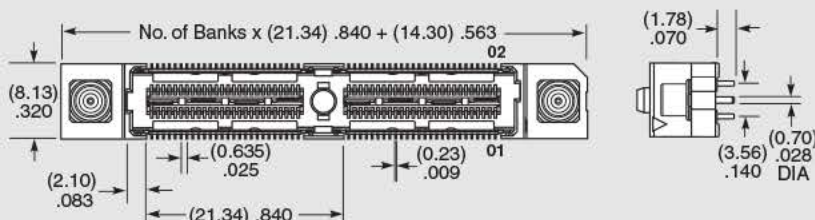
## APPLICATION



**RUGGEDIZED**  
BY SAMTEC

- Increased insertion depth
- Integral guide post

**FinalInch**  
CERTIFIED



**FinalInch**  
CERTIFIED

# CUSTOM RF SOLUTIONS

## EXPRESS MODIFICATIONS

- Quick-turn prototype samples
- Short lead times
- Low or no Nonrecurring Engineering Charges (NREs)
- Low or no tooling charges

### RF Board Level Interconnects

- Custom tail lengths
- Through-hole termination to surface mount or mixed technology
- Right angle height adjustment from PCB
- Alternate plating options

### RF Cable Assemblies

- Performance testing: VNA, TDR
- Custom labels and heat-shrink tubing
- Non-standard connector termination orientation
- Adding or removing bulkhead mounting
- Alternate plating options

## ENGINEERED CUSTOMS

- Full engineering, design and prototype support from Samtec's RF Group
- Design, simulation and processing assistance
- Flexible, quick-turn manufacturing
- Dedicated engineers and technicians for application specific RF products

### RF Board Level Interconnects

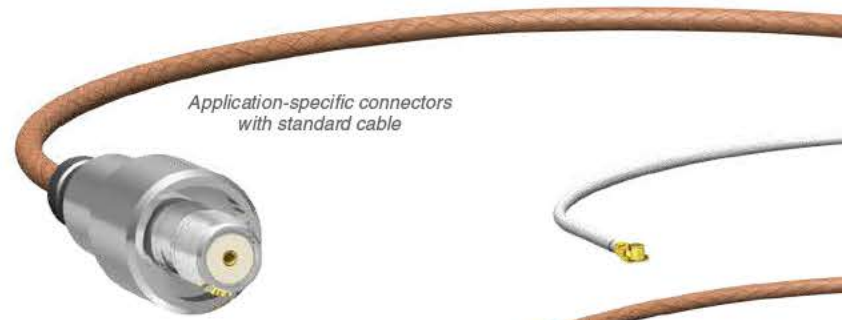
- Completely customized to your specifications

### RF Cable Assemblies

- Completely customized to your specifications
- Customized connector terminated to existing cable
- Customized cable terminated to existing connector

## RF GROUP

- Personal support from Samtec's highly qualified, in-house staff of RF engineers
- Express modifications to standard products to complete engineering, design and prototype support
- Design, simulation and processing assistance
- Dedicated engineers and technicians for application specific RF products
- Contact [RFGroup@samtec.com](mailto:RFGroup@samtec.com)



*Application-specific connectors with standard cable*



*IP67-rated connectors on a standard cable*



*Breakout cable on ganged assemblies*



*Fully engineered to customer specifications*



*PCB mount TNC straight bulkhead jacks*

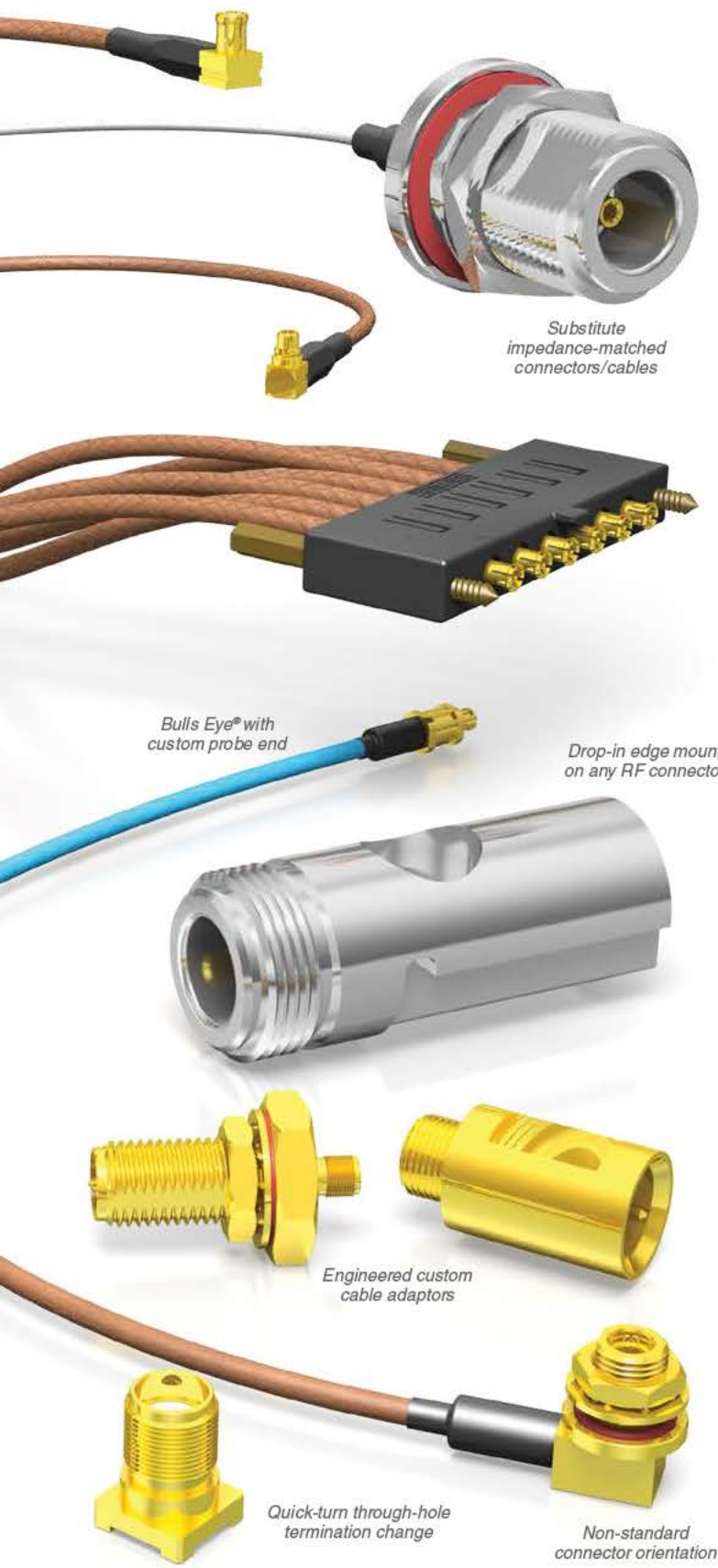




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New products highlighted in bold.



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### GENERAL POLICY

The information contained in this catalog is accurate to the best of our knowledge. Due to technical progress, it is subject to change without notice. Application information is informational in nature and shall not be construed to warrant suitability of products for any particular purpose as performance may vary with the conditions encountered. Any cut strip or custom made items or options are considered "special," non-returnable items. Samtec products are warranted for 30 days and the warranty is limited strictly to replacement of products with defective workmanship.

Federal Supply Code: 55322

# samtec

## SUDDEN SERVICE

### SAMTEC USA

P.O. Box 1147 • New Albany, IN 47151-1147 USA  
+1-800-SAMTEC-9 (+1-800-726-8329) USA & Canada • Tel: +1-812-944-6733 • Fax: +1-812-948-5047 • Email: info@samtec.com

### SAMTEC NORTHERN CALIFORNIA

2323 Owen St., Ste 120 • Santa Clara, CA 95054  
+1-800-726-8329 (USA & Canada) • Tel: +1-812-944-6733 • Fax: +1-408-217-5171 • Email: samtecsiliconvalley@samtec.com

### SAMTEC SOUTHERN CALIFORNIA

5410 Trabuco Road • Suite 120 • Irvine, CA 92620  
Tel: +1-800-726-8329 • Email: samtecsoutherncalifornia@samtec.com

### SAMTEC SOUTH AMERICA

Rua Alagoas Nr 1460 • Sala 805 • Bairro Savassi • Belo Horizonte - Minas Gerais 30130-160 • Brazil  
Tel: +55 31 3786 3227 • Fax: +55 31 3786 3229 • Email: brazilsales@samtec.com

### SAMTEC UNITED KINGDOM

11 Mollins Court • Westfield, Cumbernauld • Scotland G68 9HP  
Tel: +44 01236 739292 • Fax: +44 01236 727113 • Email: scotland@samtec.com

### SAMTEC GERMANY

Streiflacher Str. 7 • 82110 Germering • Germany • +0800 SAMTEC9 (+0800 / 72 68 329) Germany only  
Tel: +49 (0) 89 / 89460-0 • Fax: +49 (0) 89 / 89460-299 • Email: germany@samtec.com

### SAMTEC FRANCE

Val d'Europe Park • 11, rue du Courtalin - Bâtiment B • 77700 Magny le Hongre • France  
Tel: +33 1 60 95 06 60 • Fax: +33 1 60 95 06 61 • Email: france@samtec.com

### SAMTEC ITALY

Via Colleoni 25 • Centro Direzionale Colleoni • Palazzo Pegaso Ingresso 3 • 20864 Agrate Brianza-Monza Brianza (MB) • Italy  
Tel: +39 039 6890337 • Fax: +39 039 6890315 • Email: italy@samtec.com

### SAMTEC NORDIC/BALTIC

Solkraftsvägen 25 • 13570 Stockholm • Sweden  
Tel: +46 8 4477280 • Fax: +46 8 7420413 • Email: scandinavia@samtec.com

### SAMTEC BENELUX

11 Mollins Court • Westfield, Cumbernauld • Scotland G68 9HP  
Tel: +44 01236 739292 • Fax: +44 01236 727113 • Email: benelux@samtec.com

### SAMTEC ISRAEL

21 Bar-Kochva St. • Concord Tower • B'nei Brak, Israel 51260  
Tel: +972 3 7526600 • Fax: +972 3 7526690 • Email: israel@samtec.com

### SAMTEC INDIA

#11, 2nd Floor, Chetana, Dattatraya Road • Basavanagudi • Bangalore • 560 004 India  
Tel: +91 80 3272 1612 • Fax: +91 80 2662 0967 • Email: india@samtec.com

### SAMTEC ANZ

2A San Antonio Court • Mentone 3194 • Victoria, Australia  
Tel: +613 9580 0683 • Fax: +613 9580 0684 • Email: australia@samtec.com

### SAMTEC SINGAPORE

1 Kallang Sector #05-01/02 • Kolam Ayer Industrial Park • Singapore 349276  
Tel: +65 6745 5955 • Fax: +65 6841 1502 • Email: singapore@samtec.com

### SAMTEC JAPAN

Nisso No. 16 Bldg. • 3-8-8, Shinyokohama, Kohoku-ku • Yokohama-shi, Kanagawa 222-0033 Japan  
Tel: +81 45 475 1385 • Fax: +81 45 475 1340 • Email: japan@samtec.com

### SAMTEC SHANGHAI

Unit 601, Qilai Building • No 889 Yishan Road • Shanghai, China 200233  
Tel: +86 21 6083 3766 • Fax: +86 21 5423 4575 • Email: china@samtec.com

### SAMTEC SHENZHEN

Rm 906B 9/F New World Center Tower • Yi Tian Road, Fu Tian District • Shenzhen, China 518026  
Tel: +86 755 83776780 • Fax: +86 755 83776767 • Email: hongkong@samtec.com

### SAMTEC TAIWAN

10F, No. 182, Sec. 2 • Dunhua S. Rd. • Da-an District • Taipei City 10669 • Taiwan (R.O.C.)  
Tel: 00801 14 9916 (Taiwan only) • Tel: +886 2 2735 6109 • Fax: +886 2 2735 5036 • Email: taiwan@samtec.com

### SAMTEC HONG KONG

Room 18, 13/F, Shatin Galleria • 18-24 Shan Mei Street • Fo Tan, Shatin, Hong Kong  
Tel: +852 26904858 • Fax: +852 26904842 • Email: hongkong@samtec.com

### SAMTEC KOREA

RM#758, Sungwoo Starwoos Officetel Gumi-dong • Seongnam Si, Bundang-gu, Gyeonggi-Do • 463-860 South Korea  
Tel: +82 31 717 5685 • Fax: +82 31 717 5681 • Email: korea@samtec.com

### SAMTEC ONLINE

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JANUARY 2016