



RF

INTERCONNECT CATALOG

COMPLETE RF INTERCONNECT SOLUTIONS

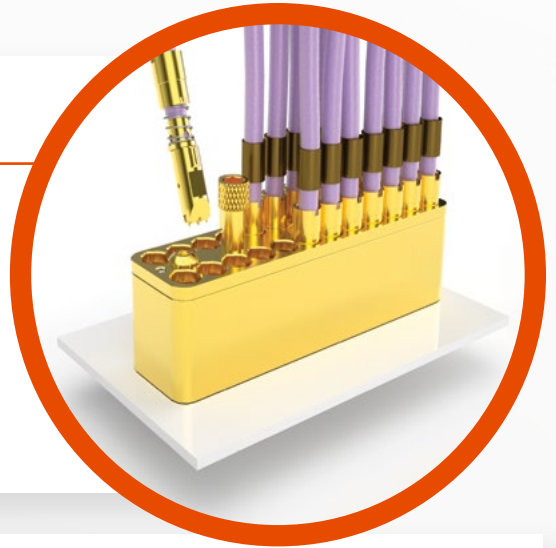
With the right mix of industry experts and knowledgeable engineers, Samtec can assist with challenges throughout a customer's system – including those specific to RF.

TECHNICAL SUPPORT

- Launch Optimizations
- Simulations
- Test & Measurements
- Customs

RF Technical Group: RFTechnicalGroup@samtec.com

Signal Integrity Group: SIG@samtec.com



PRECISION RF

- Bulls Eye® high-performance test to 50 GHz
- 34 / 40 / 50 / 65 GHz solutions
- Variety of options, including compression mount or blind-mate

UNMATCHED SERVICE

- 24-hour samples and quotes
- No minimum order quantity on standards
- 2 to 5 day lead time on standard products



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50 Ω and 75 Ω Cable Assemblies

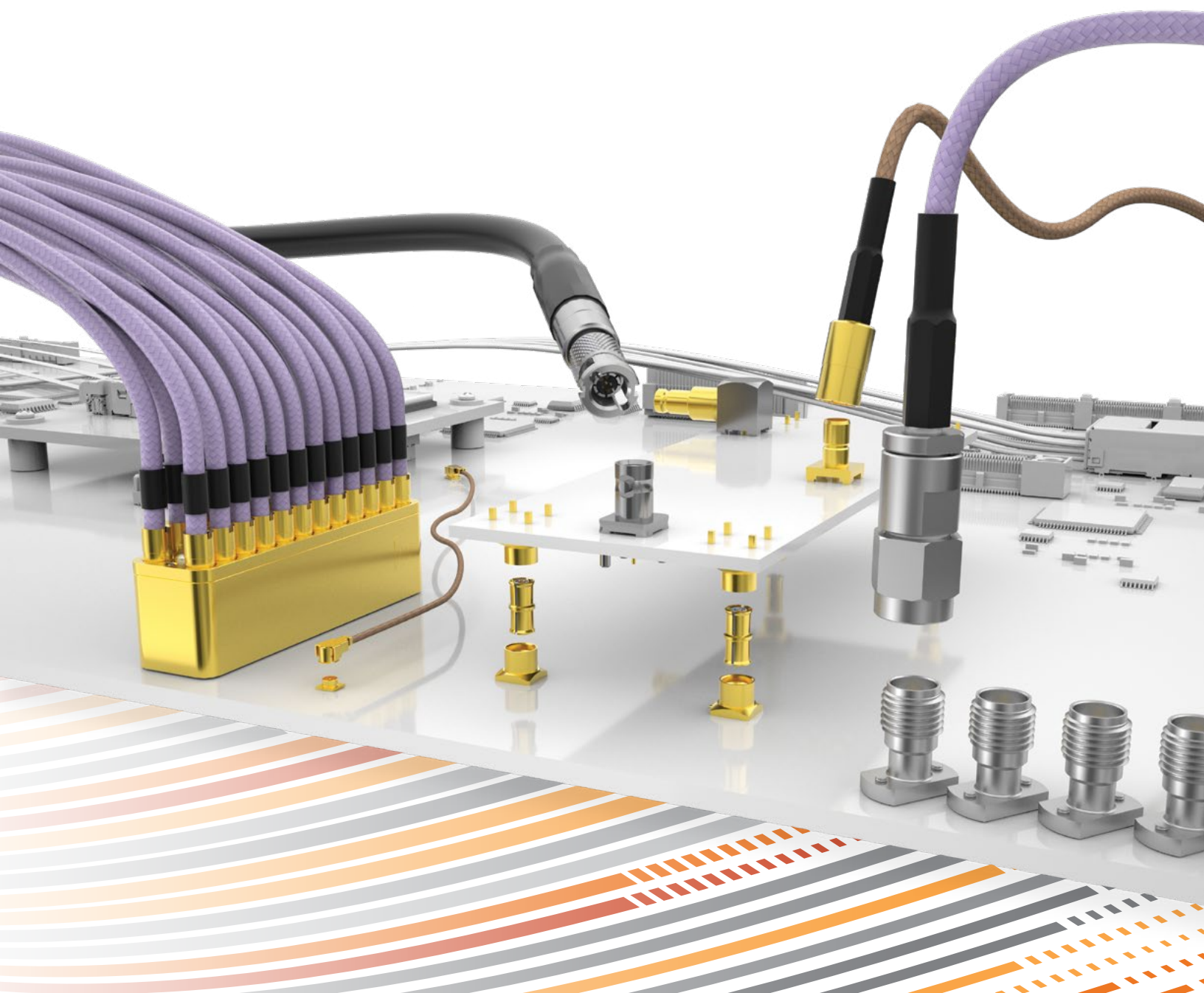
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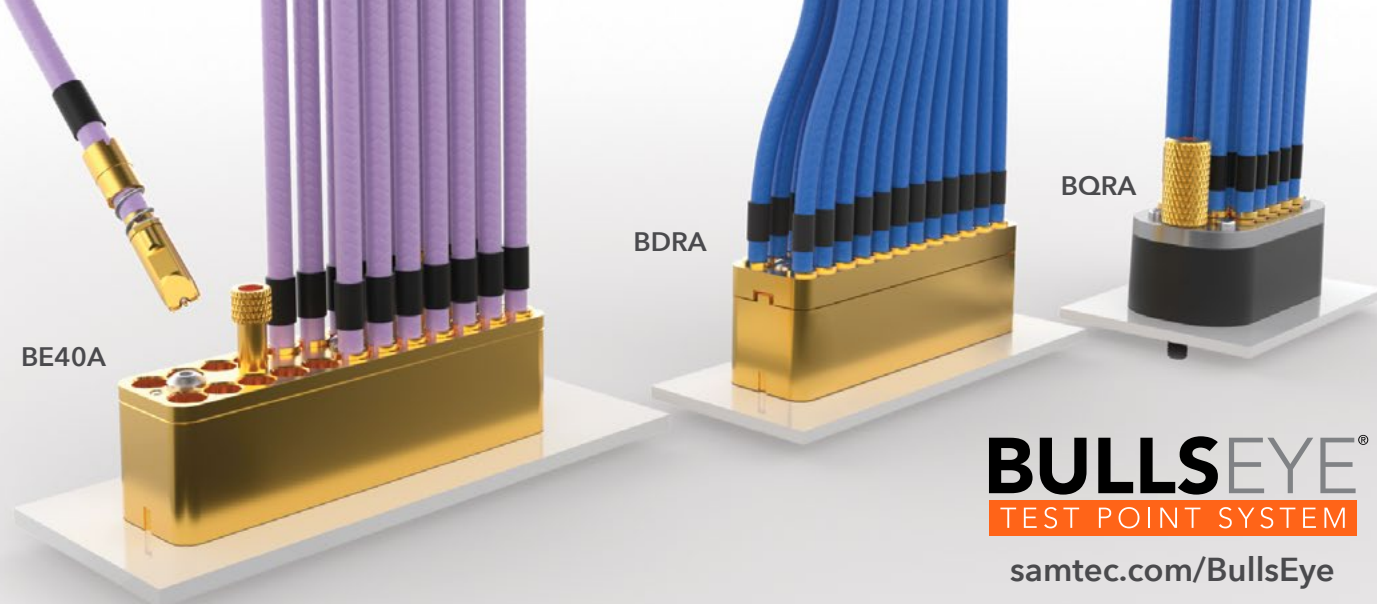
50 Ω and 75 Ω Connectors

50 Ω (2.92 mm, SMA, SMP, SMB, MMCX, MCX, BNC, N Type, TNC)	42-54
75 Ω (DIN 1.0/2.3, HD-BNC™*, BNC, SMB)	55-60

Original RF Solutions

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HIGH-PERFORMANCE TEST TO 50 GHz

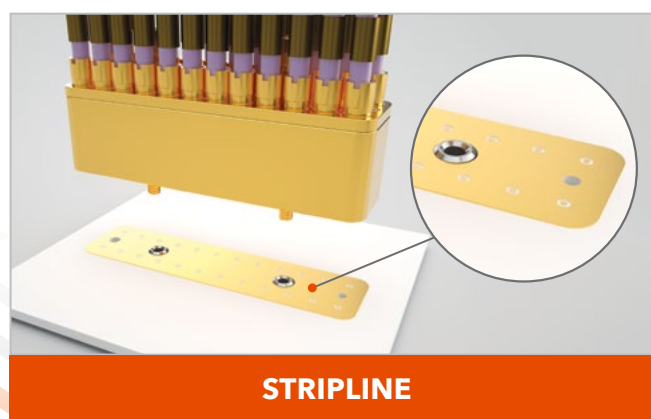
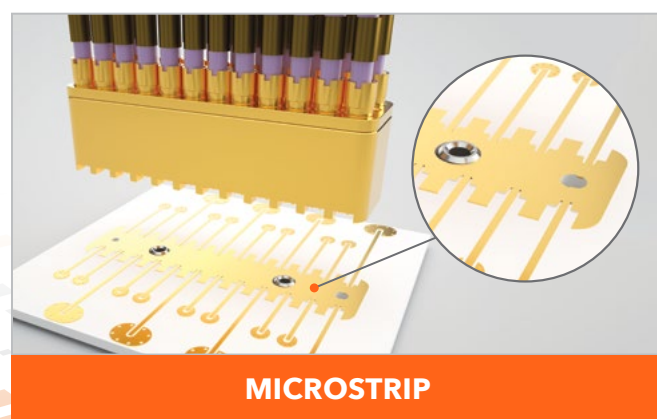
The high-density array designs and advanced cabling solutions within Samtec's Bulls Eye® product family enable optimized performance to 50 GHz. A compression interface, small footprint and high cycle count make Bulls Eye® ideal for high-performance test applications.

Bulls Eye® Product Family Features:

- Compression interface to the board provides easy on/off and eliminates soldering costs
- Small footprint design significantly saves space on the board
- Microstrip or Stripline PCB transmission
- Assembly options: Dual Row (BE40A, BDRA) and Quad Row (BQRA)
- Installation: While the attach process for each series is similar, each have unique specifications that need to be observed. Contact RFTechnicalGroup@samtec.com.
- To 65 GHz in development

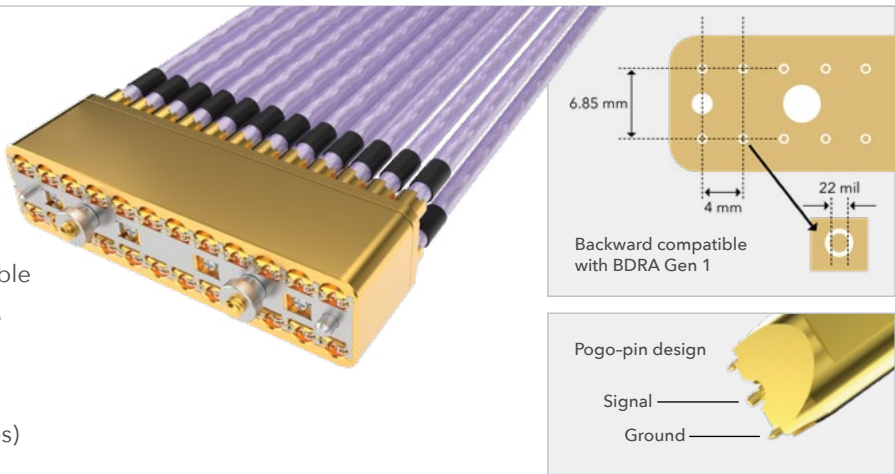
Transmission Types:

- Two options: Microstrip (BE40A) or Stripline (BE40A, BDRA, BQRA)
- Compression interface to the board



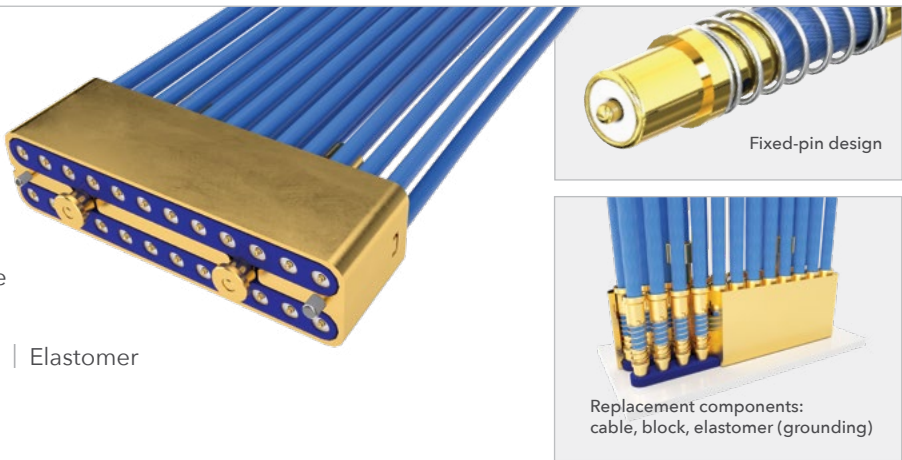
BE40A SERIES 50 GHz, Double Row

- Enhanced system design with signal and ground pogo pins
- Microstrip or Stripline PCB transmission
- Backward compatible with BDRA Series
- 50 Ω impedance
- Positions: 2x 3, 4, 6, 8, 10, 12, 14, 16
- End 2 options: 2.92 mm, 2.4 mm also available
- 23 AWG solid dielectric, low loss microwave cable with additional copper shielding
- Replacement components available:
Cables (BE40C Series) | Block (BE40B Series)



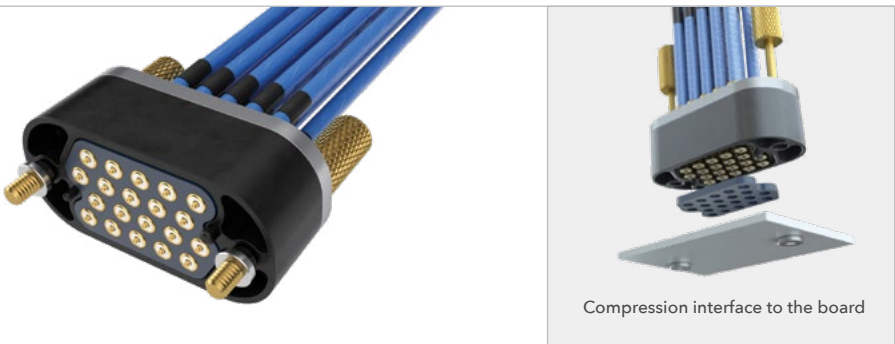
BDRA SERIES 20 GHz, Double Row

- 23 AWG solid dielectric, low loss microwave cable
- Stripline PCB transmission
- Fixed-pin design
- 50 Ω impedance
- Positions: 2 x 12
- End 2 options: 2.92 mm, SMA also available
- Replacement components available:
Cables (BE23S Series) | Block (BQR Series) | Elastomer



BQRA SERIES 20 GHz, Quad Row

- 23 AWG solid dielectric, low loss microwave cable
- Stripline PCB transmission
- Fixed-pin design
- 50 Ω impedance
- Positions: 20 (Quad Row)
- End 2 options: 2.92 mm, SMA also available
- Replacement components available:
Cables (BE23S Series) | Block (BDR Series) | Elastomer



Series	BE40A	BDRA	BQRA	Replacement Components
Cable	23 AWG, additional shielding	23 AWG, additional shielding		For BE40A: BE40C, BE40B For BDRA: BE23S, BDR For BQRA: BE23S, BQR
PCB Transmission	Microstrip or Stripline	Stripline		
Ground	Pogo-pin design on Bulls Eye® probe end	Elastomer		
Positions	2 x 3, 4, 6, 8, 10, 12, 14, 16	2 x 12	20 (Quad Row)	
Frequency (GHz)	Up to 50	Up to 20		
Page	17	18	19	20

65 GHz high-performance test solution in development.

PRECISION INTERCONNECTS

ROADMAP

RFTechnicalGroup@samtec.com

34
GHz

3.50 mm

- Edge mount with screw downs
- High-performance microwave cable assembly: 23 AWG (RF23S Series)

40
GHz

2.92 mm

- Compression mount with 2-hole flange in various board thicknesses
- High-performance microwave cable assembly: 23 AWG (RF23C Series)

SMP

- Straight & right-angle, full detent & smooth bore
- Blind-mate with axial alignment
- High-performance microwave cable assembly: 24 AWG (RF405 Series), 25 AWG (RF25S Series) and .047 Cable (in development)

50
GHz

2.40 mm

- Compression mount with 2-hole flange in various board thicknesses
- High-performance microwave cable assembly: 23 AWG (RF23C Series)

65
GHz

1.85 mm

- Compression mount with 2-hole flange in various board thicknesses

SMMP

- Straight & right-angle, full detent & smooth bore
- Blind-mate with axial alignment
- High-performance microwave cable assembly: .047 Cable (in development)



Precision Interconnects (mm)	3.5	2.92, SMP	2.4	1.85, SMMP
Performance (GHz)	34	40	50	65

Bulls Eye® High-Performance Test Array

High-density array design significantly saves space on the board compared to traditional test points.

See pages 4-5.

Wide variety of Precision interconnects for high-performance testing.

MIX-AND-MATCH END OPTIONS

on standard cable assemblies, with standard pricing and lead times

View series-specific catalog pages for all end options and details. Or, use the charts below as a quick reference guide.

HIGH FREQUENCY MICROWAVE				50 Ω RF CABLES				75 Ω RF CABLES			
CABLE	AWG	END OPTIONS	SERIES	CABLE	AWG	END OPTIONS	SERIES	CABLE	AWG	END OPTIONS	SERIES
MWC-2350CU-01	23	2.92 mm, 2.4 mm, SMA, SMP	RF23C	0.81	36	MHF1, MHF3, SMA	MH081	RG 179	30	MCX, MMCX7, SMB, BNC, DIN 1.0/2.3	RF179, GRF7-C, GRF7H-C
MWC-2350-01	23	3.50 mm	RF23S	1.13	32	MHF1, SMA	MH113	1855A	23	BNC, HD-BNC™, DIN 1.0/2.3	RFB8T
MWC-2550-01	25	SMA, SMP	RF25S	RG 178	30	MMCX, MCX, SMA, SMB, BNC, TNC, N Type	RF178	1694A	18		RFB6T
CCA-047	28	HMHF1, SMA	RF047	RG 174	26	MMCX, MMCXV, MCX, SMA, SMB, BNC, TNC, N Type	RF174	RG 6	18		RFA6T
RG 405	24	SMA, SMP	RF405	RG 316	26	MMCX, MMCXV, MCX, SMA, SMB, BNC, TNC, N Type	RF316, IJ5C, IJ5H, GRF1-C, GRF1H-C				
RG 402	19	SMA	RF402	RG 58	20	SMA, TNC, N Type	RF058				

rf.samtec.com | Solutionator® Online RF Assembly Builder

Solutionator is Samtec's online parametric filter that lets you easily choose your product and board-level mate in a matter of minutes. It also connects you directly to:



LIVE CHAT with an RF engineer



VIEW engineering drawings



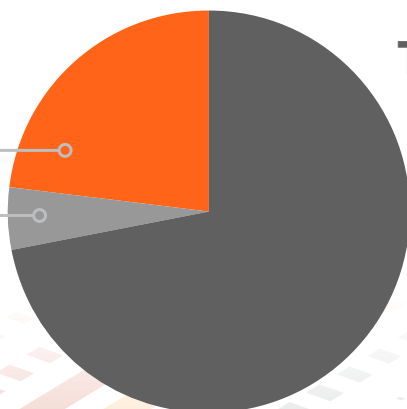
REQUEST samples and quotes

CUSTOM SOLUTIONS

28% of Samtec's total sales are in customs or product modifications. This includes RF. Why is this? Samtec has the willingness, expertise and service to make it happen.

23% Express Modifications
92% do not require engineering or tooling charges

5% Engineered Customs



TOTAL SALES

See additional details on **page 78** regarding RF Express or Engineered customs.

50 Ω RF CABLES & CONNECTORS



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 solid dielectric cables to 50 GHz
 - 10 GHz, 500 cycle U.FL HMHF1 plug terminations
- 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 for approx. 75 dB shielding effectiveness

PRECISION INTERCONNECTS

See page 6



50 Ω HIGH FREQUENCY CABLE ASSEMBLIES

Series	RF405	RF402	RF23C	RF23S	RF25S
Type	0.86" DIA	.141" DIA	23 AWG		25 AWG
Type Cable	Hand-formable, semi-flexible		Solid dielectric, microwave		
Terminations	SMA, SMP	SMA	2.92 mm, 2.40 mm	3.50 mm	SMA, SMP
Page	32	33	34	36	36

50 Ω STANDARD CABLE ASSEMBLIES

MH081/MH113	RF174/RF316	RF178	RS316	RF058
U.FL & W.FL	Commodity components & assemblies			
0.81 mm/ 1.13 mm	RG 174/RG 316	RG 178	RG 316 double-shielded	RG 58
MHF1, MHF3, SMA	SMA, SMB, MCX, MMCX, MMCXV, BNC, TNC, N Type	SMA, SMB, MCX, MMCX, BNC, TNC, N Type	SMA	SMA, TNC, N Type
22-23	24-25, 28-29	26-27	30	31



WIDE VARIETY OF TERMINATIONS

- MHF (U.FL/W.FL), HMF1 (High Cycle U.FL)
- 2.92 mm, 2.40 mm, 3.50 mm, SMA, SMP, SMB, MCX, MMCX, BNC, TNC, N Type and high vibration MMCX (MMCXV)
- Straight and right-angle available for most; variety of jacks and plugs
- Bulkhead jack options

BOARD LEVEL INTERCONNECTS

- Straight or right-angle orientations
- Through-hole, surface mount, edge mount or mixed technology
- 2.92 mm, SMA, SMB, SMP, MCX, MMCX, BNC and TNC
- MMCX jacks/plugs and switchable internal/external antenna jack

- SMP Plugs & Adaptors
 - Compensates for misalignment in X & Y directions
 - Bullet adaptor allows for flexible connections
 - Frequency range: DC to 40 GHz

50 Ω BOARD LEVEL INTERCONNECTS

Series	292	SMA	SMP	SMB5	MMCX*	MCX	BNC5
Type	2.92 mm	SMA	Floating System	SMB	MMCX	MCX	BNC
Orientation	Straight	Straight, Right-Angle		Right-Angle	Straight, Right-Angle		
Terminations	Panel Mount	T/H, SM, MT, Edge Mount	T/H, MT, Edge Mount	T/H	T/H, SM, MT, Edge Mount	T/H, SM, MT, Edge Mount	T/H
Page	42-43	44-46	47	48	49, 51	50-51	52

* High vibration available. Contact Samtec.

75 Ω RF CABLES & CONNECTORS



WIDE VARIETY OF CABLES

- Industry standard cables with mix-and-match end options: RG 179, RG 6, Belden 1694A, Belden 1855A
- RFB8T Series (with Belden 1855A cable)
- Components are available for customer-installed field termination to cable

WIDE VARIETY OF TERMINATIONS

- BNC, HD-BNC™, DIN 1.0/2.3
- 75 Ω SMB to 8 GHz
- Straight and right-angle orientations
- Die cast options available
- Unique-to-Samtec Mini and Micro-mini components with higher extraction force
- See page 14 for board mates (MCX7, MMCX7)

BOARD LEVEL INTERCONNECTS

- 12G-SDI Broadcast Video Solutions: BNC, HD-BNC™, DIN 1.0/2.3
- Through-hole, surface mount, edge mount and straight or right-angle orientations
- SMB, DIN 1.0/2.3, HD-BNC™, BNC jacks
- BNC includes low-profile, right-angle
- HD-BNC™ for high-density applications
- 75 Ω SMB jacks

75 Ω 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	37	37	38-39	40

* HD-BNC™ is a trademark of Amphenol.



HD-BNC



HD-BNC™

BNC

HIGH-DENSITY BNC SYSTEMS

- 4X the panel density of traditional BNCs
- Patented design and bayonet latch
- 20% reduction in weight of traditional BNCs
- Crimp style plugs use industry standard termination tools
- Compatible with Amphenol's HD-BNC™

BROADCAST VIDEO SOLUTIONS

samtec.com/12GSDI

Samtec has the largest variety of 12G-SDI products available: BNC, HD-BNC™ and DIN 1.0/2.3 with a variety of orientation and termination options including low-profile, right-angle.

Contact RFTechnicalGroup@samtec.com for more information.



75 Ω BOARD LEVEL INTERCONNECTS

Series	DIN7A	HDBNC	BNC7T	SMB7H
Type	DIN 1.0/2.3	High-Density BNC	BNC	SMB
Orientation	Straight, Right-Angle	Straight, Right-Angle	Straight, Right-Angle	Straight, Right-Angle
Terminations	T/H	T/H, Edge Mount	T/H, Edge Mount	T/H, Edge Mount
Page	55	56-57	58-59	60
12G-SDI	✓	✓	✓	

RF CABLE SPECIFICATIONS

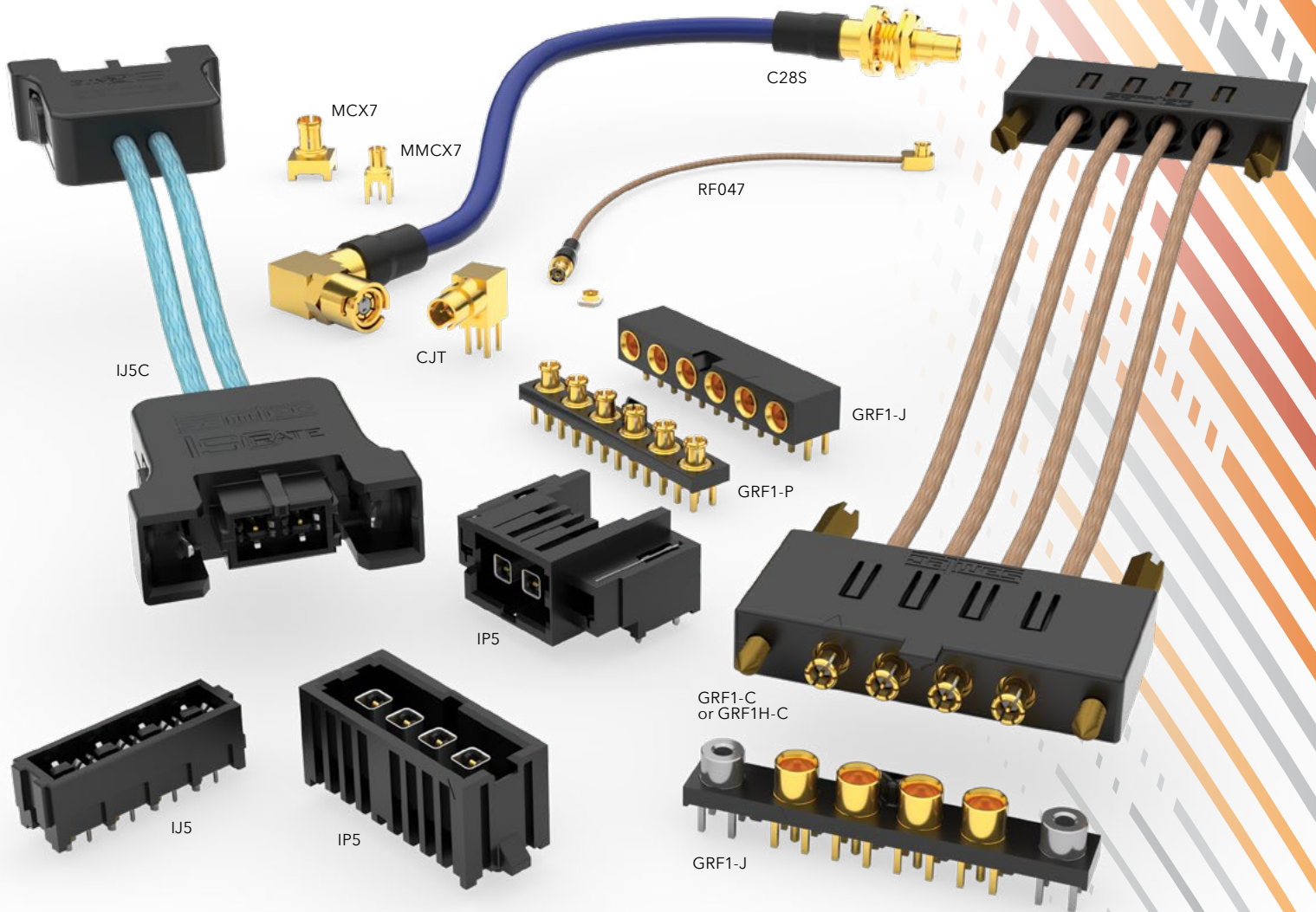


CABLE TYPE		50 Ω CABLES							
		0.81	1.13	RG 178	CTB-2650F-01	RG 174	RG 316	RG 316 DS	RG 58
Impedance	Ω	50 ± 3	50 ± 2			50 ± 5	50 ± 2	50 ± 3	
Attenuation (dB/m)	100 MHz	1.0	0.6	0.5	0.68	0.4	0.3	1.4 @ 2 GHz	0.2
	1 GHz	3.1	1.9	1.7	2.37	1.4	1.25	1.6 @ 3 GHz	0.8
	6 GHz	8.6	4.9	5.9	6.53	4.4	4.25	2.2 @ 5 GHz	5.4
Dielectric Constant (dk)	-----	2.0		2.1	1.56	2.3	2.1		2.3
Dielectric Strength	VAC	1000	500	1000	-----	500	1200	-----	1400
Propagation Delay	nS/m	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 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		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		Tinned 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			PVC	FEP		PVC
	Diameter (mm)	0.81	1.13	1.80		2.79	2.53	2.90	5.00
	Temp Rating	-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		Brown	Blue	Black	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	IsoRate®	MMCX, MMCXV, MCX, SMA, SMB, BNC, TNC, N Type, Ganged		MMCX, MCX, SMA, BNC, TNC	SMA, TNC, N Type
Samtec Series		MH081	MH113	RF178	IJ5C	RF174	RF316, IJ5C, IJ5H, GRF1-C, GRF1H-C	RS316	RF058



50 Ω MICROWAVE CABLES						75 Ω MICROWAVE CABLES				100 Ω CABLES
MWC-2550-01	MWC-2350-01	MWC-2350CU-01	CCA-047 (.047")	RG 405 (.086")	RG 402 (.141")	RG 179	BELDEN 1855A	BELDEN 1694A	RG 6	TPS-28100-RF
50 ± 1				50 ± 2		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		-----
1.37 @ 4 GHz	0.7		1.15	2.59 @ 4 GHz	1.04 @ 4 GHz	0.8	0.37	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		-----
2.1	2.15		2.1	2.04	1.99	1.8	1.42	1.44		2.1
-----	300		-----	1000		1200	300		2000	-----
4.76	4.72	4.76	-----	4.79		4.83	4.12	4.06	4.03	-----
5.3	7.4		-----	-----	-----	3	5	-----	-----	-----
96.8	95.45	97.80	95.14	104.97	98.072	64	55.7	53.14		38
Silver Plated Copper				Silver Plated Copper Clad Steel	Silver Plated Copper Clad Steel	Silver Plated Copper	Bare Copper			Silver Plated Copper
25	23		28	24	19	30	23	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		2/0.85
0.45	0.57		0.29	0.51	0.92	0.30	0.58	1.02		1.97
0.105	0.071		-----	0.67	0.02	0.34	0.066	0.021		0.029
Solid FEP			FEP	PTFE	PTFE	PTFE	FHDPE	FHDPE		FEP
1.46	1.85		0.92	1.68	2.98	1.58	2.59	4.57		1.97
1. Flat Silver Plated Copper 2. Silver Plated Copper Braid		1. Flat Silver Plated Copper 2. Copper Tape 3. Silver Plated Copper Braid	1. Flat Silver Plated Copper 2. Silver Plated Copper Braid	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	PVC	PVC		PVC
2.06	2.59		1.42	-----	-----	2.54	4.04	6.96	7.00	3.66
-40 °C to +200 °C			-65 °C to +165 °C	-40 °C to +125 °C		-50 °C to +165 °C	-30 °C to +75 °C	-30 °C to +75 °C		-20 °C to +105 °C
Blue		Violet	Brown	-----	-----	Brown	Black			Blue
9 mm	12 mm	6 mm	10 mm	3.18 mm	6.35 mm	10.2 mm	38.1 mm	69.85 mm		19.05 mm
SMA, SMP	3.50, 2.92	2.92, 2.40, SMA, SMP	HMHF1 (U.FL), SMA	SMA, SMP	SMA	MCX, MMCX7, SMB, BNC, DIN 1.0/2.3, Ganged	HD-BNC™, DIN 1.0/2.3	BNC, HD-BNC™, DIN 1.0/2.3		CJT
RF25S	BDRA, BQRA, RF23S	RF23C, BE40A	RF047	RF405	RF402	RF179, GRF7-C, GRF7H-C	RFB8T	RFB6T	RFA6T	C28S

ORIGINAL RF SOLUTIONS



SHIELDED TWISTED PAIR SYSTEM

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

GANGED MICRO-MINI SYSTEMS

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

ISORATE® SYSTEMS

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

MINI & MICRO-MINI INTERCONNECTS

- Higher extraction forces
- Not intermateable with standard MMCX, MCX

HIGH-CYCLE U.FL CABLE PLUG

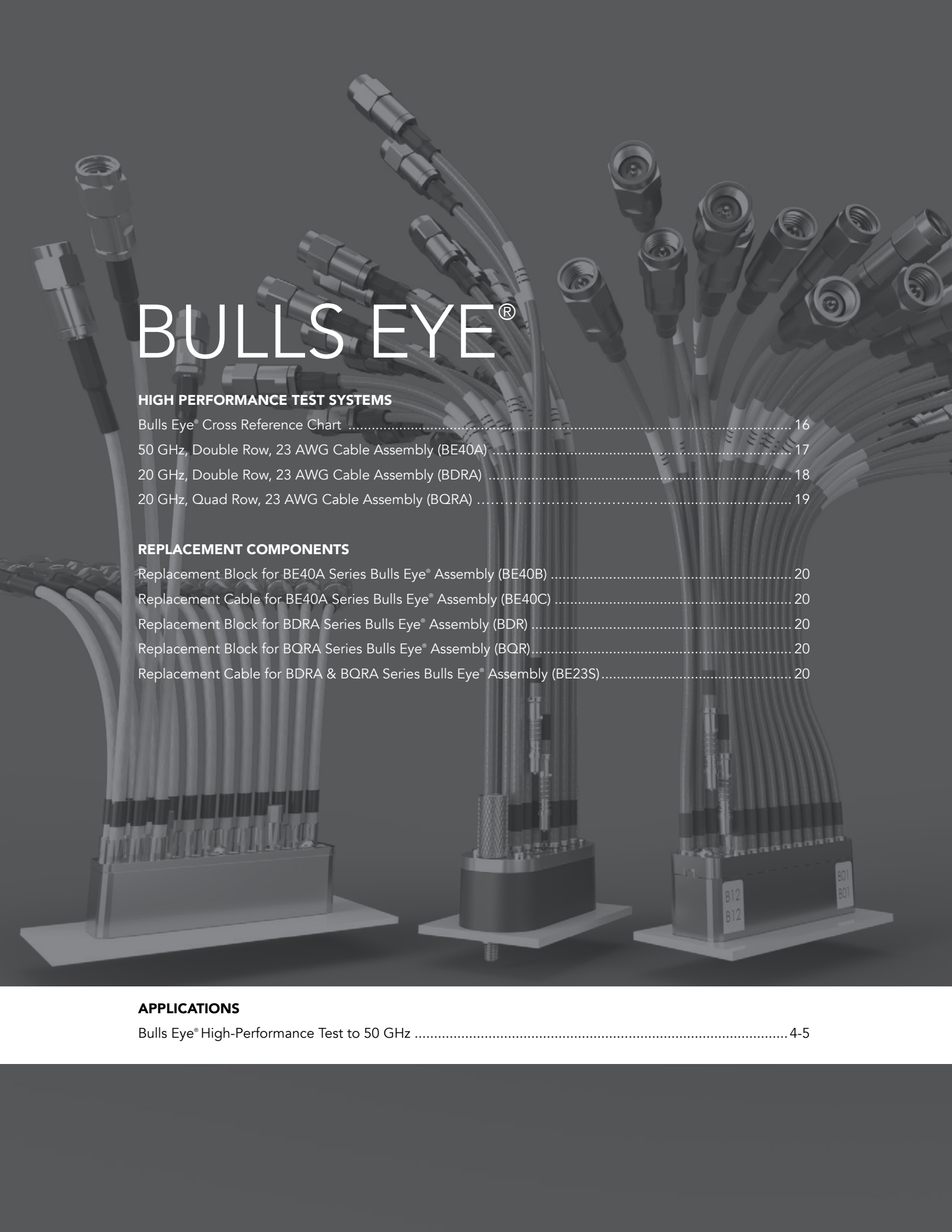
- 500 cycle U.FL compatible plug (HMHF1)
- .047" DIA flexible cable (RF047 Series)

CABLE SOLUTIONS

Series	C28S/CJT	GRF1-C	GRF1H-C / GRF7H-C	RF047	IJ5C/IJ5H
Application	Shielded Twisted Pair	50 Ω Micro-Mini Ganged	50 & 75 Ω Micro-Mini Hybrid Ganged	50 Ω .047 DIA flexible cable	50 Ω IsoRate®
Page	62-63	65	66-69	71	74-75

BOARD-TO-BOARD SOLUTIONS

Series	GRF1-P/GRF1-J	GRF7-P/GRF7-J	MMCX7	MCX7	IJ5/IP5
Application	50 Ω Micro-Mini Ganged	75 Ω Micro-Mini Ganged	75 Ω Mini and Micro-Mini Interconnects		50 Ω IsoRate®
Page	64	70	72	73	76-77



BULLS EYE®

HIGH PERFORMANCE TEST SYSTEMS

Bulls Eye® Cross Reference Chart	16
50 GHz, Double Row, 23 AWG Cable Assembly (BE40A)	17
20 GHz, Double Row, 23 AWG Cable Assembly (BDRA)	18
20 GHz, Quad Row, 23 AWG Cable Assembly (BQRA)	19

REPLACEMENT COMPONENTS

Replacement Block for BE40A Series Bulls Eye® Assembly (BE40B)	20
Replacement Cable for BE40A Series Bulls Eye® Assembly (BE40C)	20
Replacement Block for BDRA Series Bulls Eye® Assembly (BDR)	20
Replacement Block for BQRA Series Bulls Eye® Assembly (BQR)	20
Replacement Cable for BDRA & BQRA Series Bulls Eye® Assembly (BE23S)	20

APPLICATIONS

Bulls Eye® High-Performance Test to 50 GHz	4-5
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HIGH-PERFORMANCE TEST TO 50 GHz

BULLSEYE®
TEST POINT SYSTEM

samtec.com/BullsEye

Compression interface design, small footprint and high-cycle count make Bulls Eye® ideal for high-performance test applications.

BULLS EYE® SERIES CROSS REFERENCE

	BE40A	BDRA	BQRA
Performance	50 GHz	20 GHz	
End 2 Options	2.40 mm Jack / Plug (50 GHz), 2.92 mm Jack/Plug	2.92 mm Jack / Plug	
Cable Type	23 AWG, Double Row, Copper Foil Shield	23 AWG, Double Row	23 AWG, Quad Row
Cable Management	Yes		
PCB Transmission	Microstrip or Stripline	Stripline	
Ground	Pogo-pin design on Bulls Eye® probe end	Elastomer	
No. of Positions	2x 3, 4, 6, 8, 10, 12, 14, 16	2x 12	20 (Quad Row)
Impedance	50 Ω		
Future Proof	BE40A is backward compatible with BDRA		N/A

Test assemblies up to 65 GHz are in development.

Replacement components are available (cables, blocks, elastomer) – See page 20.

INSTALLATION

Samtec offers a variety of series within the Bulls Eye® product family for meeting customer's criteria.

While the attach process is similar, each have unique specifications that need to be observed.

For questions, please contact RFTechnicalGroup@samtec.com.

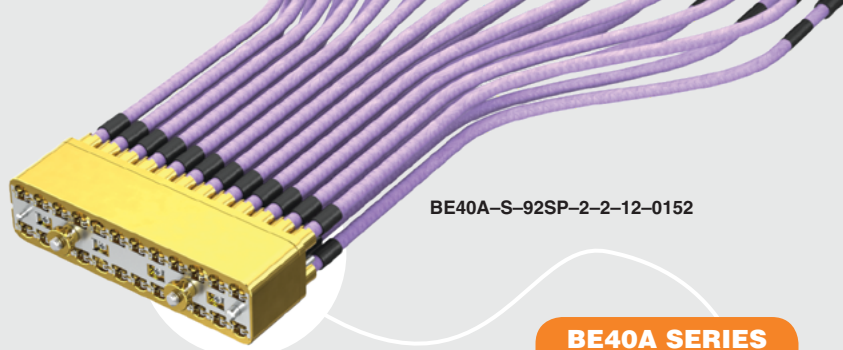


Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

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BE40A SERIES

50 GHz DOUBLE ROW TEST ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?BE40A

End 2 Connector:

Shell Material:

Stainless Steel

Contact Material:

BeCu

Cable Body:

Stainless Steel

Insulator Material:

Utem 1000

Operating Temperature:

-65 °C to +165 °C

Impedance:

50 Ω

Frequency Range:

50 GHz

RoHS Compliant:

Yes

MWC-2350CU-01
Cable:

Type: Low Loss Microwave Coax

Gauge:

23 AWG

Shield Material:

1. Flat silver plated copper

2. Copper tape

3. Silver plated copper braid

Dielectric:

Solid FEP

Jacket Material:

FEP

Bend Radius:

6 mm

Impedance:

50 Ω ±1 Ω

Propagation Delay:

4.76 nsec/meter

Capacitance:

97.80 pF/meter

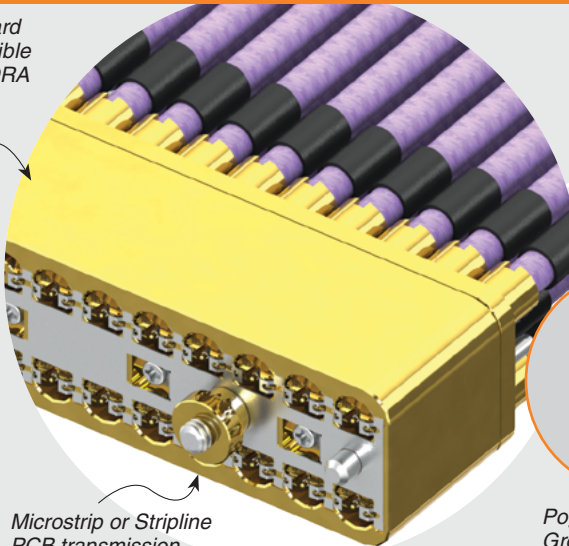
TEST REPORTS

Visit www.samtec.com?BE40A or contact RFTechnicalGroup@samtec.com for Insertion Loss, Return Loss, V.S.W.R. and other testing information.

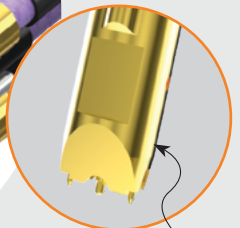
COMPONENTS

- For replacement cable see www.samtec.com?BE40C
- For replacement block see www.samtec.com?BE40B

Backward compatible with BDRA Gen 1



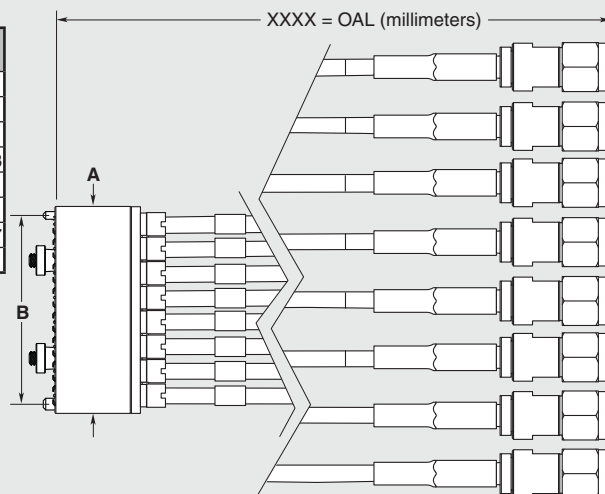
Microstrip or Stripline PCB transmission



Pogo-pin design with Ground/Signal/Ground

BE40A	TRANSMISSION TYPE	END 2	PHASE MATCHING	2	POSITIONS PER ROW	OVERALL LENGTH
	-S = Stripline -M = Microstrip	Specify END 2 OPTION from chart	-2 = 2.0 Pico-second -5 = 5.0 Pico-second -N = No Phase Matching		Specify POSITIONS PER ROW from chart	-“XXXX” = Overall Length in millimeters -0152 (0152 mm) 5.984" to -9999 (9999 mm) 393.7"

POSITIONS PER ROW	A	B
-03	(13.80) .543	N/A
-04	(17.80) .701	(14.80) .583
-06	(25.80) 1.016	(22.80) .898
-08	(33.80) 1.331	(30.80) 1.213
-10	(41.80) 1.646	(38.80) 1.528
-12	(49.80) 1.961	(43.40) 1.709
-14	(57.80) 2.276	(54.80) 2.157
-16	(65.80) 2.591	(62.80) 2.472



BE40A-S-92SP-XX-2-08-XXXX SHOWN

-24SJ & -24SP
PRELIMINARY

END 2 OPTIONS*	
-92SJ = 2.92 mm -24SJ* = 2.40 mm Straight Jack	
(30 μ" (0.76 μm) Gold on Center Contact, Stainless Steel on Shell)	
-92SP = 2.92 mm -24SP* = 2.40 mm Straight Plug	
(30 μ" (0.76 μm) Gold on Center Contact, Stainless Steel on Shell)	

* 2.40 mm end option is needed for 50 GHz performance. Contact RFTechnicalGroup@samtec.com

Notes:

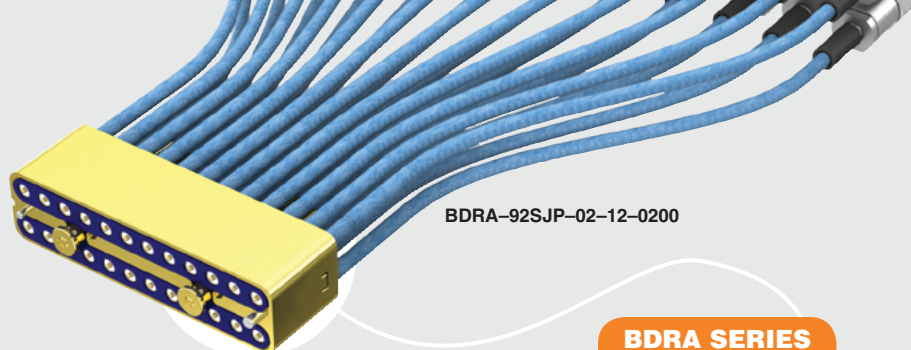
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data

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

Due to technical progress, all designs, specifications and components are subject to change without notice.

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BDRA-92SJP-02-12-0200

BDRA SERIES

20 GHz DOUBLE ROW TEST ASSEMBLY

SPECIFICATIONS

For complete specifications
see www.samtec.com?BDRA

End 2 Connector:

Shell Material:

Stainless Steel

Contact Material:

BeCu

Cable Body:

Stainless Steel

Insulator Material:

Ulem 1000

Operating Temperature:

-65 °C to +165 °C

Impedance:

50 Ω

Frequency Range:

20 GHz

RoHS Compliant:

Yes

MWC-2350-01

Cable:

Cable Type:

Low Loss Microwave Coax

Gauge:

23 AWG

Shield Material:

1. Flat silver plated copper

2. Silver plated copper braid

Dielectric:

Solid FEP

Jacket Material:

FEP

Bend Radius:

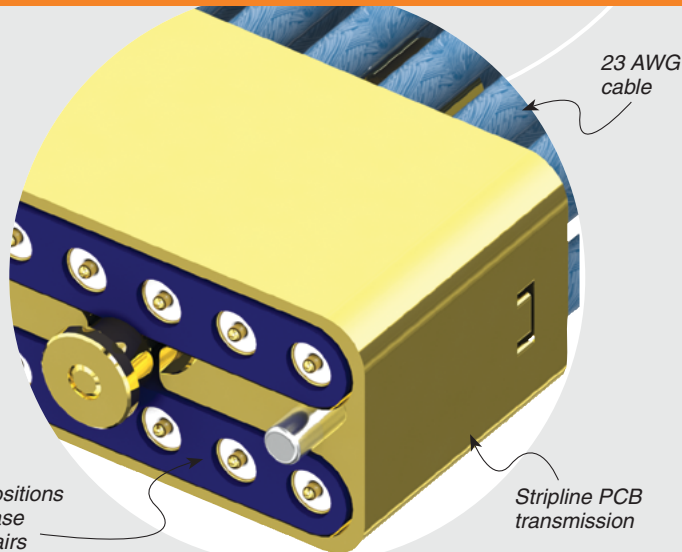
12 mm

Impedance:

50 Ω ± 1 Ω

COMPONENTS

- For replacement cable see www.samtec.com?BE23S
- For replacement block see www.samtec.com?BDR
- Replacement elastomer gaskets available
Contact Samtec.



Up to 24 positions
with 12 phase
matched pairs

BDRA

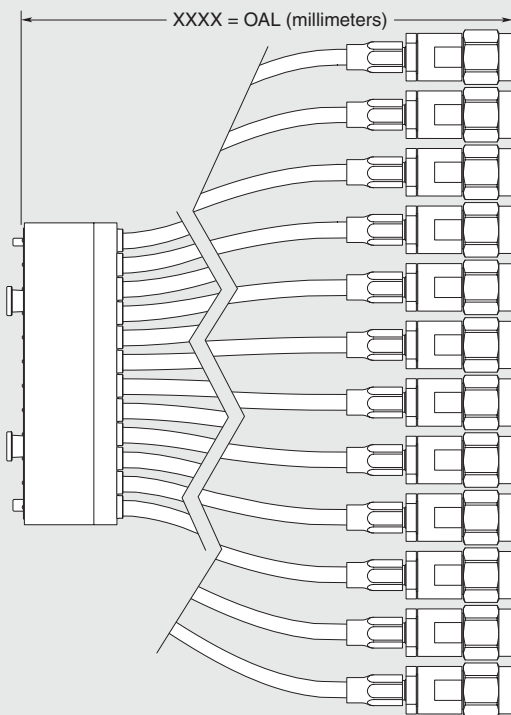
END 2
CONNECTORPHASE
MATCHING

12

OVERALL
LENGTH

Specify END 2 OPTION from chart

XXXX = OAL (millimeters)



-02

= 2.0 Pico-second

-05

= 5.0 Pico-second

-10

= 10.0 Pico-second

-“XXXX”

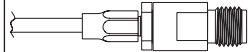
= Overall Length
in millimeters
-0100
(100 mm) 3.94"
to -9999
(9999 mm) 393.7"

END 2 OPTIONS

92SJP = 2.92

Straight Jack

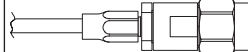
(30 μ" (0.76 μm) Gold on Center Contact,
Stainless Steel on Shell)



-92SPP = 2.92

Straight Plug

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



Patent:
7544093

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

Due to technical progress, all designs, specifications and components are subject to change without notice.

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BQRA SERIES

20 GHz QUAD ROW TEST ASSEMBLY

SPECIFICATIONS

For complete specifications
see www.samtec.com/BQRA

End 2 Connector:

Shell Material:

Stainless Steel

Contact Material:

BeCu

Cable Body:

Stainless Steel

Insulator Material:

Ultram 1000

Operating Temperature:

-65 °C to +165 °C

Impedance:

50 Ω

Frequency Range:

20 GHz

RoHS Compliant:

Yes

MWC-2350-01

Cable:

Cable Type:

Low Loss Microwave Coax

Gauge:

23 AWG

Shield Material:

1. Flat silver plated copper

2. Silver plated copper braid

Dielectric:

Solid FEP

Jacket Material:

FEP

Bend Radius:

12 mm

Impedance:

50 Ω ± 1 Ω

COMPONENTS

- For replacement cable see www.samtec.com/BE23S
- For replacement block see www.samtec.com/BQR
- Replacement elastomer gaskets available
Contact Samtec.

A total of 20 positions with
10 phased matched pairs

23 AWG
cable

Stripline PCB
transmission

BQRA

**END 2
CONNECTOR**

**PHASE
MATCHING**

10

**OVERALL
LENGTH**

Specify
END 2 OPTION
from chart

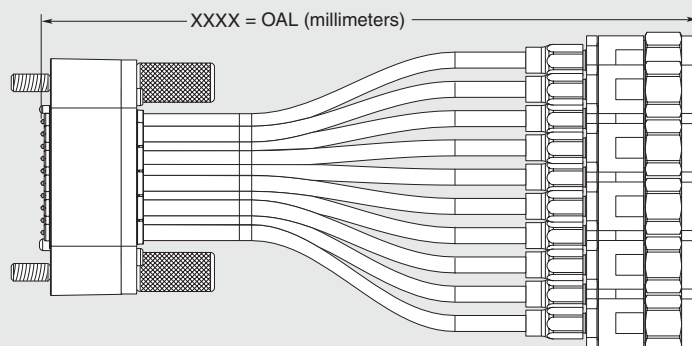
-02
= 2.0 Pico-second

-05
= 5.0 Pico-second

-10
= 10.0 Pico-second

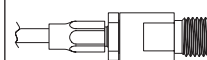
-10
= Number
of phase
matched
pairs

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

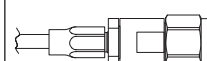


END 2 OPTIONS

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



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



Patent:
7544093

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

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REPLACEMENT COMPONENTS

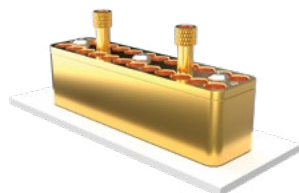
Testing can be a long, arduous process and engineers need an assembly that will stand up to the demands. Yet, even the best components have a life cycle. As a result, Samtec makes it easy to order replacement components for our Bulls Eye® assemblies. The following outlines each replacement component, and in which assembly it is used:

SERIES	COMPONENT	ASSEMBLY USED IN
BE40B	Block	BE40A
BE40C	Cable	BE40A
BDR	Block	BDRA
BQR	Block	BQRA
BE23S	Cable	BDRA and BQRA
	Elastomer	BDRA and BQRA

BULLSEYE®
TEST POINT SYSTEM

samtec.com/BullsEye

To find these replacement components on our website, simply type the series name into the search box in the upper, right-hand corner of samtec.com. Contact RFTechnicalGroup@samtec.com for additional information.



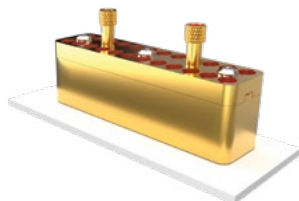
BE40B SERIES | Replacement block for 50 GHz Bulls Eye® (BE40A)

- Microstrip or stripline PCB transmission
- Double row



BE40C SERIES | Replacement cable for 50 GHz Bulls Eye® (BE40A)

- Pogo-pin design with ground/signal/ground
- 23 AWG solid dielectric low loss cable with additional copper foil shield



BDR SERIES | Replacement block for 20 GHz Bulls Eye® (BDRA)

- Stripline PCB transmission
- Double row



BQR SERIES | Replacement block for 20 GHz Bulls Eye® (BQRA)

- Stripline PCB transmission
- Quad row



BE23S SERIES | Replacement cable for 20 GHz Bulls Eye® (BDRA, BQRA)

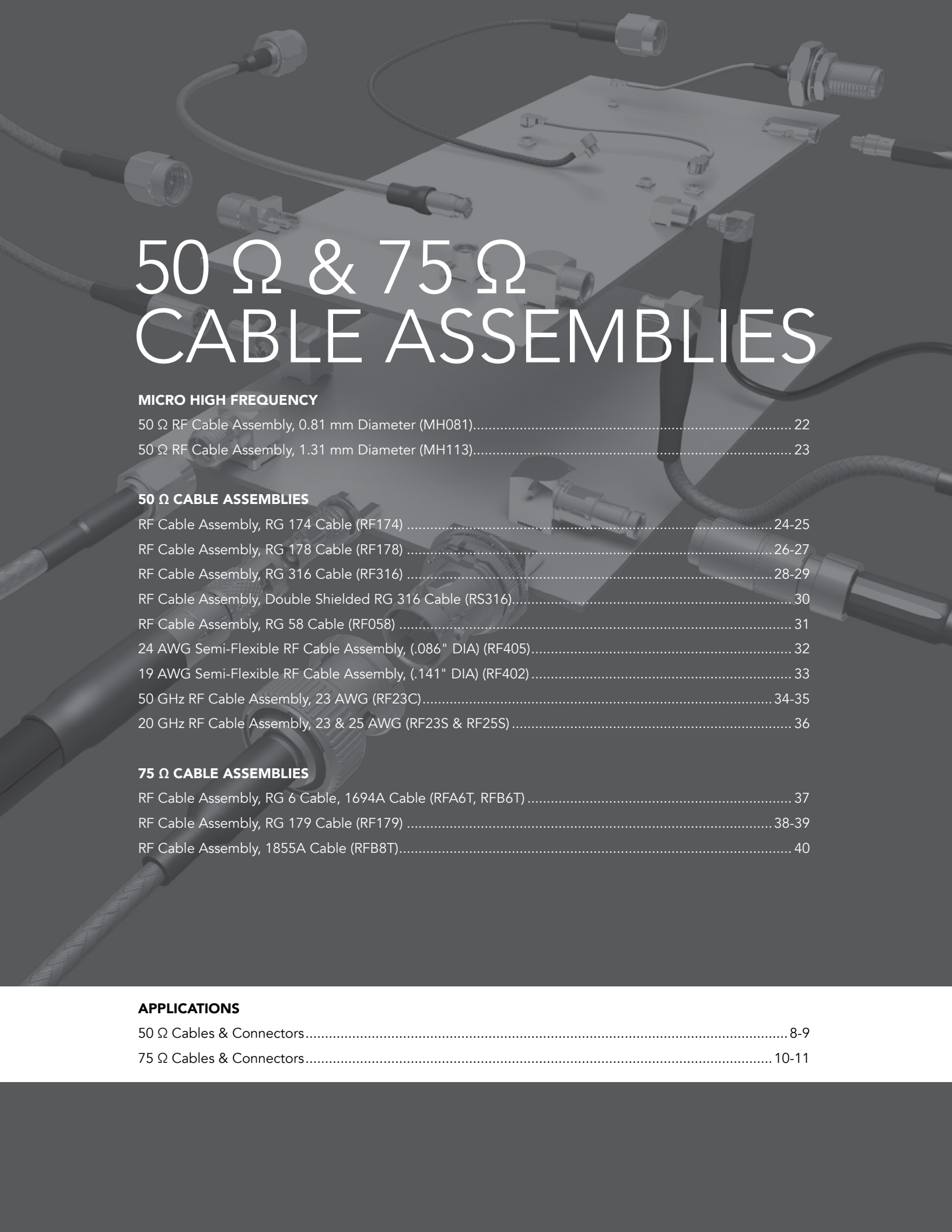
- Fixed-pin design
- 23 AWG solid dielectric low loss cable

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50 Ω & 75 Ω CABLE ASSEMBLIES

MICRO HIGH FREQUENCY

50 Ω RF Cable Assembly, 0.81 mm Diameter (MH081).....	22
50 Ω RF Cable Assembly, 1.31 mm Diameter (MH113).....	23

50 Ω CABLE ASSEMBLIES

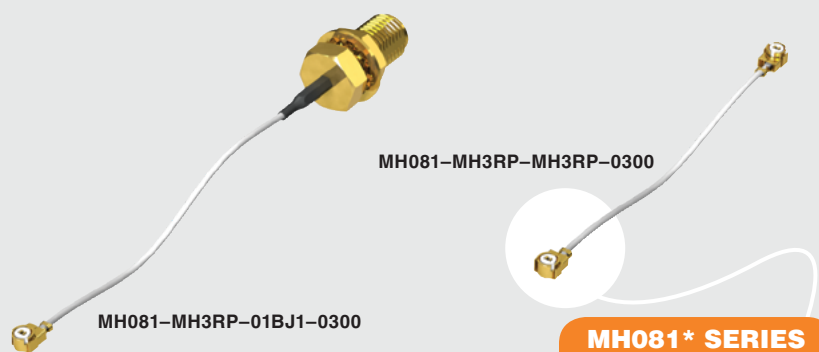
RF Cable Assembly, RG 174 Cable (RF174)	24-25
RF Cable Assembly, RG 178 Cable (RF178)	26-27
RF Cable Assembly, RG 316 Cable (RF316)	28-29
RF Cable Assembly, Double Shielded RG 316 Cable (RS316).....	30
RF Cable Assembly, RG 58 Cable (RF058)	31
24 AWG Semi-Flexible RF Cable Assembly, (.086" DIA) (RF405).....	32
19 AWG Semi-Flexible RF Cable Assembly, (.141" DIA) (RF402)	33
50 GHz RF Cable Assembly, 23 AWG (RF23C).....	34-35
20 GHz RF Cable Assembly, 23 & 25 AWG (RF23S & RF25S)	36

75 Ω CABLE ASSEMBLIES

RF Cable Assembly, RG 6 Cable, 1694A Cable (RFA6T, RFB6T)	37
RF Cable Assembly, RG 179 Cable (RF179)	38-39
RF Cable Assembly, 1855A Cable (RFB8T).....	40

APPLICATIONS

50 Ω Cables & Connectors.....	8-9
75 Ω Cables & Connectors.....	10-11



MH081 * SERIES

MICRO HIGH FREQUENCY RF CABLES

SPECIFICATIONS

For complete specifications see
www.samtec.com?MH081

Outer Contact Material:
 Au plated Phosphor Bronze
Center Contact Material:
 Au plated Phosphor Bronze (MHX)
Insulator Material:
 PBT (MHX)
 PTFE (SMA)
Operating Temperature:
 -40 °C to +90 °C
Voltage Rating:
 170 V max
Dielectric Withstanding Voltage: 200 Vrms
Frequency Range:
 0~6 GHz
Impedance: 50 Ω
RoHS Compliant: Yes

0.81 mm Cable:

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

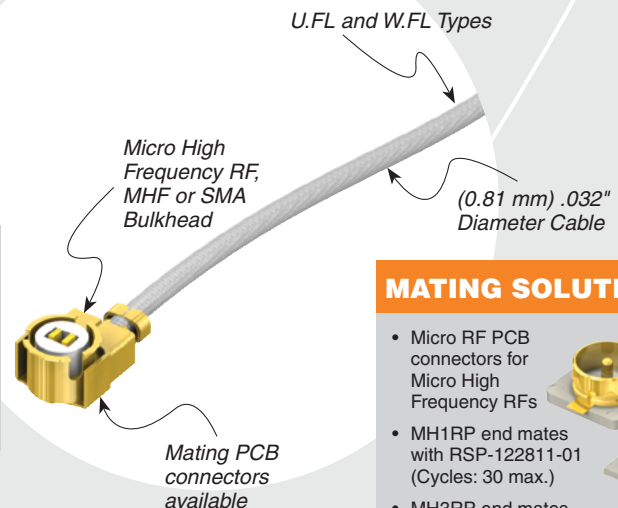
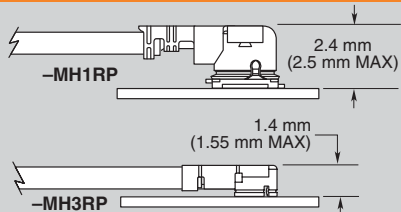
ALSO AVAILABLE (MOQ Required)

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

EXTRACTION TOOLS

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

APPLICATION



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

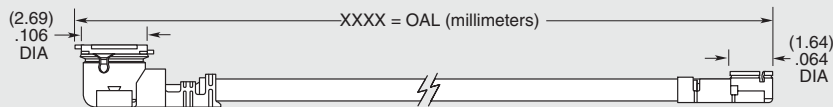
MH081

END 1 CONNECTOR

END 2 CONNECTOR

OVERALL LENGTH

Specify
END OPTIONS
from chart



-0030
 = 1.18" (30 mm)

-0050
 = 1.97" (50 mm)

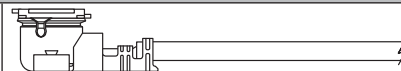
-0100
 = 3.94" (100 mm)

-0150
 = 5.91" (150 mm)

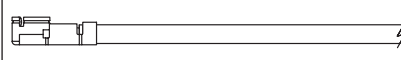
-0300
 = 11.81" (300 mm)

END OPTIONS

-MH1RP = MHF1 Type Plug
 (3.9 μ" (.1 μm) Gold on Center Contact,
 1.9 μ" (.05 μm) Gold on Shell)



-MH3RP = MHF3 Type Plug
 (3.9 μ" (.1 μm) Gold on Center Contact,
 1.9 μ" (.05 μm) Gold on Shell)



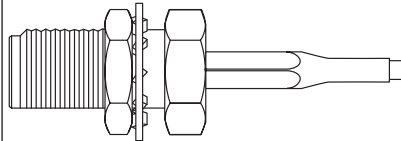
-01BJ1 = SMA Straight Bulkhead Jack

-01BJ2 = SMA Straight Bulkhead Jack, Reversed Polarity

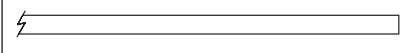
-01SB1 = SMA Straight Jack, Sealed Bulkhead

-01SR1 = SMA Straight Jack, Sealed Bulkhead, Reversed Polarity

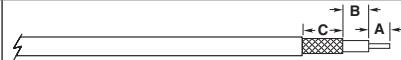
(30 μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)



-SING =
 Single Ended
 (End 2 callout)



XXXXXX =
 Stripped & Tinned
 (End 2 callout)



STRIPPED & TINNED (Dimensions in mm)

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

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

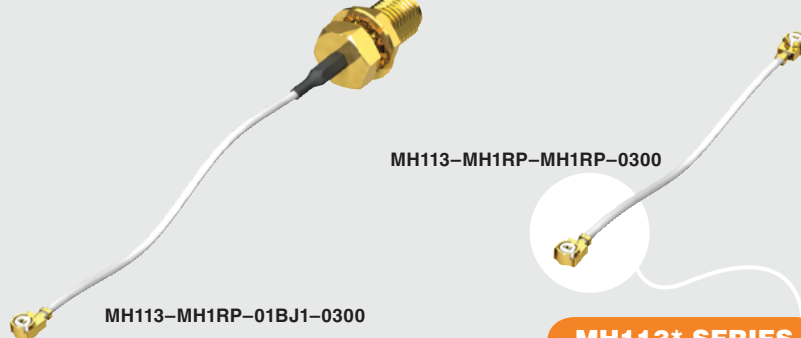
* MH081 Series was previously RF081 Series

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

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MH113* SERIES

MICRO HIGH FREQUENCY RF CABLES

SPECIFICATIONS

For complete specifications see 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:
170 V max
Dielectric Withstanding Voltage:
200 Vrms
Frequency Range:
0-6 GHz
Impedance:
50 Ω
RoHS Compliant:
Yes

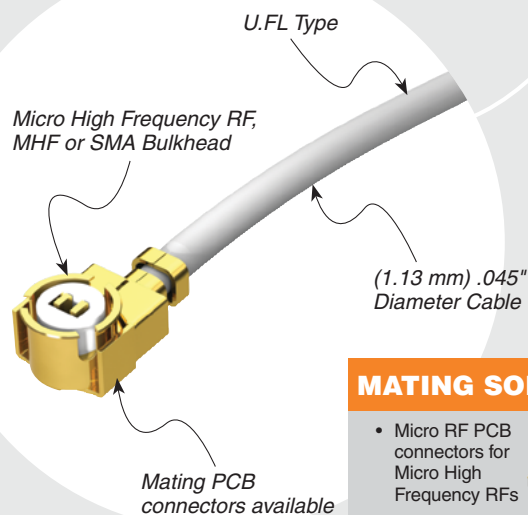
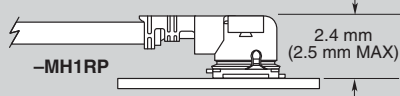
1.13 mm Cable:
Impedance:
50 Ω
Capacitance:
95 pF/meter
Max Attenuation (cable only):
2 dB @ 1 GHz
Conductor Size:
32 AWG, (1.13 mm) .045" dia.
Conductor Material:
Silver Plated Copper
Conductor Resistance:
0.60 Ω/meter max
Insulator Diameter:
(0.66 mm) .026"
Insulator Material: FEP
Shield Material: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

ALSO AVAILABLE (MOQ Required)

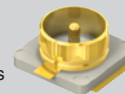
- Additional stripping and tinning options
 - Additional end connector combinations
 - Overall lengths
- Contact Samtec.

EXTRACTION TOOL

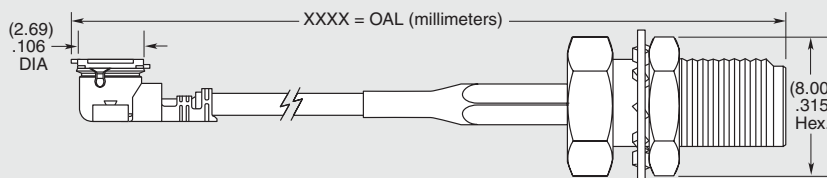
- -MH1RP = RSP-122893-01

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 (3.9 μ" (.1 μm) Gold on Center Contact, 1.9 μ" (.05 μm) Gold 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 (30 μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-SING = Single Ended (End 2 callout)	
XXXXXX = Stripped & Tinned (End 2 callout)	

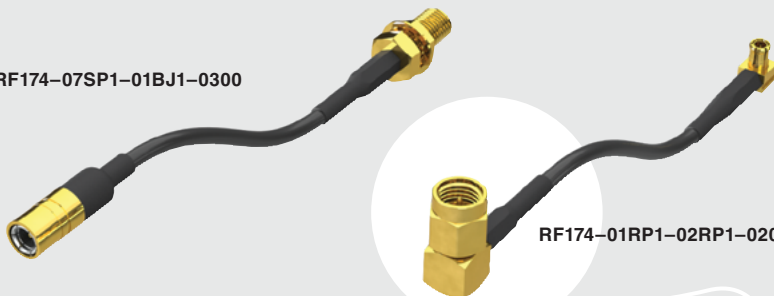
STRIPPED & TINNED (Dimensions in mm)

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

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

* MH113 Series was previously RF113 Series

RF174-07SP1-01BJ1-0300



RF174-01RP1-02RP1-0200

50 Ω RG 174 CABLE ASSEMBLIES

SPECIFICATIONS

For complete specifications see 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

Impedance:

50 Ω

Frequency Range:

0-6 GHz
(Cable & connector dependent)

RoHS Compliant:

Yes

RG 174 Cable:

Impedance:

50 Ω

Capacitance:

101.024 pF/meter

Max Attenuation

(cable only):

1.4 dB @ 1 GHz for 1 meter

Conductor Size:

26 AWG, (0.48 mm) .019" dia.

Conductor Material:

Copper

Insulator Material:

KLPE

Shield Material:

Tin Copper

Jacket Material:

PVC

Jacket Diameter:

(2.70 mm) .106"

Jacket Color:

Black

Bend Radius:

25.4 mm

RoHS Compliant:

Yes

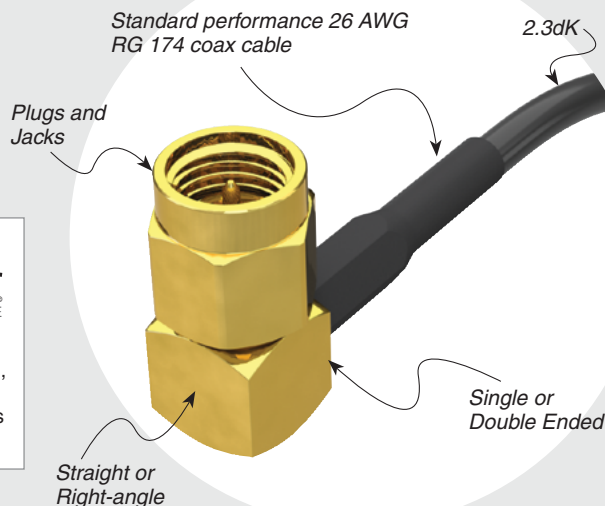
Mates with:

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



Solutionator
DESIGN IN A MINUTE

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



CABLE TYPE

END 1 CONNECTOR

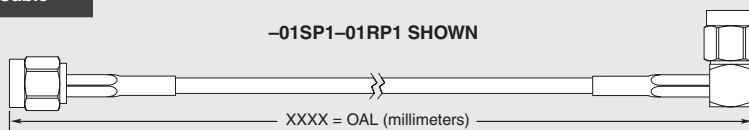
END 2 CONNECTOR

RF174

= RG 174 Cable

Specify END OPTIONS from chart

-01SP1-01RP1 SHOWN



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

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

Due to technical progress, all designs, specifications and components are subject to change without notice.

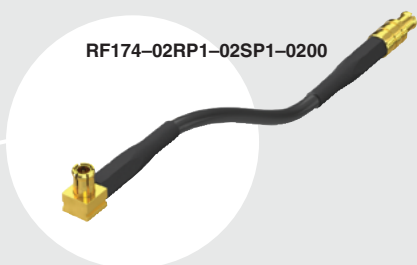
WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.

Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.



RF174-03RP1-07RP1-0200



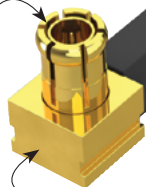
RF174-02RP1-02SP1-0200



RF174-04BJ2-07SP1-0100

RF174 SERIES

Heavy Gold plated



Choice of RF connector styles

Standard heat shrink wraps

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		END OPTIONS		END OPTIONS																								
-04SP3 = BNC Straight Plug (10 μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)		-01PN1 = SMA 4-Hole Panel Mount Jack (30 μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)		-SING = Single Ended (End 2 Callout)																								
-05SP3 = TNC Straight Plug (10 μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)		-04BJ2 = BNC Bulkhead Jack (30 μ" (0.76 μm) Gold on Center Contact, Nickel on Shell)		XXXXXX = Stripped & Tinned (End 2 Callout)																								
-07BJ1 = SMB Bulkhead Jack (30 μ" (0.76 μm) Gold on Center Contact, Gold flash on Shell)		-05BJ3 = TNC Bulkhead Jack (10 μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)		STRIPPED & TINNED (Dimensions in mm) <table><tr><th>CALLOUT</th><th>A</th><th>B</th><th>C</th></tr><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></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																									
-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 (30 μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)		-06BJ2 = N Type Bulkhead Jack (30 μ" (0.76 μm) Gold on Center Contact, Nickel on Shell)		Both center conductor and braid shield are stripped, only the center conductor is tinned.																								

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

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

RF178-02RP1-01BJ1-0200

RF178-02SP1-02RP1-0300

50 Ω RG 178 CABLE ASSEMBLIES

SPECIFICATIONS

For complete specifications
see 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)

Impedance:

50 Ω

RoHS Compliant:

Yes

RG 178 Cable:

Impedance:

50 Ω

Capacitance:

96 pF/meter

Propagation Delay:

4.83 nsec/meter

Max Attenuation

(cable only):

1.7 dB @ 1 GHz for 1 meter

Conductor Size:

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

Conductor Material:

Silver Plated Copper

Conductor Resistance:

0.34 Ω/meter max

Current Rating:

3 A DC

Insulator Diameter:

(0.86 mm) .034"

Insulator Material:

PTFE

Dielectric Constant:

2.1 dK

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



Solutionator
DESIGN IN A MINUTE

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

Light Gauge 30 AWG
RG 178 coax cable

2.1dK

Standard Heat
Shrink

SMA, MCX, MMCX,
SMB, BNC, TNC and
N Type End Options

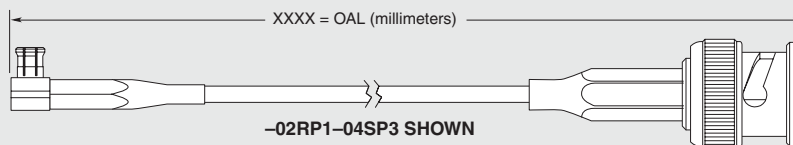
CABLE TYPE

END 1
CONNECTOR

END 2
CONNECTOR

RF178
= RG 178 Cable

Specify END OPTIONS from chart



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

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.

Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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

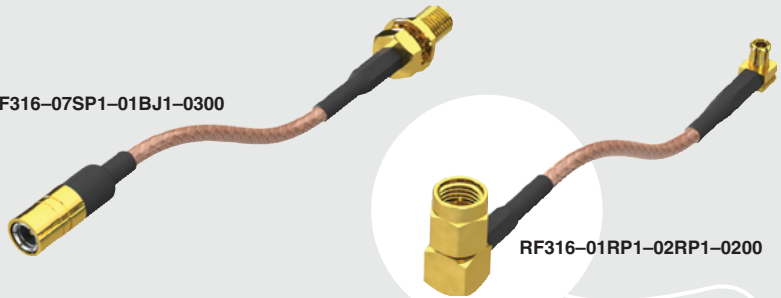
Both center conductor and braid shield are stripped, only the center conductor is tinned.

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

RF316-07SP1-01BJ1-0300



RF316-01RP1-02RP1-0200

50 Ω RG 316 CABLE ASSEMBLIES

SPECIFICATIONS

For complete specifications see 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

Impedance:

50 Ω

Frequency Range:

0-6 GHz

(Cable & connector dependent)

RoHS Compliant:

Yes

RG 316 Cable:

Impedance:

50 Ω

Capacitance:

96.432 pF/meter

Max Attenuation

(cable only):

1.25 dB @ 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



Solutionator
DESIGN IN A MINUTE

- Create a full system: cable assembly and board level mates, 50 Ω and 75 Ω solutions
- 24-hour samples on standard products
- Visit: 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

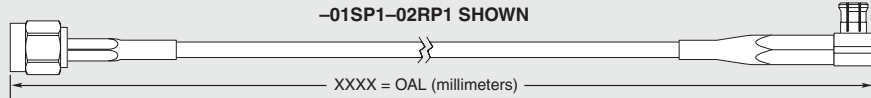
END 1
CONNECTOREND 2
CONNECTOR

Specify END OPTIONS from chart

RF316
= RG 316 Cable,
Single Braid Shield

-01SP1-02RP1 SHOWN

XXXX = OAL (millimeters)



END OPTIONS

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

END OPTIONS

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

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.

Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.



RF316-03RP1-07RP1-0200

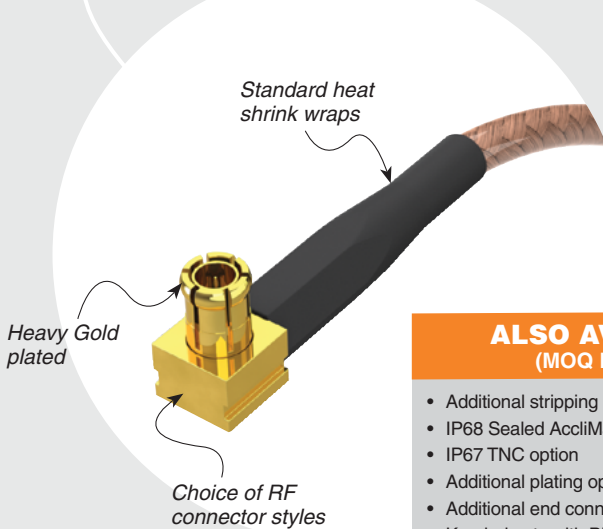


RF316-02RP1-02SP1-0200



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	
-04SP3 = BNC Straight Plug (10 μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)	
-05SP3 = TNC Straight Plug (10 μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)	
-07BJ1 = SMB Bulkhead Jack (30 μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-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 (30 μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	

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

END OPTIONS	
-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.

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

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

RS316-01SP1-01SP1-0300

RS316 SERIES

50 Ω DOUBLE SHIELDED RG 316 CABLE

SPECIFICATIONS

For complete specifications see 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

Impedance:

50 Ω

Frequency Range:

0-6 GHz

(Cable & connector dependent)

RoHS Compliant:

Yes

RG 316 DS Cable:

Impedance:

50 Ω

Capacitance:

95.8 pF/meter

Max Attenuation

(cable only):

1.4 dB @ 2 GHz for 1 meter

Conductor Size:

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

Conductor Material:

Silver Plated Copper

Clad Steel

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, BNC5



Solutionator
DESIGN IN A MINUTE

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

Straight SMA
Plugs

Double shielded for
increased shielding
effectiveness (SE)

Single or
Double ended

ALSO AVAILABLE (MOQ Required)

- Additional stripping and tinning options
- Contact Samtec.

CABLE TYPE

END 1 CONNECTOR

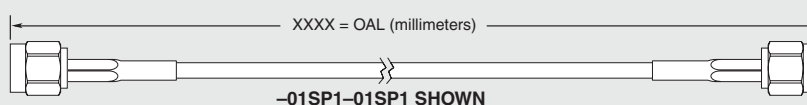
END 2 CONNECTOR

OVERALL LENGTH

RS316
= RG 316 Cable,
Double Shielded

Specify END OPTIONS from chart

—“XXXX”
= Overall Length in
millimeters -0100
(100 mm) minimum



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

END OPTIONS

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

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.

Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.



RF058 SERIES

50 Ω RG 58 CABLE ASSEMBLIES

SPECIFICATIONS

For complete specifications
see 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

Frequency Range:
0~1 GHz

Impedance:
50 Ω

RoHS Compliant:
Yes

RG 58 Cable:

Impedance:
50 Ω

Capacitance:
102 pF/meter

Max Attenuation

(cable only):
0.8 dB @ 1 GHz

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

Conductor Material:
Tinned Copper

Insulator Diameter:
(3.00 mm) .076"

Insulator Material:
Solid Polyethylene

Shield Material:
Tinned Copper

Jacket Material:
PVC

Jacket Diameter:
(5.00 mm) .197" dia.

Bend Radius:
48.3 mm

Jacket Temp Rating:
-50 °C to +90 °C

RoHS Compliant:
Yes

Mates with:
TNC, SMA



Solutionator
DESIGN IN A MINUTE

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

20 AWG
RG 58 coax cable



Single or Double
Ended

SMA, TNC or N Type
end options

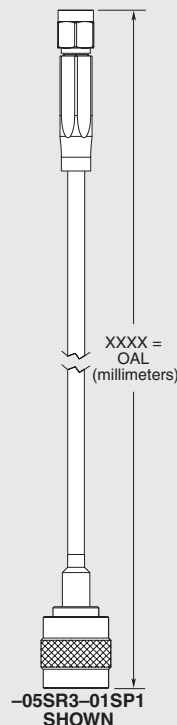
RF058

END 1
CONNECTOR

END 2
CONNECTOR

OVERALL
LENGTH

Specify END OPTIONS from chart



-05SR3-01SP1
SHOWN

END OPTIONS

-01SP1 = SMA Straight Plug (30 μ" (0.76 μm) Gold on Center Contact, Gold Flash on Outer Contact and Shell)	
-05SR3 = TNC Reversed Polarity Straight Plug (10 μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)	
-06SP3 = N Type Straight Plug (10 μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)	
-01BJ1 = SMA Straight Bulkhead Jack -01SB1 = SMA Straight Bulkhead Jack, Sealed (30 μ" (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

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)

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.

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.

Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

RF405-01SP1-01RP1-0500

RF405-00SJ7-00SJ7-0500

RF405 SERIES

50 Ω .086" DIA SEMI-FLEXIBLE CABLE

SPECIFICATIONS

For complete specifications
see www.samtec.com?RF405

RF Connector:

Shell Material:

Brass (SMA),
Au plated BeCu (SMP)

Contact Material:

Brass (SMA),
Au plated BeCu (SMP)

Impedance:

50 Ω

Frequency Range:

DC to 20 GHz

Dielectric Withstanding:

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

RG 405 (.086")

Cable:

Impedance:

50 Ω microwave

Capacitance:

104.97 pF/meter

Max Attenuation

(cable only):

0.72 @ 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



Solutionator
DESIGN IN A MINUTE

- Create a full system:
cable assembly and board level mates,
50 Ω and 75 Ω solutions
- 24-hour samples on standard products
- Visit: 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

ALSO AVAILABLE (MOQ Required)

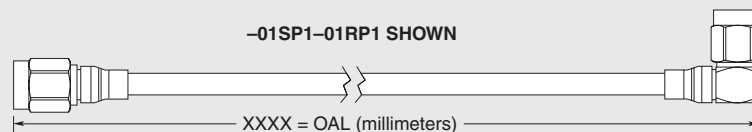
- Additional stripping
and tinning options
Contact Samtec.

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.



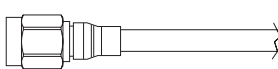
STRIPPED & TINNED (Dimensions in mm)

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

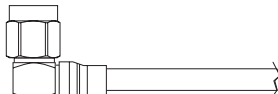
Both center conductor and braid
shield are stripped, only the
center conductor is tinned.

END OPTIONS

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

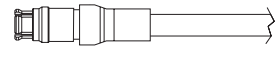


—01RP1 = SMA
Right-angle Plug
(30 μ" (0.76 μm) Gold on
Center Contact,
Gold Flash on Shell)

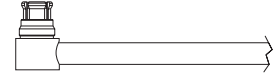


END OPTIONS

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



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



XXXX =
Stripped & Tinned
(End 2 callout)



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WWW.SAMTEC.COM

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RF402-01SP1-01RP1-0500

RF402-01RP1-01SP1-0500

RF402 SERIES

50 Ω .141" DIA SEMI-FLEXIBLE CABLE

SPECIFICATIONS

For complete specifications
see www.samtec.com?RF402

RF Connector:

Shell Material:

Brass

Contact Material:

Brass

Insulator Material:

PTFE

Impedance:

50 Ω

Frequency Range:

0-20 GHz

Dielectric Withstanding:

1,000 Vrms

RG 402 (.141")

Cable:

Impedance:

50 Ω microwave

Capacitance:

98.072 pF/meter

Max Attenuation

(cable only):

0.40 @ 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



Solutionator
DESIGN IN A MINUTE

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

Hand-formable
semi-flexible cable

(3.58 mm)
.141" DIA cable

High frequency
performance

Choice of SMA right-angle
or straight plug terminations

CABLE TYPE

END 1 CONNECTOR

END 2 CONNECTOR

OVERALL LENGTH

RF402

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

Specify END OPTIONS from chart

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

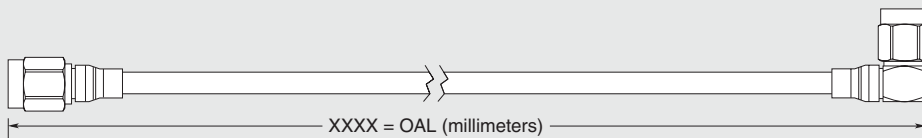
ALSO AVAILABLE (MOQ Required)

- Additional stripping
and tinning options
Contact Samtec.

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

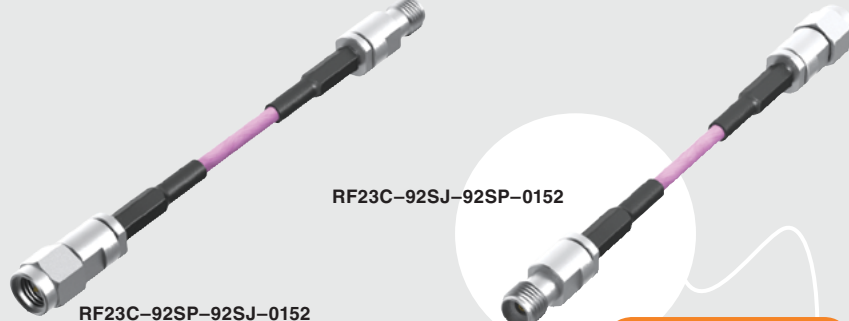
Both center conductor and
braid shield are stripped,
only the center
conductor is tinned.

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

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RF23C SERIES

50 Ω 50 GHz RF CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?RF23C

RF Connector:

Shell Material:

Stainless Steel

Contact Material:

BeCu

Cable Body:

Stainless Steel

Insulator Material:

Utem 1000

Operating Temperature:

-40 °C to +85 °C

Impedance:

50 Ω

Frequency Range:

50 GHz

RoHS Compliant:

Yes

MWC-2350CU-01

Cable:

Type:

Low Loss Microwave Coax

Gauge:

23 AWG

Shield Material:

1. Flat silver plated copper

2. Copper tape

3. Silver plated copper braid

Dielectric:

Solid FEP

Jacket Material:

FEP

Bend Radius:

6 mm

Impedance:

50 Ω $\pm$ 1 Ω

Propagation Delay:

4.76 nsec/meter

Capacitance:

97.80 pF/meter

Mates with:
292

*Robust in
dynamic applications*

TEST REPORTS

Visit www.samtec.com?RF23C or contact RFTechnicalGroup@samtec.com for Insertion Loss, Return Loss, V.S.W.R. and other testing information.

2.92 mm and
2.40 mm terminations

APPLICATION

Copper foil
shielding

CABLE TYPE

END 1 CONNECTOR

END 2 CONNECTOR

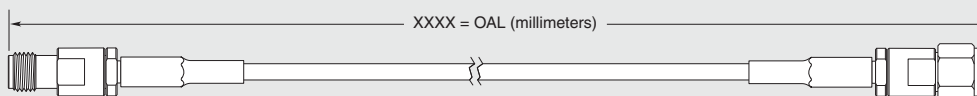
OVERALL LENGTH

RF23C

= MWC-2350CU-01
Microwave Cable
with copper
foil shield

Specify
END OPTIONS
from chart

— “XXXX”
= Overall Length
in millimeters
—0152 (0152 mm)
5.984" minimum



—92SJ—92SP SHOWN

*-24SJ & -24SP
PRELIMINARY*

OTHER SOLUTIONS

- Bulls Eye® Test Point available
- See www.samtec.com?BE40C for complete specifications.

Notes:

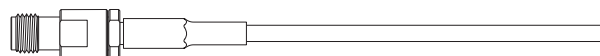
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

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

END OPTIONS*

—92SJ = 2.92 mm Straight Jack
—24SJ = 2.40 mm Straight Jack

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



—92SP = 2.92 mm Straight Plug
—24SP = 2.40 mm Straight Plug

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



* 2.40 mm end option is needed for 50 GHz performance.
Contact RFTechnicalGroup@samtec.com

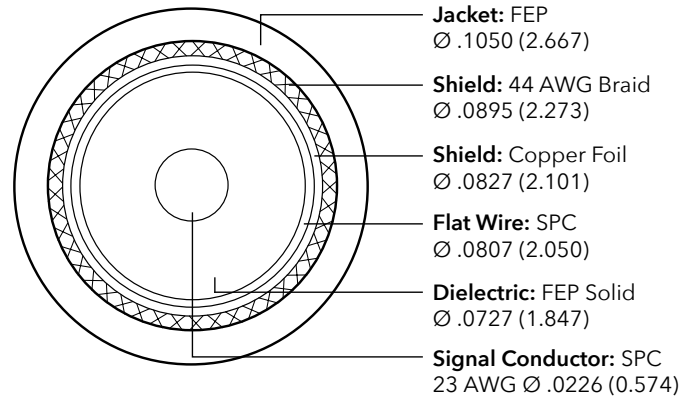
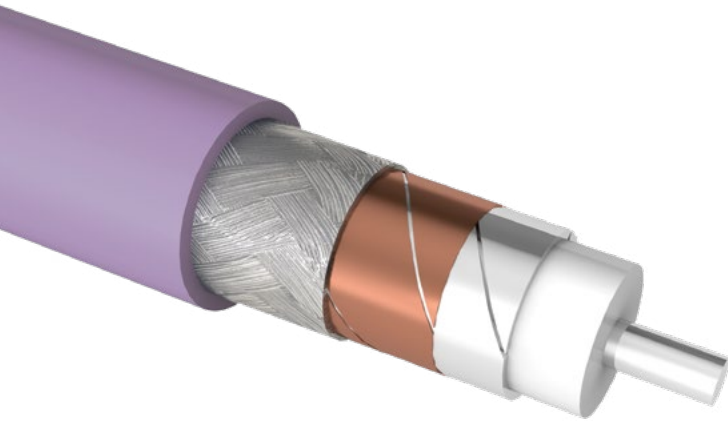
Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

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50 Ω , 23 AWG SOLID, MICRO CU COAX CABLE



PERFORMANCE DATA

Capacitance: 97.80 pF/meter (nominal)
 Propagation Delay: 4.76 ns/meter
 Flex Cycles: 600 cycles, single conductor*
 Current Rating: Single conductor = 6.9 Amps**

Shield DCR: 10.8 Ω /1000 ft
 CC DCR: 21.6 Ω /1000 ft
 Min. Bend Radius: 6 mm
 Availability: Single
 Temperature Rating: -65 $^{\circ}$ C to +125 $^{\circ}$ C, UL VW-1 Tested ***
 DWV Working Voltage: 375 V[†]

Insertion Loss	0.25 m	1 m
-3 dB	>40 GHz	13 GHz
-7 dB	>40 GHz	>40 GHz

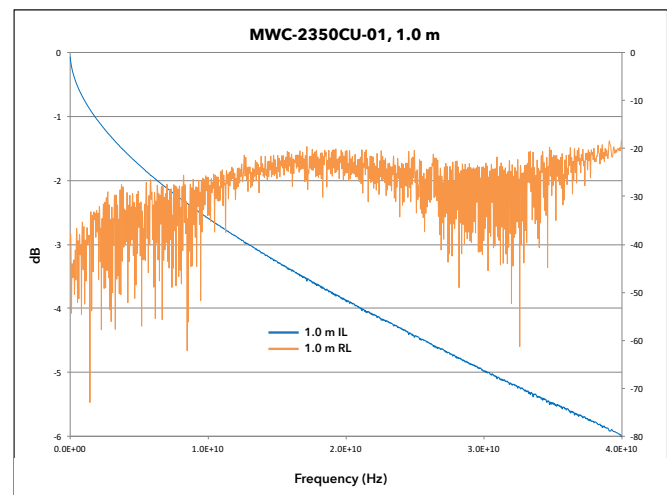
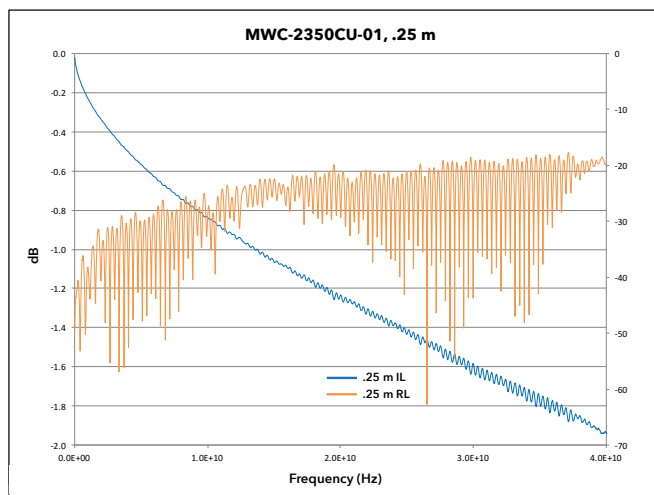
* Test Conditions – 4 oz. weight, dia 7/8" mandrel, +/-90 bend X2

** Rating – 30 $^{\circ}$ C Temperature Rise, 20% de-rated.

*** Temperature Rating – Heat Shock/Cold Soak per UL #1581, wire wrap 1/4" mandrel, visual inspection

[†]Test Conditions – IR/DWV/Thermal Shock/Humidity per EIA-364-20, 21, 31 and 32

INSERTION LOSS AND RETURN LOSS GRAPHS[‡]



[‡]IL and RL data is typical. Results may vary.
 DUT terminated with SMA Connector and has not been de-embedded.



RF25S, RF23S SERIES

50 Ω RF CABLE ASSEMBLIES

Mates with:
SMA, SMP

SPECIFICATIONS

For complete specifications
see www.samtec.com?RF25S

MWC-2550-01

Cable:

Type: Low Loss Microwave Coax

Gauge: 25 AWG

Shield Material:

1. Flat silver plated copper
2. Silver plated copper braid

Dielectric: Solid FEP

Jacket Material: FEP

Bend Radius:

9 mm

Impedance:

50 Ω ± 1 Ω

Propagation Delay:

4.76 nsec/meter

Capacitance:

96.8 pF/meter

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.

CABLE TYPE

RF25S

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

END 1 CONNECTOR

Specify
END OPTIONS
from chart

END 2 CONNECTOR

OVERALL LENGTH

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

END OPTIONS

-01SP1 = SMA Straight Plug (30 μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-01BJ1 = SMA Bulkhead Jack (30 μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
-00SJ7 = SMP Straight Jack (10 μ" (0.25 μm) Gold on Center Contact, Gold Flash on Shell)	

END OPTIONS

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

ALSO AVAILABLE (MOQ Required)

- Additional stripping and tinning options
Contact Samtec.

OTHER SOLUTIONS

- Bulls Eye® test point available
Contact Samtec.

SPECIFICATIONS

For complete specifications
see www.samtec.com?RF23S

MWC-2350-01

Cable:

Type: Low Loss Microwave Coax

Gauge: 23 AWG

Shield Material:

1. Flat silver plated copper
2. Silver plated copper braid

Dielectric: Solid FEP

Jacket Material: FEP

Bend Radius:

12 mm

Impedance:

50 Ω ± 1 Ω

Propagation Delay:

4.72 nsec/meter

Capacitance:

95.45 pF/meter

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.

CABLE TYPE

RF23S

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

END 1 CONNECTOR

Specify
END OPTIONS
from chart

END 2 CONNECTOR

OVERALL LENGTH

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

END OPTIONS

-35SJP = 3.50 mm Straight Jack (30 μ" (0.76 μm) Gold on Center Contact, Stainless Steel on Shell)	
-35SPP = 3.50 mm Straight Plug (30 μ" (0.76 μm) Gold on Center Contact, Stainless Steel on Shell)	
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.

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.



RFA6T-74SP3-74SP3-0300

RFA6T, RFB6T SERIES

75 Ω OPTIMIZED BNC CABLE ASSEMBLIES

SPECIFICATIONS

For complete specifications
see www.samtec.com?RFA6T
or 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:

75 Ω ± 3 Ω (-ST)

75 Ω ± 4 Ω (-RA)

Frequency Range:

0-3.5 GHz *

Working Voltage:

500 Vrms max *

Dielectric Withstanding:

1500 Vrms min *

RoHS Compliant:

Yes

RG 6/1694A Cable:

Impedance:

75 Ω ± 3 Ω

Capacitance:

54 ± 3 pF/meter

Max Attenuation

(cable only):

0.21 dB @ 1 GHz 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

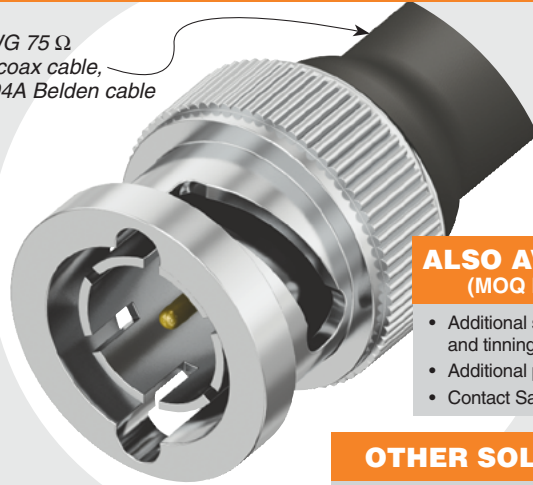
Mates with:
BNC7T, DIN7A, HDBNC



Solutionator
DESIGN IN A MINUTE

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

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



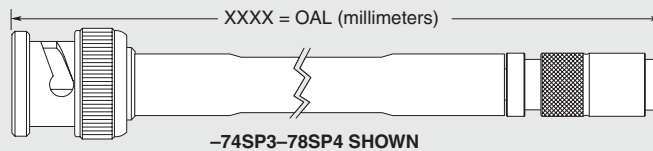
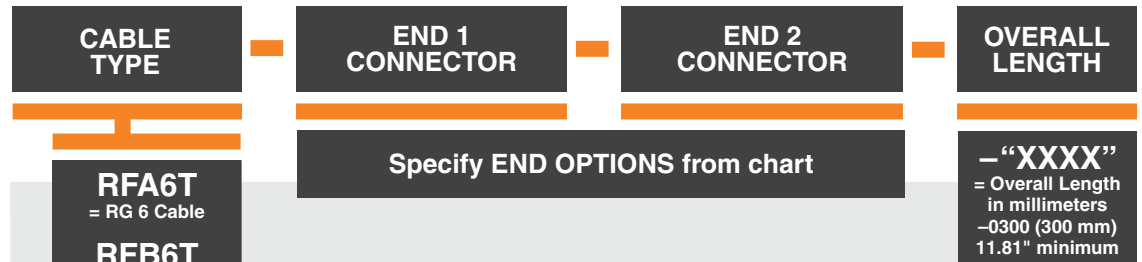
ALSO AVAILABLE (MOQ Required)

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

OTHER SOLUTIONS

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

* See connector component
pages for specific range.



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.

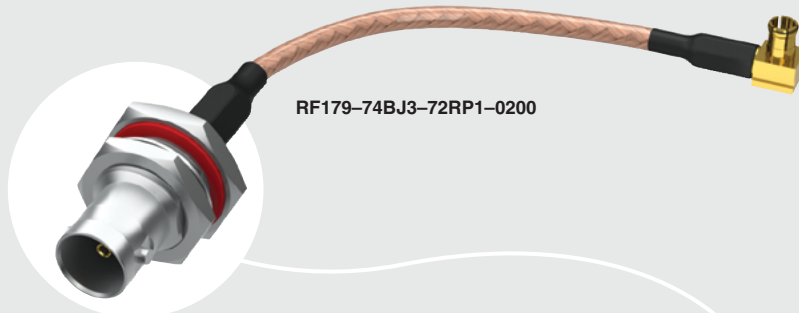
END OPTIONS		END OPTIONS	
-H4SP3 = 75 Ω High-Density BNC Straight Plug (10 μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)		-74RP3 = 75 Ω BNC Right-angle Plug (10 μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)	
-78SP4 = 75 Ω DIN Straight Plug (10 μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)		-SING = Single Ended (End 2 callout)	
-74SP3* = 75 Ω BNC Straight Plug (10 μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)		-XXXXXX = Stripped & Tinned (End 2 callout) (See chart for callout)	
(*Die Cast also available = -D4SP3)			

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.

Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.



75 Ω OPTIMIZED RG 179 CABLES

SPECIFICATIONS

For complete specifications
see 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:
75 Ω

Frequency Range:

0-4 GHz *
(Cable & connector dependent)

RoHS Compliant:
Yes

RG 179 Cable:

Impedance:

75 Ω $\pm$ 3 Ω

Capacitance:

64 pF/meter

Propagation Delay:

4.83 nsec/meter

Max Attenuation

(cable only):

0.8 dB @ 1 GHz for 1 meter

Conductor Size:

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

Conductor Material:

Silver Plated Copper

Conductor Resistance:

0.34 Ω /meter max

Current Rating:

3 A 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:

-50 °C to +165 °C

Jacket Color:

Amber

RoHS Compliant:

Yes

Mates with:

BNC7T, MCX7, MMCX7,
SMB7H, DIN7A



Solutionator
DESIGN IN A MINUTE

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

* See connector component
pages for specific range.

30 AWG
75 Ω RG 179
coax cable

Standard
Heat Shrink

Single or Double
Ended

CABLE TYPE

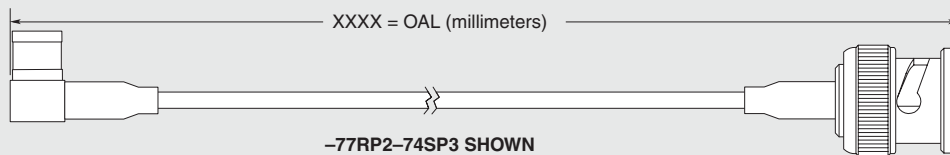
END 1 CONNECTOR

END 2 CONNECTOR

RF179

= RG 179 Cable

Specify END OPTIONS from chart



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

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RF179-78SP4-77SP1-0200



RF179-72SP1-73SJ4-0100

RF179 SERIES



Wide variety of 75 Ω 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

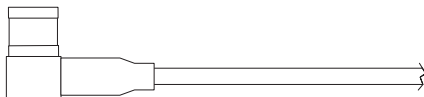
STRIPPED & TINNED (Dimensions in mm)

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

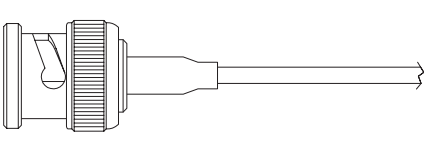
Both center conductor and braid shield are stripped, only the center conductor is tinned.

END OPTIONS

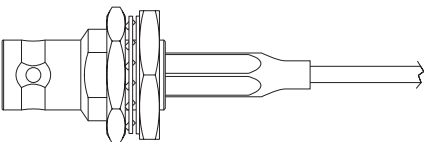
-77RP1 = 75 Ω SMB
Right-angle Plug
(30 μ " (0.76 μ m) Gold on Center Contact, Gold Flash on Shell)



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

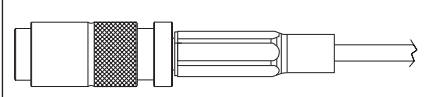


-74BJ3 = 75 Ω BNC
Bulkhead Jack
(10 μ " (0.25 μ m) Gold on Center Contact, Nickel on Shell)

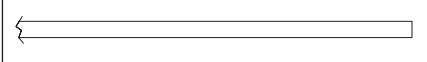


END OPTIONS

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



-SING =
Single Ended
(End 2 callout)



XXXXXX =
Stripped & Tinned
(End 2 callout)



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RFB8T SERIES

75 Ω OPTIMIZED 1855A CABLE ASSEMBLIES

SPECIFICATIONS

For complete specifications
see 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:

75 Ω $\pm$ 2 Ω (ST), 75 Ω $\pm$ 4 Ω (RA)

Frequency Range:

0-3.5 GHz *

Working Voltage:

250 Vrms (DIN),

330 Vrms (BNC)

Dielectric Withstanding:

750 Vrms (DIN),

1000 Vrms (BNC)

RoHS Compliant:

Yes

1855A Cable:

Impedance:

75 Ω $\pm$ 3 Ω

Capacitance:

56 $\pm$ 3 pF/meter

Max Attenuation

(cable only):

0.37 dB @ 1 GHz 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

Mates with:

DIN7A, HDBNC

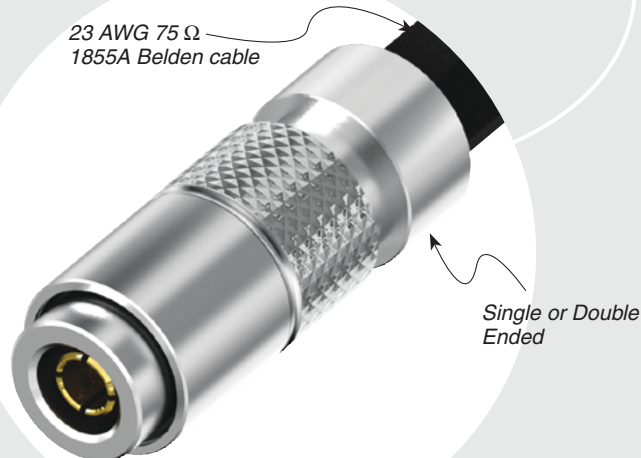


Solutionator
DESIGN IN A MINUTE

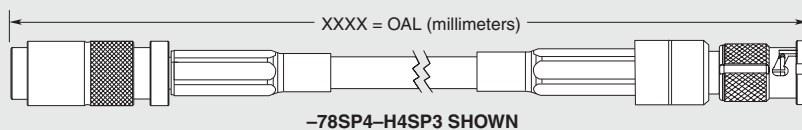
- Create a full system: cable assembly and board level mates, 50 Ω and 75 Ω solutions
- 24-hour samples on standard products
- Visit: rf.samtec.com

* See connector component pages for specific range.

23 AWG 75 Ω
1855A Belden cable



CABLE TYPE	END 1 CONNECTOR	END 2 CONNECTOR	OVERALL LENGTH
RFB8T = Belden 1855A Cable	Specify END OPTIONS from chart		— "XXXX" = Overall Length in millimeters -0300 (300 mm) 11.81" minimum



ALSO AVAILABLE (MOQ Required)

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

OTHER SOLUTIONS

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

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

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

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50 Ω & 75 Ω CONNECTORS

50 Ω CONNECTORS

2.92 mm Precision Jacks & Cable Components (292, 292-CA).....	42-43
50 Ω SMA Jacks & Cable Components (SMA, SMA-CA)	44-46
50 Ω SMP Jacks/Plugs & Adaptor (SMP, SMP-CA)	47
50 Ω SMB Jacks & Plugs (SMB5, SMB5-CA).....	48
50 Ω MMCX & MCX Jacks & Plugs (MMCX, MCX)	49-50
50 Ω MMCX & MCX Cable Components (MMCX-CA, MCX-CA)	51
50 Ω BNC Cable Components (BNC5-CA)	52
50 Ω N Type Cable Components (NTPE-CA)	53
50 Ω TNC Jacks & Cable Components (TNC, TNC-CA)	54

75 Ω CONNECTORS

75 Ω DIN 1.0/2.3 Jacks & Cable Components (DIN7A, DIN7A-CA).....	55
75 Ω High Density BNC Jacks & Cable Components (HDBNC, HDBNC-CA)	56-57
75 Ω BNC Jacks & Cable Components (BNC7T, BNC7T-CA)	58-59
75 Ω SMB Jacks & Cable Components (SMB7H, SMB7H-CA).....	60

APPLICATIONS

50 Ω Cables & Connectors.....	8-9
75 Ω Cables & Connectors.....	10-11

292-J-P-HP-ST-CM2

292-J-P-HP-ST-CM2

292-CM SERIES

50 Ω 2.92 JACK

SPECIFICATIONS

For complete specifications and assembly instructions see www.samtec.com?292-CM

Shell Material:

Stainless Steel

Insert:

Stainless Steel

Socket:

BeCu

Insulator Material:

PCTFE

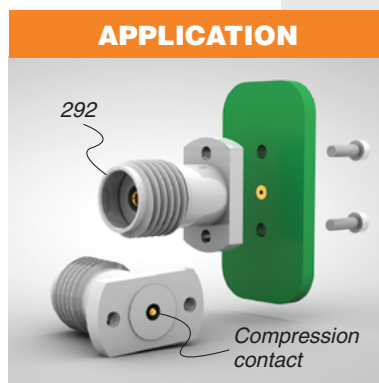
Impedance:50 Ω **RoHS Compliant:**

Yes

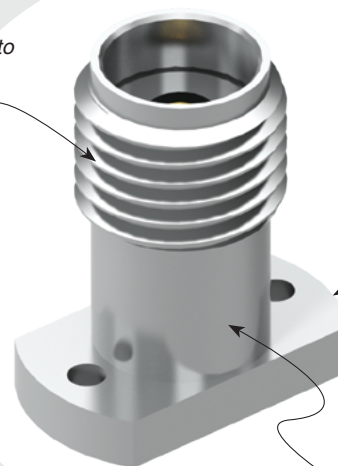
Lead-Free Solderable:

Yes

APPLICATION



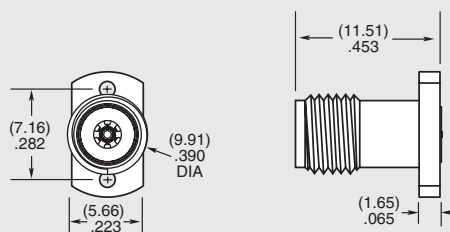
Performance up to
40 GHz/80 Gbps



Compression
Mount

Passivated Stainless Steel
outer contact and shell

TYPE	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION
292 = Passivated Stainless Steel	-J = Jack	-P = PCB Mount	-HP = 30 μ " (0.76 μ m) Gold center contact, Passivated outer contact	-ST = Straight	-CM2 = Compression Mount



Due to technical progress, all designs, specifications and components are subject to change without notice.

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292-J-C-HP-ST-CS3



292-P-C-HP-ST-CS3

292-CA SERIES

50 Ω 2.92 COMPONENTS

SPECIFICATIONS

For complete specifications and assembly instructions see www.samtec.com?292-CA

Shell Material:

Stainless Steel

Contact Material:

BeCu

Cable Body:

Stainless Steel

Insulator Material:

Ultem 1000

Insert Material:

Stainless Steel

TYPE

292
= Passivated
Stainless Steel

GENDER

-J
= Jack

TYPE

-C
= Cable

PLATING

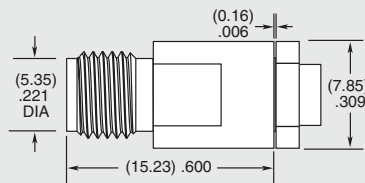
-HP
= 30 μ" (0.76 μm)
Gold center contact,
Passivated
outer contact

ORIENTATION

-ST
= Straight

TERMINATION

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



SPECIFICATIONS

For complete specifications and assembly instructions see www.samtec.com?292-CA

Shell Material:

Stainless Steel

Contact Material:

BeCu

Cable Body:

Stainless Steel

Insert Material:

Stainless Steel

Insulator Material:

Ultem 1000

Gasket:

Silicone

C-Ring:

Stainless Steel

TYPE

292
= Passivated
Stainless Steel

GENDER

-P
= Plug

TYPE

-C
= Cable

PLATING

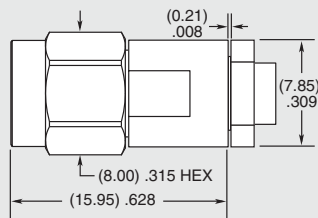
-HP
= 30 μ" (0.76 μm)
Gold center contact,
Passivated
outer contact

ORIENTATION

-ST
= Straight

TERMINATION

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

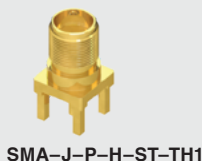


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SMA-J-P-H-RA-TH1



50 Ω SMA JACKS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SMA-TH, www.samtec.com?SMA-SM, www.samtec.com?SMA-EM or www.samtec.com?SMA-MT

Contact Material:

BeCu

Shell Material:

Brass

Insulator Material:

PTFE (-PN)

Operating Temp Range:

-65 °C to +125 °C

Impedance:

50 Ω

Dielectric Withstanding
Voltage:

1,000 Vrms

Frequency Range:

0~20 GHz

Working Voltage:

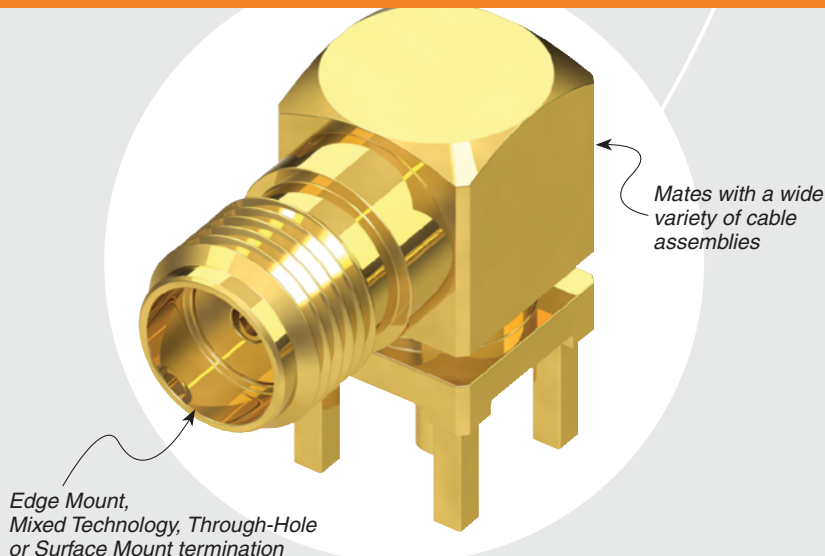
335 V

RoHS Compliant:

Yes

Mates with:

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



PROCESSING

Lead-Free Solderable:
Yes

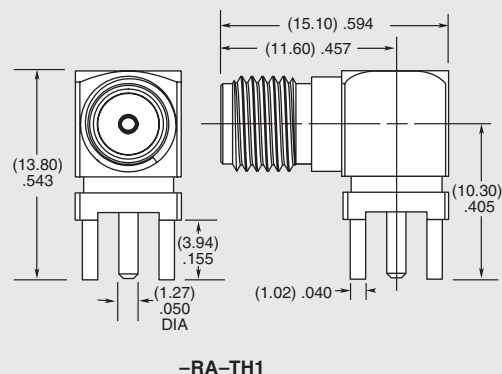
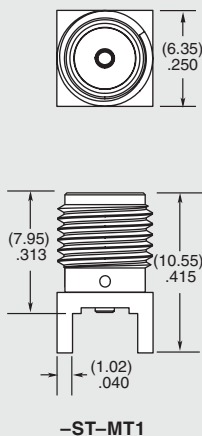
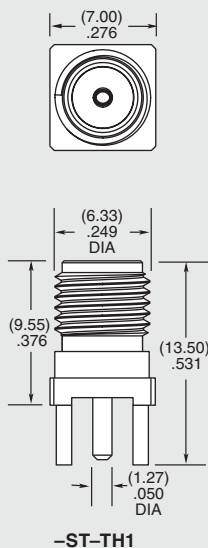
SMA

GENDER

TYPE

—J
= Jack

—P
= PCB Mount


Note:

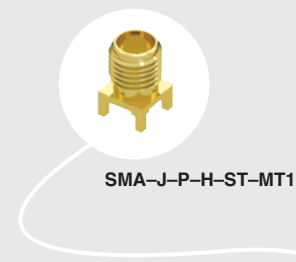
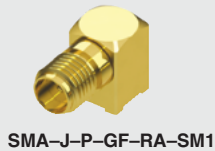
While optimized for 50 Ω applications, this connector can also perform well in certain 75 Ω applications. Contact RFGroup@samtec.com for further information.

Due to technical progress, all designs, specifications and components are subject to change without notice.

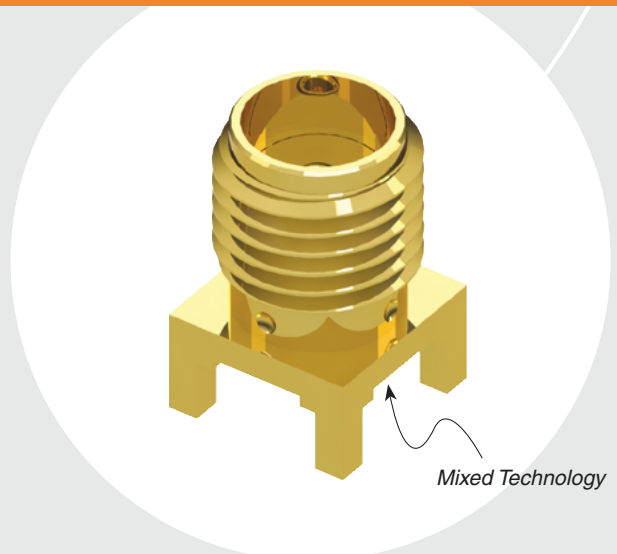
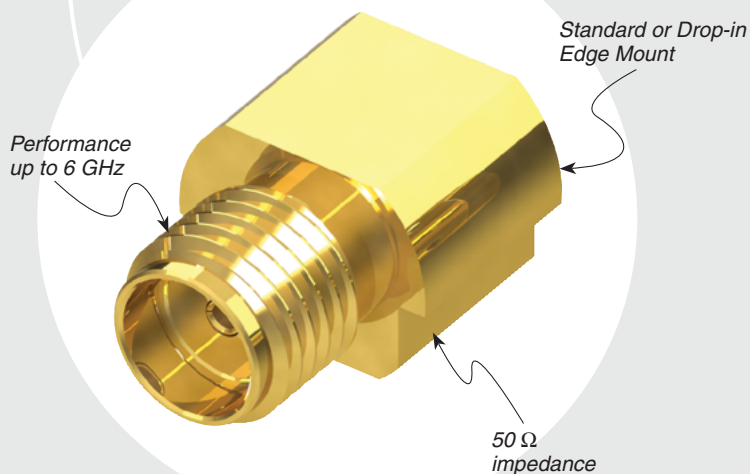
WWW.SAMTEC.COM

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SMA SERIES



PLATING

-H

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

-GF

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

ORIENTATION

-ST

= Straight

-RA

= Right-angle

TERMINATION

-TH1

= Through-hole

-SM1

= Surface Mount
(-GF-RA only)

-EM1

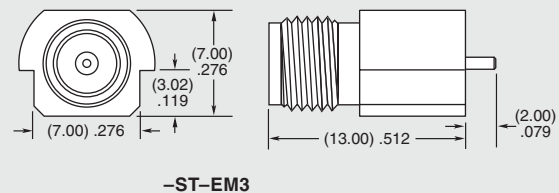
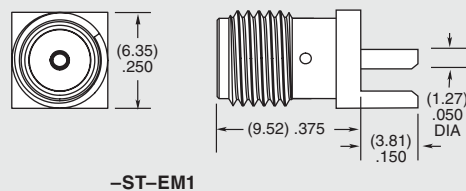
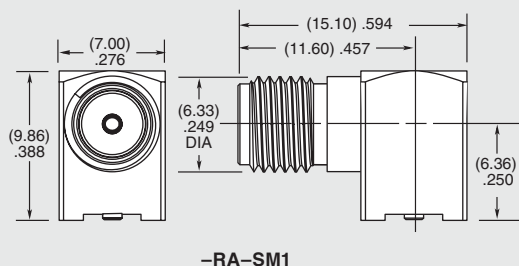
= Edge Mount
(-ST only)

-EM3

= Drop-in Edge Mount
(-ST only)

-MT1

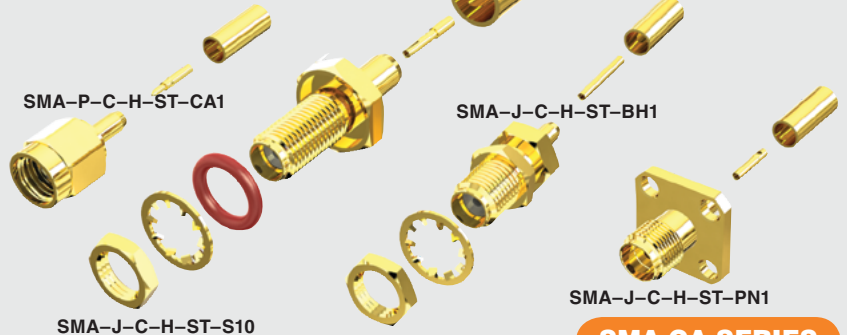
= Mixed Technology
(-ST only)



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SMA-CA SERIES

50 Ω SMA COMPONENTS

SPECIFICATIONS

For complete specifications and assembly instructions see 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:

335 V

Dielectric Withstanding Voltage:

1,000 Vrms

Frequency Range:

0~20 GHz

(Cable dependent)

Impedance:

50 Ω

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

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

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

Supplied with pins and ferrules. See website for dimensions.

Due to technical progress, all designs, specifications and components are subject to change without notice.

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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 SERIES

50 Ω SMP JACKS/PLUGS & ADAPTOR

SMP-PF, SMP-PL,
SMP-PS, SMP-PC
Mate with:
SMP-B Bullet Adaptor

Cable Mates:
RF405, RF25S

SPECIFICATIONS

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

Shell Material:

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

Contact Material:

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

Insulator Material:

PTFE

Impedance:

50 Ω

Frequency Range:

DC to 40 GHz,
DC to 20 GHz (25 AWG)

Working Voltage:

335 Vrms min

Dielectric Withstanding:

500 Vrms 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 50 Ω applications, this connector can also perform well in certain 75 Ω applications. Contact RFGroup@samtec.com for further information.

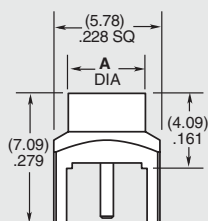
SMP — GENDER — TYPE — PLATING — ORIENTATION — TERMINATION

-PF
= Plug, Full Detent

-PL
= Plug, Limited Detent

-PS
= Plug, Smooth Bore

-PC
= Plug, Catcher's Mitt

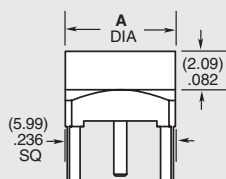


-PF/-PL/-PS-TH2

-P
= PCB Mount

-GF
= 10 μ" (0.25 μm)
Gold center
contact,
Gold Flash
outer contact
(-TH2 only)

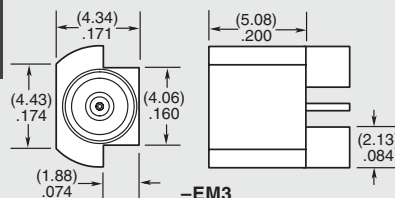
-HH
= 30 μ" (0.76 μm)
Gold center and
outer contact
(-EM3)



-PC-TH2

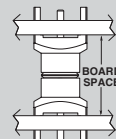
-ST
= Straight

GENDER	A DIA
-PF	(4.19) .165
-PL	
-PS	(5.99) .236
-PC	



APPLICATION

LENGTH	BOARD SPACE
-0645	(9.05) .356
-1450	(17.10) .673



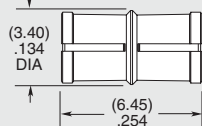
EXTRACTION TOOL

- CAT-EX-SMP-01
Contact Samtec

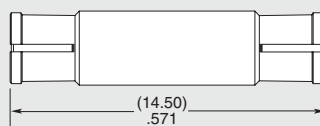
SMP — J — TYPE — PLATING — ORIENTATION — BULLET LENGTH — CABLE END

-B
= Bullet Adaptor

-C
= Cable End



-0645

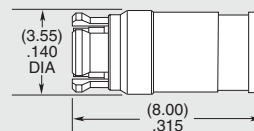


-1450

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

-ST
= Straight

-RA
= Right-angle
(Not available
with -B)

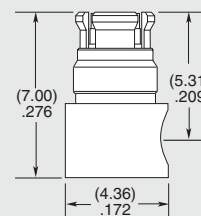


-ST-CXX

Leave blank
for cable end

-0645
= 6.45 mm
(.254")

-1450
= 14.50 mm
(.571")



-RA-CXX

Leave blank
for bullet type

-CA7
= RG 405
(.086" DIA)
Semi-flexible
Cable

-CA5
= CCA-25M
Cable

-CS5
= MWC-2550-01
25 AWG
Microwave
Cable

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

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SMB5-J-P-H-RA-TH1

SMB5-P-C-H-ST-CA1

SMB5-P-C-H-RA-CA1

SMB5 SERIES

50 Ω SMB JACKS & PLUGS

Mates with:

RF174, RF316, GRF1H-C

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SMB5-TH

Shell Material:

Brass

Contact Material:

Brass

Insulator Material:

PTFE

Impedance:

50 Ω

Frequency Range:

0~4 GHz

Working Voltage:

250 Vrms max

Dielectric Withstanding:

750 Vrms min

Operating Temp Range:

-65 °C to +165 °C

RoHS Compliant: Yes

PROCESSING

Lead-Free Solderable:

Yes

Note: 75 Ω version available.

See SMB7H Series.

SMB5

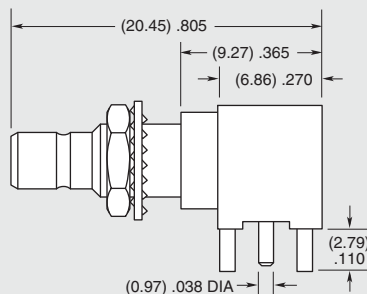
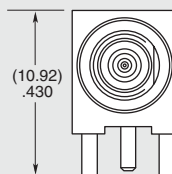
GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

-J
= Jack-P
= PCB
Mount-H
= 30 μ"
(0.76 μm)
Gold center
contact, 3 μ"
(0.08 μm) Gold
outer contact-RA
= Right-angle-TH1
= Through-hole

SPECIFICATIONS

For complete specifications and assembly instructions see 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:

50 Ω

Frequency Range:

0~4 GHz

Working Voltage:

335 Vrms max

Dielectric Withstanding:

1000 Vrms min

Operating Temp Range:

-65 °C to +165 °C

SMB5

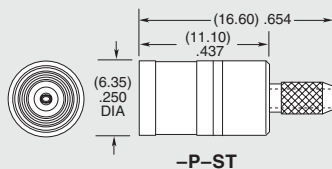
GENDER

TYPE

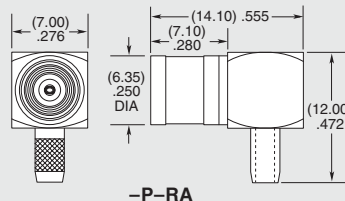
PLATING

ORIENTATION

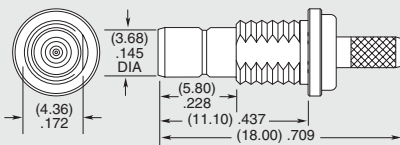
TERMINATION

-P
= Plug-J
= Jack-C
= Cable-H
= 30 μ"
(0.76 μm)
Gold center
contact, 3 μ"
(0.08 μm) Gold
outer contact-ST
= Straight-RA
= Right-angle
(-P only)-CA1
= RG 174/316 Cable
(-P only)-CA2
= RG 178 Cable
(-J only)-BH1
= RG 316 Cable
(-J only)

-P-ST



-P-RA



-J-ST-BH1

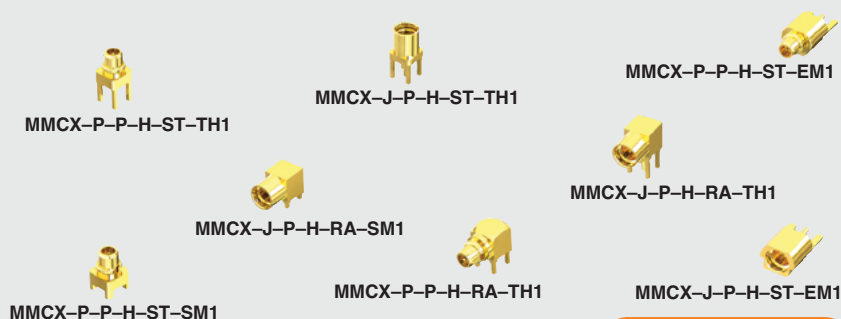
Supplied with pins, washers, nuts and ferrules. See website for dimensions.

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MMCX SERIES

50 Ω 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, www.samtec.com?MMCX-MT, www.samtec.com?MMCX-SM or www.samtec.com?MMCX-TH

Contact Material:

BeCu

Insulator Material:

PTFE

Pin and Shell Material:

Brass

Operating Temp Range:

-65 °C to +125 °C

Impedance:

50 Ω

Dielectric

Withstanding Voltage:

500 Vrms, 50 Hz

Dielectric Working Voltage:

170 Vrms, 50Hz

Frequency Range:

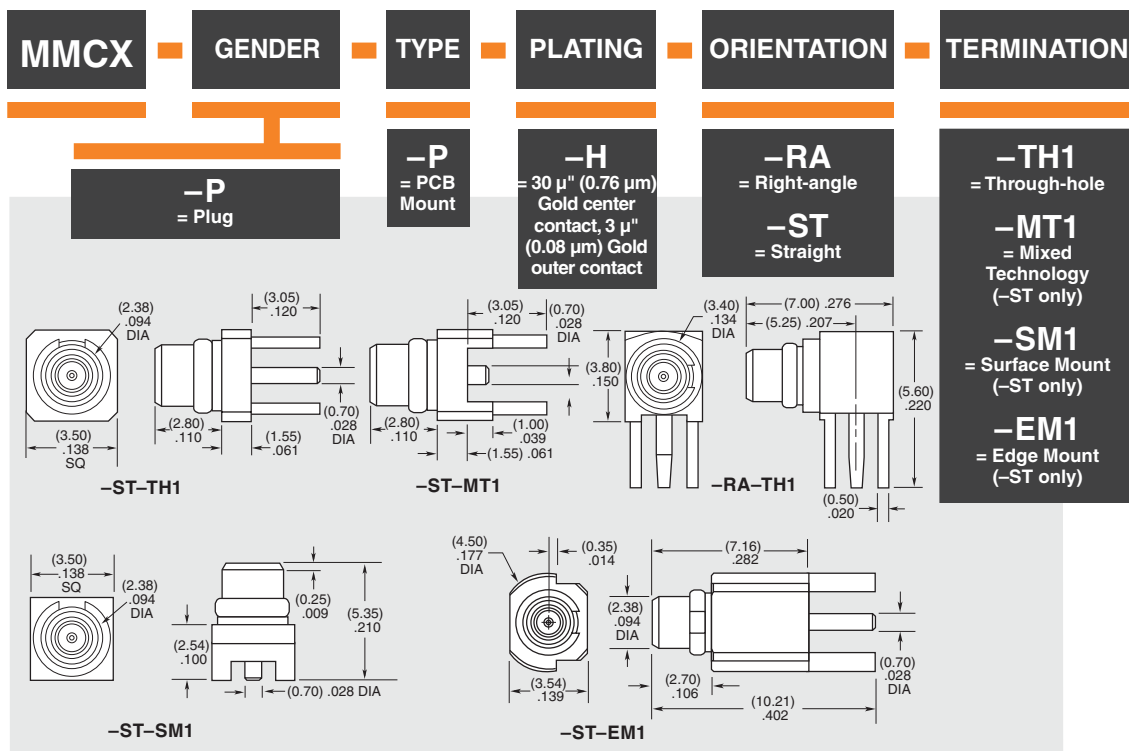
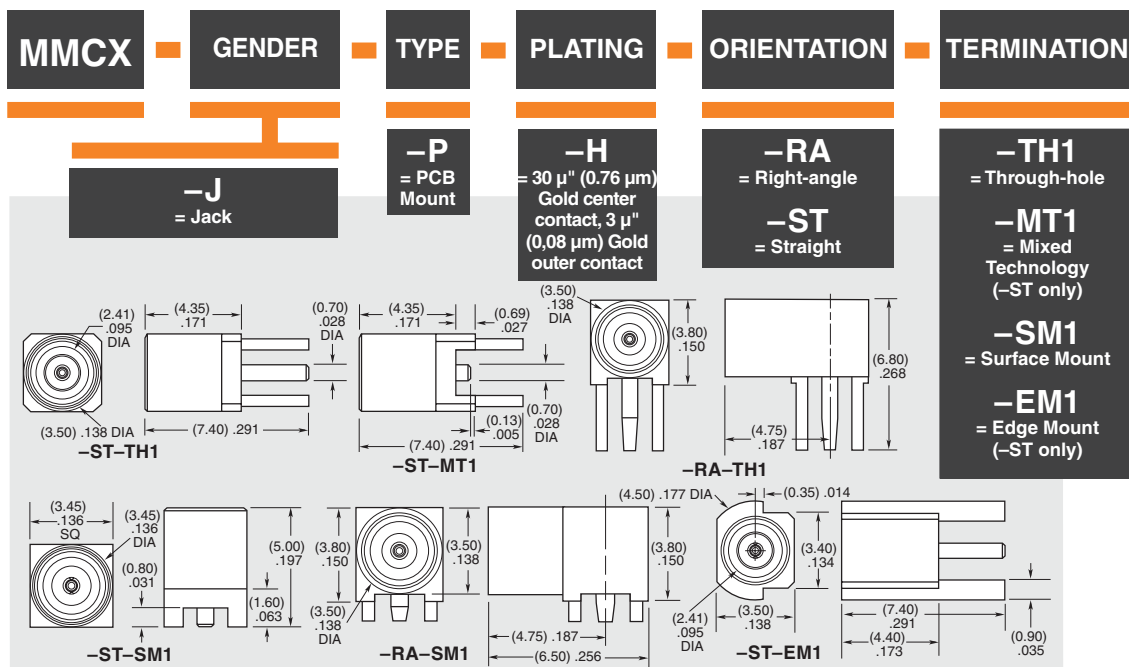
0-6 GHz

RoHS Compliant:

Yes

PROCESSING

Lead-Free Solderable:
Yes



OTHER SOLUTIONS

- High Vibration jacks and plugs. These connectors are not interchangeable with the MMCX.
- MMCX Jack that switches from internal to external antenna when cable is mated.

Contact Samtec.

Notes:

Random vibration and Resonant Search test reports available online.

75 Ω version available. See MMCX7 Series.

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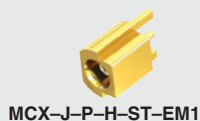


MCX-P-P-H-RA-TH1

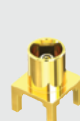
MCX-J-P-H-RA-SM1



MCX-J-P-H-ST-SM1



MCX-J-P-H-ST-EM1



MCX-J-P-H-ST-TH1

MCX-J-P-H-RA-TH1



MCX-P-P-H-ST-TH2

MCX SERIES

50 Ω 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, www.samtec.com?MCX-SM, www.samtec.com?MCX-EM or 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

Impedance:

50 Ω

Dielectric Withstanding Voltage:

1000 Vrms min, 50 Hz

Dielectric Working Voltage:

335 Vrms max

Frequency Range:

0~6 GHz

RoHS Compliant:

Yes

PROCESSING

Lead-Free Solderable:

Yes

MCX

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

-J
= Jack

-P
= PCB
Mount

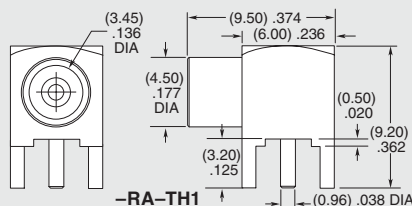
-H
= 30 μ" (0.76 μm)
Gold center
contact, 3 μ"
(0.08 μm) Gold
outer contact

-RA
= Right-angle
-ST
= Straight

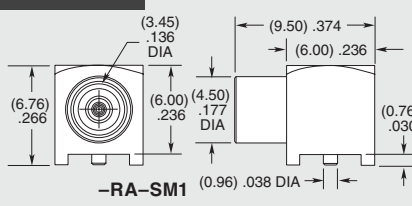
-TH1
= Through-hole
-SM1
= Surface Mount

-EM1
= Edge Mount
(-ST only)

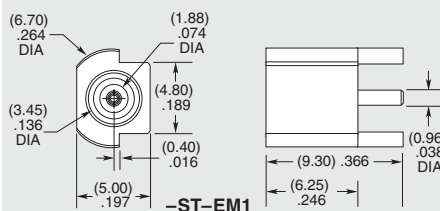
-MT1
= Mixed
Technology
(-ST only)



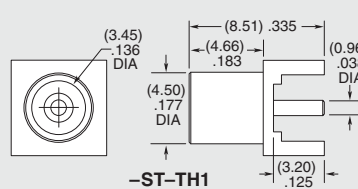
-RA-TH1



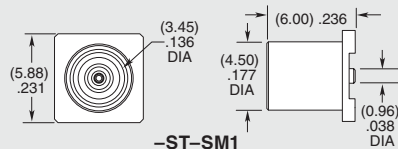
-RA-SM1



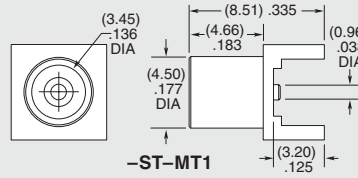
-ST-EM1



-ST-TH1



-ST-SM1



-ST-MT1

MCX

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

-P
= Plug

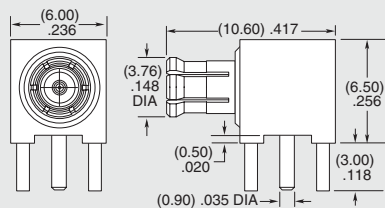
-P
= PCB
Mount

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

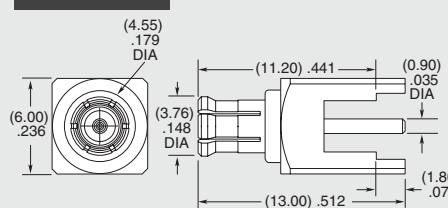
-RA
= Right-angle
-ST
= Straight

-TH1
= Through-hole
(-RA only)

-TH2
= Elevated
Through-hole
(-ST only)



-RA-TH1



-ST-TH2

Note:

75 Ω version available.
See MCX7 Series.

Due to technical progress, all designs, specifications and components are subject to change without notice.

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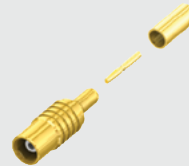
All parts within this catalog are built to Samtec's specifications.

Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

MMCX-P-C-H-RA-CA2



MCX-J-C-H-ST-CA1



MCX-P-C-H-RA-CA1



MMCX-CA, MCX-CA SERIES

50 Ω MMCX & MCX COMPONENTS

SPECIFICATIONS

For complete specifications and assembly instructions see 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

Impedance:

50 Ω

Dielectric Withstanding Voltage:

500 Vrms, 50 Hz

Dielectric Working Voltage:

170 Vrms, 50 Hz

Frequency Range:

0-6 GHz

(Cable dependent)

MMCX

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

-P
= Plug

-C
= Cable

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

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

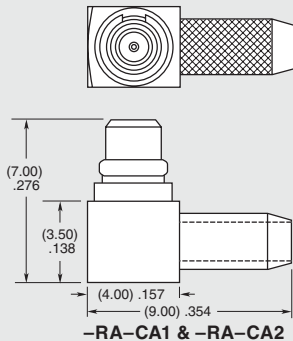
-RA
= Right-angle

-ST
= Straight

-CA1
= RG 174/316 Cable

-CA2
= RG 178 Cable

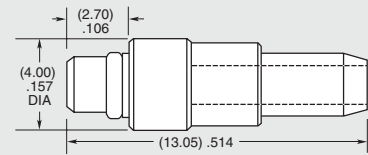
-CA1S
= RG 316 Cable,
Double Shield
(-ST only)



-RA-CA1 & -RA-CA2



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



Supplied with pins and ferrules. See website for dimensions.

SPECIFICATIONS

For complete specifications and assembly instructions see 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

Impedance:

50 Ω

Frequency Range:

0-6 GHz

(Cable dependent)

Dielectric Withstanding Voltage:

1,000 Vrms min, 50 Hz

Dielectric Working Voltage:

335 Vrms max.

MCX

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

-J
= Jack

-P
= Plug

-C
= Cable

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

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

-RA
= Right-angle
(-P only)

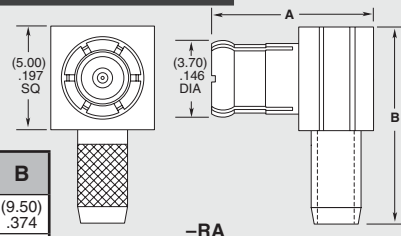
-ST
= Straight

-CA1
= RG 174/316 Cable

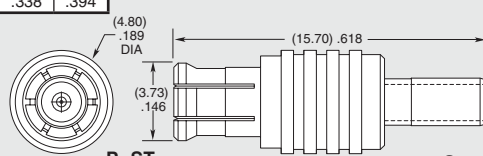
-CA2
= RG 178 Cable

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

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



-RA

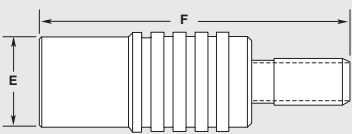


-P-ST



J-ST

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



Supplied with pins and ferrules. See website for dimensions.

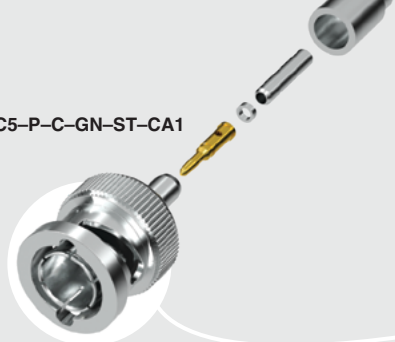
Due to technical progress, all designs, specifications and components are subject to change without notice.

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BNC5-P-C-GN-ST-CA1



BNC5-J-C-GN-ST-BH1



BNC5 SERIES

50 Ω BNC CABLE COMPONENTS

SPECIFICATIONS

For complete specifications and assembly instructions see www.samtec.com?BNC5-CA

Shell Material:

Brass

Contact Material:

Brass (-P)

Copper Alloy (-J)

Center Contact:

Soldered

Outer Contact:

Crimped

Impedance:

50 Ω

Frequency Range:

0-4 GHz

(Cable dependent)

Working Voltage:

500 Vrms max

Dielectric Withstanding:

1500 Vrms min

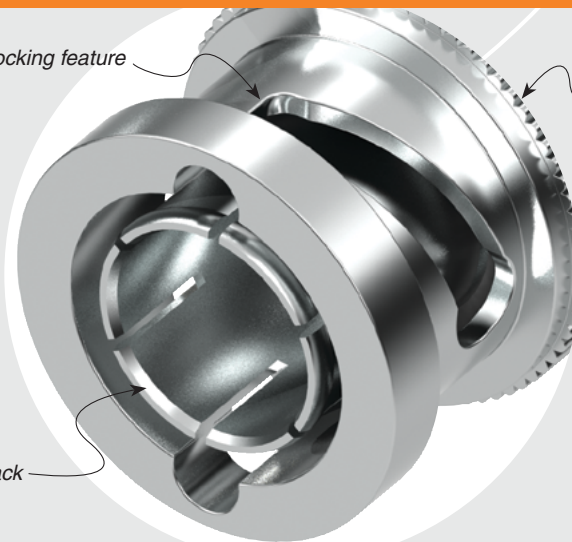
Operating Temp Range:

-65 °C to +125 °C

Locking feature

Fits RG 174,
RG 178 &
RG 316 cable

Plug or jack



OTHER SOLUTIONS

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

BNC5

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

—P
= Plug

—J
= Jack

—C
= Cable

—GN
= 10 μ "
(0.25 μ m)
Gold on
contact,
Nickel on
body

—ST
= Straight

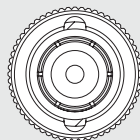
—CA1
= RG 174 / 316 Cable
(—P only)

—CA2
= RG 178 Cable
(—P only)

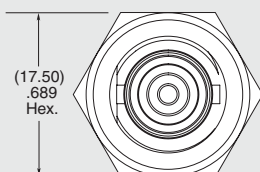
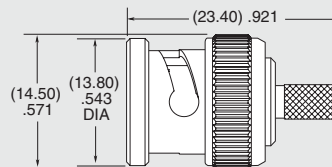
—BH1
= Bulkhead,
RG 174 / 316 Cable
(—J only)

—BH2
= Bulkhead,
RG 178 Cable
(—J only)

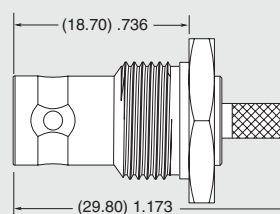
—BH1S
= Bulkhead,
RG 316 Cable,
Double Shield
(—J only)



-P



-J



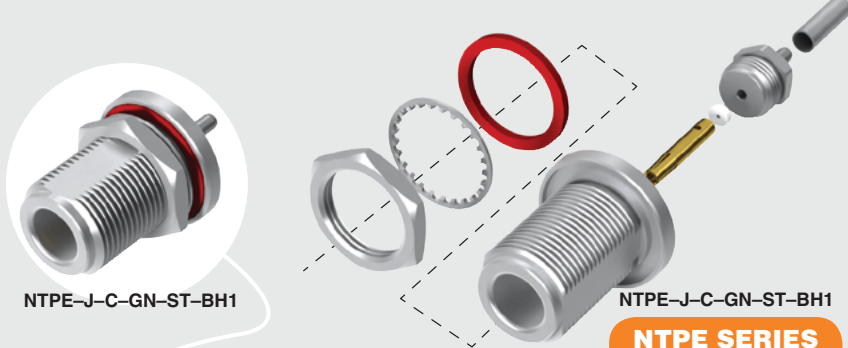
Supplied with pins, washers, nuts, gaskets and ferrules. See website for dimensions.

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WWW.SAMTEC.COM

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50 Ω N TYPE RF COMPONENTS

SPECIFICATIONS

For complete specifications and assembly instructions see www.samtec.com?NTPE-CA

Shell Material:

Brass

Contact Material:

Phosphor Bronze

Insulator Material:

PTFE

Center Contact:

Soldered

Outer Contact:

Crimped

Impedance:

50 Ω

Frequency Range:

0~3 GHz

(Cable dependent)

Working Voltage:

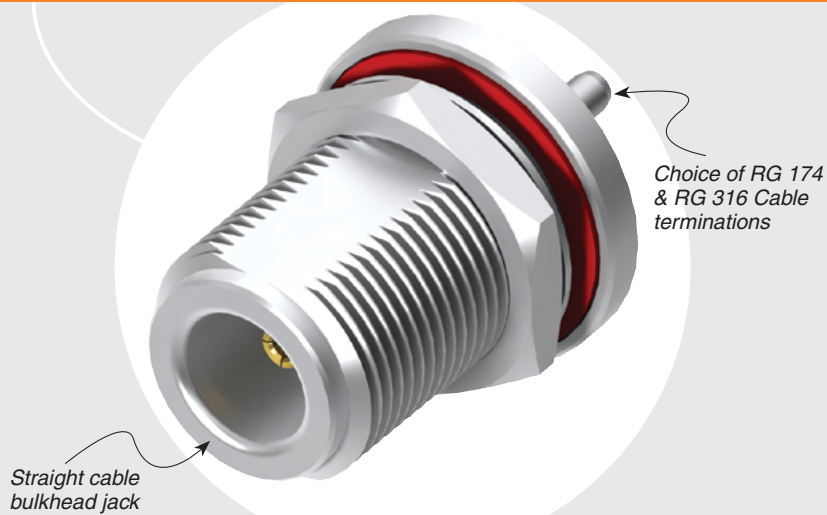
1000 Vrms max

Dielectric Withstanding:

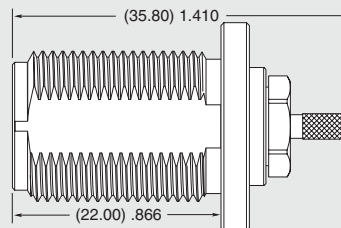
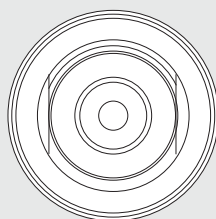
2500 Vrms min

Operating Temp Range:

-65 °C to +125 °C



NTPE	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION
	-J = Jack	-C = Cable	-GN = 10 μ " (0.25 μ m) 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.

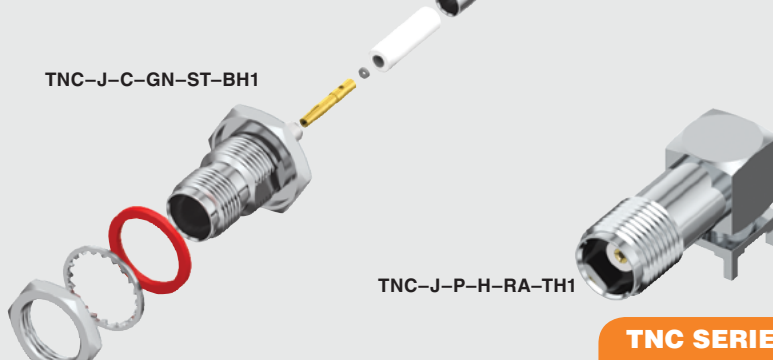
Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

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TNC-J-C-GN-ST-BH1



TNC-J-P-H-RA-TH1

TNC SERIES

50 Ω TNC JACKS & PLUGS

Mates with:

RF058, RF178, RF316,
RF174, GRF1H-C

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TNC-TH

Outer Contact Material:

Ni plated Brass

Center Contact Material:

Au plated Phosphor Bronze

Insulator Material:

PTFE

Operating Temperature:

-65 °C to +125 °C

Impedance:

50 Ω

Frequency Range:

0~6 GHz

Working Voltage:

500 Vrms max

Dielectric Withstanding:

1500 Vrms min

RoHS Compliant:

Yes

PROCESSING

Lead-Free Solderable:

Yes

TNC

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

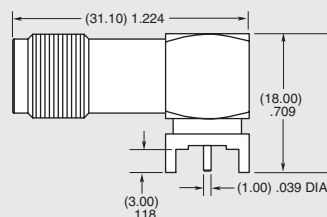
—J
= Jack

—P
= PCB
Mount

—H
= 30 μ"
(0.76 μm)
Gold on
center
contact,
Nickel on
Shell

—RA
= Right-angle

—TH1
= Through-hole



Note:

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

SPECIFICATIONS

For complete specifications and assembly instructions see www.samtec.com?TNC-CA

Shell Material:

Brass

Contact Material:

Brass (—P—ST), Phosphor Bronze (—J)

Center Contact:

Soldered

Outer Ferrule:

Crimped

Impedance:

50 Ω

Frequency Range:

0~3 GHz (Cable dependent)

Working Voltage:

500 Vrms max

Dielectric Withstanding:

1500 Vrms min

Operating Temp Range:

-65 °C to +125 °C

ALSO AVAILABLE
(MOQ Required)

- IP67 sealed option
Contact Samtec.

TNC

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

—P
= Plug

—J
= Jack

—C
= Cable

—GN
= 10 μ"
(0.25 μm)
Gold on
contact,
Nickel on
body

—ST
= Straight

—SR
= Straight
Reverse Polarity
(—P only)

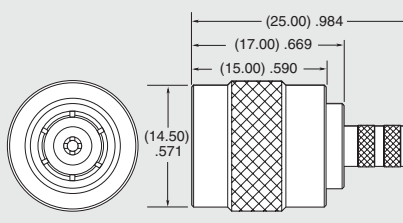
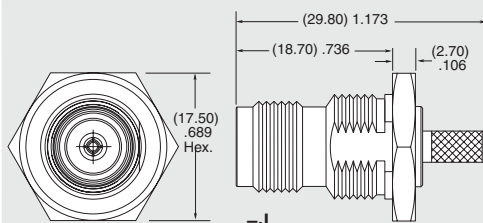
—CA1
= RG 174 / 316 Cable
(—P & —ST only)

—CA2
= RG 178 Cable
(—P & —ST only)

—C10
= RG 58 Cable
(—P & —SR only)

—BH1
= Bulkhead,
RG 174 / 316 Cable
(—J & —ST only)

—BH2
= Bulkhead,
RG 178 Cable
(—J & —ST only)



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

Due to technical progress, all designs, specifications and components are subject to change without notice.

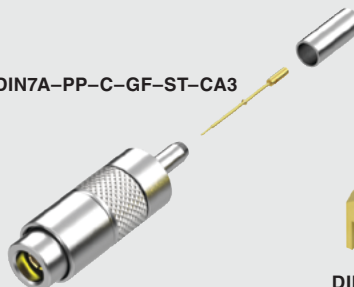
WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.

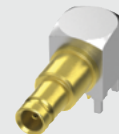
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

DIN7A-PP-C-GF-ST-CA3

DIN7A-J-P-GF-RA-BH1



DIN7A-J-P-GF-ST-TH1



DIN7A SERIES

75 Ω 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:

75 Ω

Working Voltage:

250 Vrms

Dielectric Withstanding:

750 Vrms

DIN7A

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

—J
= Jack

—P
= PCB
Mount

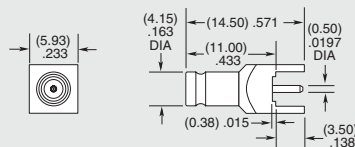
—GF
= 10 μ"
(0.25 μm)
Gold center
contact,
3 μ" (0.08 μm)
Gold outer
contact,
(100 μ")
(2.54 μm)
Nickel body
—RA only)

—ST
= Straight
(—TH1 only)

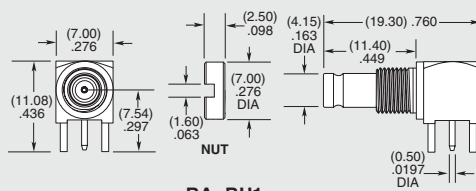
—RA
= Right-angle
(—BH1 only)

—TH1
= Through-hole
(—ST only)

—BH1
= Bulkhead
Through-hole
(—RA only)



—ST-TH1



—RA-BH1

Notes:

12G-SDI available for PCB mounts only.

Contact RFTechnicalGroup@samtec.com for
12G-SDI PCB mount launch characteristics.

Designed to meet SMPTE 2082 12G-SDI
specifications.

DIN7A

PP

TYPE

PLATING

ORIENTATION

TERMINATION

—PP
= Push Pull Plug

—C
= Cable

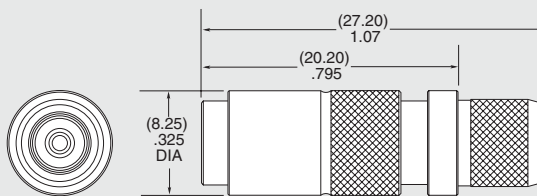
—GF
= 10 μ"
(0.25 μm)
Gold on
contact,
Flash Gold
on outer
contact,
Nickel on
shell

—ST
= Straight

—CA3
= RG 179 Cable

—CA6
= RG 6 or Belden
1694A Cable

—CA8
= Belden 1855A Cable



—CA6 SHOWN

Supplied with pins and ferrules. See website for dimensions.

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.

Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.



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

75 Ω HIGH-DENSITY BNC JACKS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HDBNC-BH1 or www.samtec.com?HDBNC-EM1

Shell Material:

Au plated Brass

Contact Material:

Copper Alloy

Insulator Material:

PTFE

Impedance:

75 Ω $\pm 2 \Omega$

Voltage Rating:

500 VAC

Dielectric Withstanding:

1500 Vrms min

Operating Temperature:

-65 °C to +125 °C

RoHS Compliant:

Yes

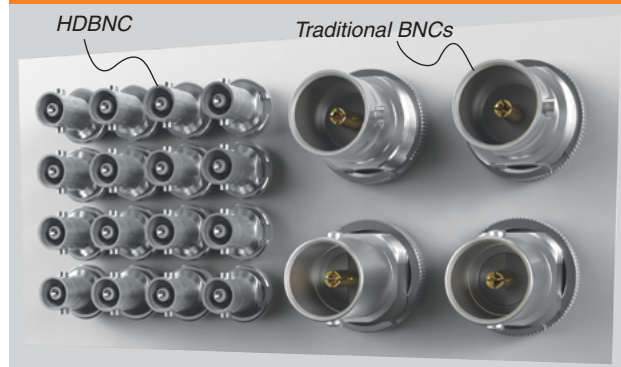
Lead-Free Solderable:

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
terminations

EXTRACTION TOOL

- Hand tool for quickly installing/uninstalling HDBNC Series.
- Part Number: CAT-EX-HDBNC-01
- Contact Samtec.

HDBNC

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

-J
= Jack

-P
= PCB
Mount

-GN
= 10 μ "
(0.25 μ m)
Gold
contact,
100 μ "
(2.54 μ m)
Nickel
shell

-ST
= Straight

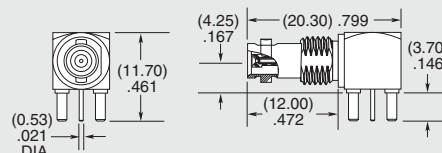
-RA
= Right-angle

-BH1
= Through-hole

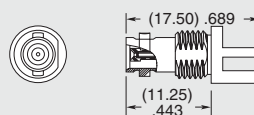
-BH2
= Through-hole
(2.36 mm) .093 Board
(-RA only)

-EM1
= Edge Mount
(-ST only)

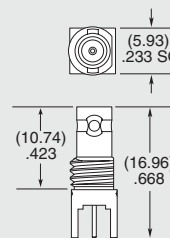
-TH1
= Through-hole
(-ST only)



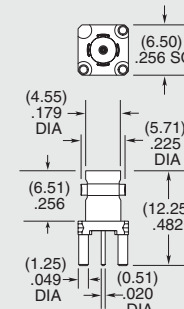
HDBNC-RA



HDBNC-EM1



HDBNC-BH1



HDBNC-TH1

Notes:

Compatible with Amphenol's HD-BNC™

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

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.

Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

HDBNC-P-C-GN-ST-CA8



HDBNC-P-C-GN-ST-CA6

HDBNC-CA SERIES

75 Ω HIGH-DENSITY BNC COMPONENTS

SPECIFICATIONS

For complete specifications and assembly instructions see www.samtec.com?HDBNC-CA

Shell Material:

Brass

Contact Material:

Brass

Center Contact:

Soldered

Outer Ferrule:

Crimped

Impedance:

75 Ω

Voltage Rating:

500 VAC

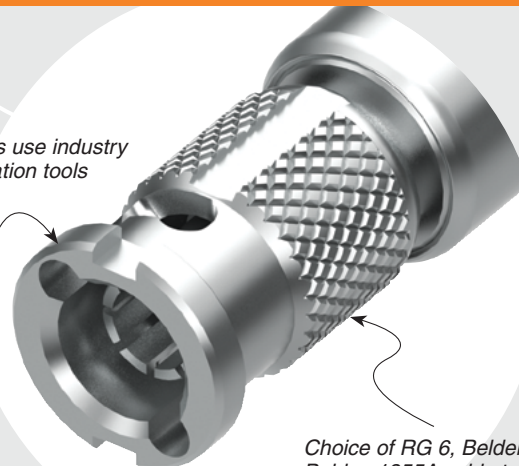
Dielectric Withstanding:

1000 Vrms

Operating Temperature:

-65 °C to +125 °C

Crimp style plugs use industry standard termination tools



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

EXTRACTION TOOL

- Hand tool for quickly installing/uninstalling HDBNC Series. Part Number: CAT-EX-HDBNC-01 Contact Samtec.

HDBNC

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

—P
= Plug

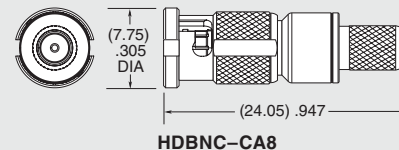
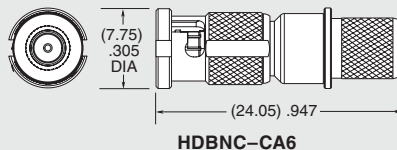
—C
= Cable

—GN
= 10 μ "
(0.25 μ m)
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™

Supplied with pins and ferrules. See website for dimensions.

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

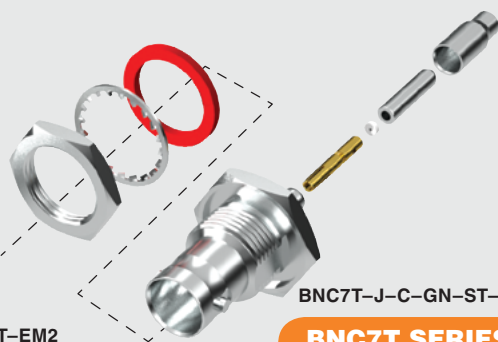
All parts within this catalog are built to Samtec's specifications.

Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

BNC7T-J-P-GN-ST-TH1



BNC7T-J-P-GN-ST-EM2



BNC7T-J-C-GN-ST-BH3

BNC7T SERIES

75 Ω MACHINED BNC JACKS & PLUGS

Mates with:

RF179, RFA6T,
RFB6T, GRF7H-C

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com/BNC7T-TH, www.samtec.com/BNC7T-BH or www.samtec.com/BNC7T-EM

Shell Material:

Ni plated Brass

Contact Material:

TH1 & BH1 = Copper Alloy

Insulator Material:

PTFE

Impedance:

ST = 75 Ω ±2 Ω

RA = 75 Ω ±4 Ω

Frequency Range:

0~12 GHz

Working Voltage:

500 Vrms

Dielectric Withstanding:

1500 Vrms min

Operating Temperature:

-65 °C to +125 °C

RoHS Compliant:

Yes

Lead-Free Solderable:

Yes

Notes:

12G-SDI available for PCB mounts only.

Contact

RFTechnicalGroup@samtec.com for 12G-SDI PCB mount launch characteristics.

Designed to meet SMPTE 2082 12G-SDI specifications.

BNC7T

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

—J
= Jack

—P
= PCB
Mount

—GN
= 10 μ" (0.25 μm)
Gold contact,
100 μ" (2.54 μm)
Nickel shell

—ST
= Straight
—RA
= Right-angle
Bulkhead/
Panel Mount

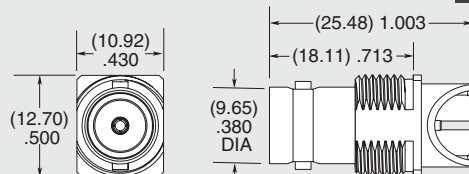
—TH1
= Standard
Through-hole

—BH1*
= Standard Bulkhead
Through-hole
(—RA only)

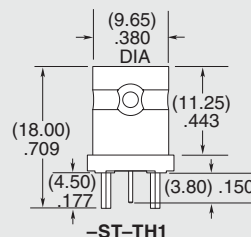
—EM1*
= Edge Mount
Bulkhead/Panel Mount
for (1.60 mm) .062" PCB
(—ST only)

—EM2*
= Edge Mount
Bulkhead/Panel Mount
for (2.40 mm) .093" PCB
(—ST only)

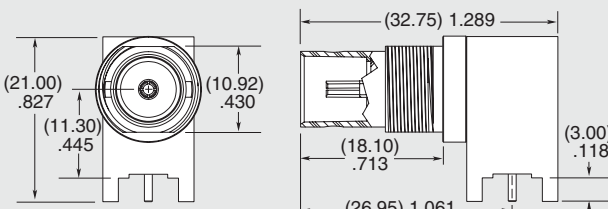
* Lock washers & knurled nuts supplied with Bulkhead/Panel Mount options



—ST-EM1 & —ST-EM2



—ST-TH1



—RA-BH1

TOOL

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

SPECIFICATIONS

For complete specifications and assembly instructions see www.samtec.com/BNC7T-CA

Shell Material:

Brass

Contact Material:

Brass (—P),

Copper Alloy (—J)

Center Contact:

Soldered

Outer Ferrule:

Crimped

Impedance:

75 Ω

Working Voltage:

500 Vrms

Dielectric Withstanding:

1500 Vrms min

Operating Temperature:

-65 °C to +125 °C

BNC7T

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

—P
= Plug

—J
= Jack

—C
= Cable

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

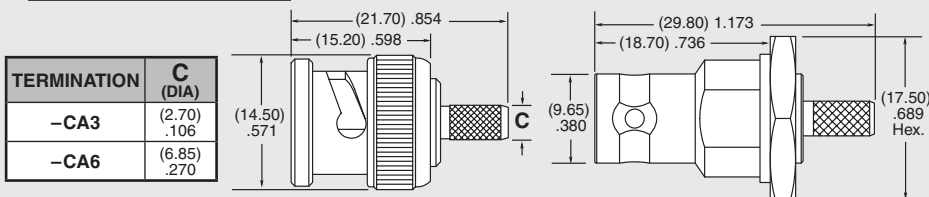
—ST
= Straight

—RA
= Right-angle
(—P only)

—CA3
= RG 179 Cable
(—P only)

—CA6
= RG 6 or Belden
1694A Cable
(—P only)

—BH3
= Bulkhead,
RG 179 Cable
(—J only)



—P-ST-CA3 & —P-ST-CA6

—J-ST-BH3

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

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.

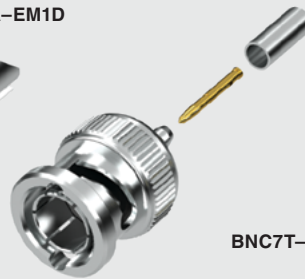
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.



BNC7T-J-P-GN-ST-TH2D



BNC7T-P-C-GN-ST-CA3D



BNC7T-J-P-GN-RA-BH2D

BNC7T SERIES

75 Ω DIE CAST BNC JACKS & PLUGS

Mates with:

RF179, RFA6T,
RFB6T, GRF7H-C

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?BNC7T-TH, www.samtec.com?BNC7T-BH, www.samtec.com?BNC7T-BM or www.samtec.com?BNC7T-EM

Shell Material: Zinc

Contact Material: Copper Alloy

Insulator Material: PTFE

Impedance:

ST = 75 Ω ±2 Ω

RA = 75 Ω ±4 Ω

Frequency Range: 0–12 GHz

Working Voltage: 500 Vrms

Dielectric Withstanding:

1500 Vrms min

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

Notes:

12G-SDI available for PCB mounts only.

Contact
RFTechnicalGroup@samtec.com
for 12G-SDI PCB mount launch characteristics.

Designed to meet SMPTE 2082 12G-SDI specifications.

BNC7T

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

-J

= Jack

-P

= PCB Mount

-GN

= 10 μ" (0.25 μm)
Gold contact,
100 μ" (2.54 μm)
Nickel shell

-ST

= Straight

-RA

= Right-angle
Bulkhead/
Panel Mount

-TH2D

= Tall Through-hole
Die Cast

-BH2D*

= Die Cast Bulkhead
Through-hole
(-RA only)

-BM1D*

= Low Profile
Mixed Technology
Die Cast Bulkhead for
(1.60 mm) .062" PCB
(-RA only)

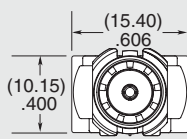
-EM1D*

= Edge Mount Die Cast
Bulkhead/Panel Mount for
(1.60 mm) .062" PCB
(-ST only)

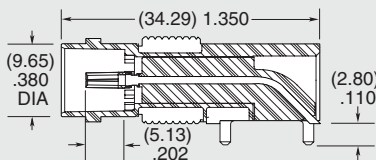
-EM2D*

= Edge Mount Die Cast
Bulkhead/Panel Mount for
(2.40 mm) .093" PCB
(-ST only)

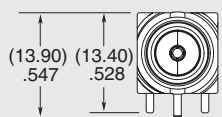
* Lock washers & knurled nuts supplied with Bulkhead/Panel Mount options



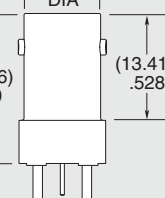
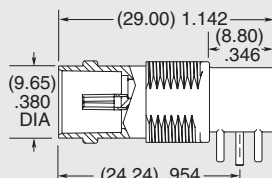
-RA-BM1D



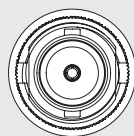
-RA-BH2



-ST-EM1D & -ST-EM2D



-ST-TH2D



SPECIFICATIONS

For complete specifications and assembly instructions see www.samtec.com?BNC7T-CA

Shell Material: Zinc

Contact Material: Brass

Center Contact: Soldered

Outer Ferrule: Crimped

Impedance:

75 Ω

Working Voltage:

500 Vrms

Dielectric Withstanding:

1500 Vrms min

Operating Temperature:

-65 °C to +125 °C

BNC7T

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

-P

= Plug

-C

= Cable

-GN

= 10 μ" (0.25 μm)
Gold contact,
100 μ" (2.54 μm)
Nickel shell

-ST

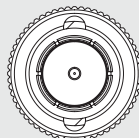
= Straight

-CA3D

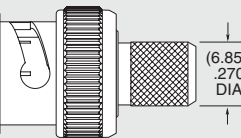
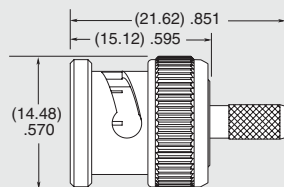
= RG 179 Cable
Die Cast

-CA6D

= RG 6 or Belden
1694A Cable
Die Cast



-CA3D SHOWN



-CA6D SHOWN

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

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.

Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.



SMB7H-P-C-H-RA-CA3



SMB7H-J-P-H-ST-TH1



SMB7H-J-P-H-ST-EM1



SMB7H-J-P-H-RA-TH1

SMB7H SERIES

75 Ω OPTIMIZED SMB JACKS & PLUGS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SMB7H-TH or www.samtec.com?SMB7H-EM

Shell Material:

Brass

Contact Material:

Brass

Insulator Material:

PTFE

Impedance:

ST = 75 Ω ±3 Ω

RA = 75 Ω ±4 Ω

Frequency Range:

0~4 GHz

Working Voltage:

335 Vrms max

Dielectric Withstanding:

1000 Vrms min

Operating Temperature:

-65 °C to +165 °C

RoHS Compliant:

Yes

Lead-Free Solderable:

Yes

SMB7H

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

Mates with:

RF179, GRF7H-C

-J

= Jack

-P

= PCB Mount

-H

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

-ST

= Straight

-RA

= Right-angle

-TH1

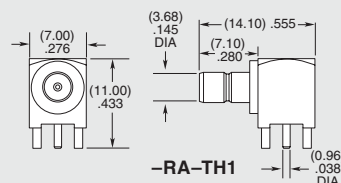
= Through-hole
(0.90 mm) .035" DIA
Signal Pin

-TH2

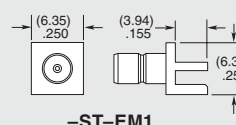
= Through-hole
(0.51 mm) .020" DIA
Signal Pin

-EM1

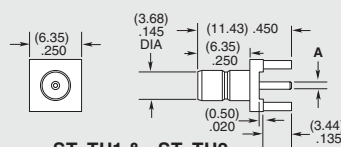
= Edge Mount
(-ST only)



-RA-TH1



-ST-EM1



-ST-TH1 & -ST-TH2

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

SPECIFICATIONS

For complete specifications and assembly instructions see www.samtec.com?SMB7H-CA

Shell Material:

Brass

Contact Material:

BeCu

Insulator Material:

PTFE

Center Contact:

Soldered

Outer Ferrule:

Crimped

Impedance:

75 Ω

Frequency Range:

0~8 GHz (-ST)

0~7 GHz (-RA)

Working Voltage:

335 Vrms max

Dielectric Withstanding:

1000 Vrms min

Operating Temperature:

-65 °C to +165 °C

SMB7H

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

-P

= Plug

-C

= Cable

-H

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

-ST

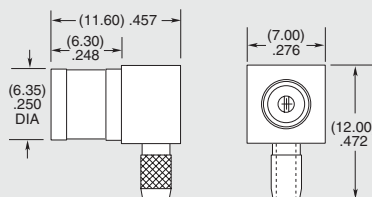
= Straight

-RA

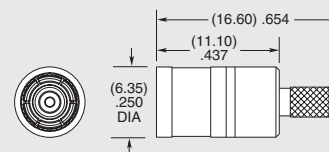
= Right-angle

-CA3

= RG 179 Cable



-P-RA



-P-ST

Supplied with pins and ferrules. See website for dimensions.

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.



ORIGINAL RF SOLUTIONS

100 Ω SYSTEMS

Shielded Twisted Pair Twinax Cable (C28S).....	62
Twinax Jack (CJT).....	63

75 Ω SYSTEMS

75 Ω Micro-Mini Ganged Cable (GRF7H-C).....	68-69
75 Ω Micro-Mini Ganged Connectors (GRF7-J, GRF7-P)	70
75 Ω MMCX Jacks & Plugs (MMCX7).....	72
75 Ω MCX Jacks/Plugs & Cable Components (MCX7).....	73

50 Ω SYSTEMS

50 Ω Micro-Mini Ganged Connectors (GRF1-J, GRF1-P)	64
50 Ω Micro-Mini Ganged Cable (GRF1-C, GRF1H-C)	65-67
50 Ω , 30 AWG Flexible Cable Assembly, (.047" DIA) (RF047)	71
50 Ω IsoRate [®] Cable (IJ5C, IJ5H).....	74-75
50 Ω IsoRate [®] Connectors (IJ5, IP5)	76-77

APPLICATIONS

Original RF Solutions.....	14
----------------------------	----

C28S-06.00-RPS8-BJT8

C28S-04.00-SPS8-SING

C28S SERIES

100 Ω CIRCULAR RF TWINAX CABLE

SPECIFICATIONS

For complete specifications
see 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:
100 Ω
RoHS Compliant:
Yes

Mates with:
CJT, C28S

Right-angle or
straight end
options

28 AWG shielded
twisted pair cable

CABLE

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

TYPE

C28S

= 28 AWG shielded twisted pair

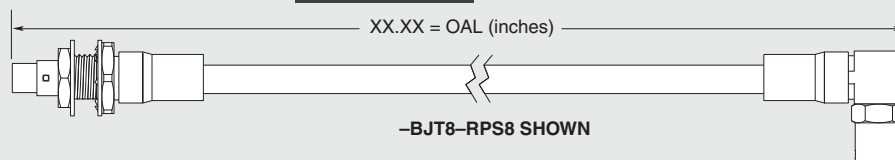
OVERALL LENGTH

– “XX.XX”
= Overall Length
in Inches
(101.6 mm) 04.00”
minimum

END 1 CONNECTOR

END 2 CONNECTOR

Specify
END OPTIONS
from chart



END OPTIONS

-SPS8 = Straight Plug with Sockets (30 μ" (0.76 μm) Gold on Center and Outer Contact, Gold Flash on Shell)	
-RPS8 = Right-angle Plug with Sockets (30 μ" (0.76 μm) Gold on Center and Outer Contact, Gold Flash on Shell)	
-BJT8 = Bulkhead Jack with Terminals (30 μ" (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)	

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.

ALSO AVAILABLE (MOQ Required)

- Additional stripping and tinning options
Contact Samtec.

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

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.

Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

CJT-T-P-HH-RA-TH1

CJT-T-P-HH-RA-BH1



CJT SERIES

100 Ω CIRCULAR RF TWINAX JACK

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?CJT-TH or www.samtec.com?CJT-BH

Shell Material:

Brass

Insulator Material:

PTFE

Contact Material:

Phosphor Bronze

Operating Temperature:

-20 °C to +105 °C

Frequency Range:

0 - 4 GHz

Working Voltage:

200 VAC

Impedance:

100 Ω

RoHS Compliant:

Yes

Lead-Free Solderable:

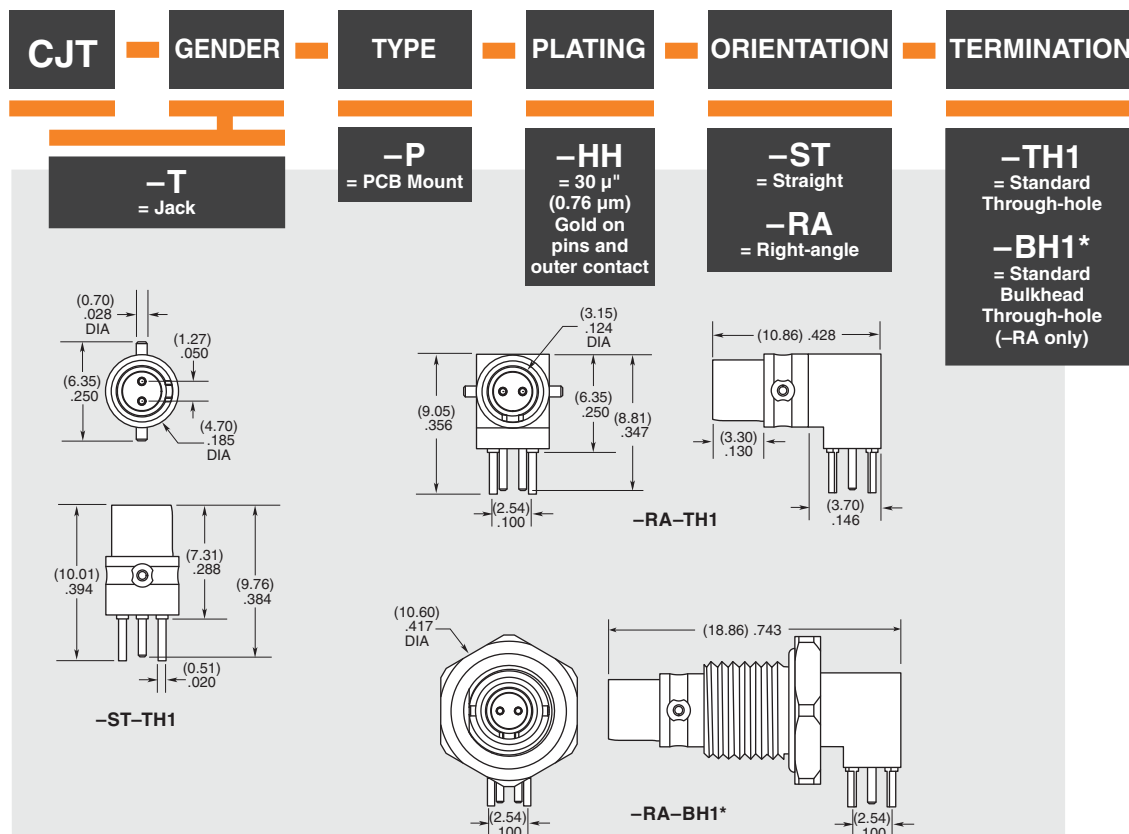
Yes

Mates with:
C28S

Heavy Gold plating
on inner and outer
contacts

Right-angle or
vertical orientations

Bayonet style quick
connect feature



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

Due to technical progress, all designs, specifications and components are subject to change without notice.

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(5.00 mm) .197"

GRF1-J, GRF1-P SERIES

50 Ω GANGED MICRO-MINI RF SYSTEMS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?GRF1-J or www.samtec.com?GRF1-P

Shell Material:

Brass

Insulator Material:

PTFE

Contact Material:

BeCu

Pin Material:

Brass

Plating:

30 μ" (0.76 μm) Au
over 50 μ" (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

Impedance:

50 Ω

Dielectric

Withstanding Voltage:

500 Vrms, 50 Hz

Dielectric Working Voltage:

170 Vrms, 50 Hz

Frequency Range:

0-6 GHz

RoHS Compliant:

Yes

GRF1

J

P

NO. OF JACKS

PLATING

LEAD STYLE

TH1

INSERT OPTION

Mates with:

GRF1-P, GRF1-C,
GRF1H-C-02, -04,
-06, -08

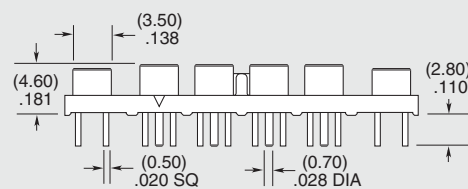
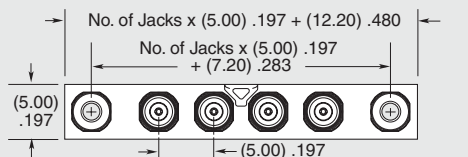
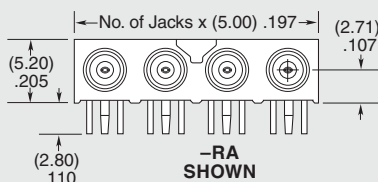
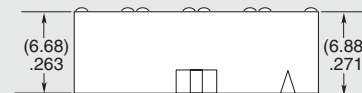
-E

= 30 μ" (0.76 μm)
Gold on Center
Conductor & Tail,
Gold Flash on
Shell and Tails

-ST
= Vertical-RA
= Right-
angle

-E

= #1 - 64 Through-hole
Threaded Insert,
Mates with GRF1-C with
captive screw option

-ST-TH1-E
SHOWN-RA
SHOWN

PROCESSING

Lead-Free Solderable:
Yes

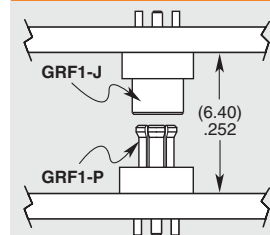
RECOGNITIONS

For complete scope of
recognitions see
www.samtec.com/quality



FILE NO. E111594

APPLICATION



OTHER SOLUTIONS

- Cable assembly
(see GRF1-C Series)

GRF1

P

P

NO. OF PLUGS

PLATING

ST

TH1

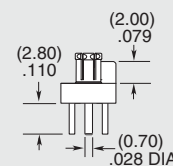
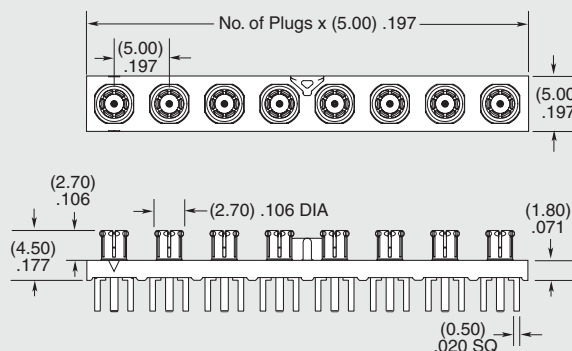
Mates with:

GRF1-J

-02, -04, -06, -08

-E

= 30 μ" (0.76 μm) Gold on Center Conductor & Tail,
Gold Flash on Shell and Tails



Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

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(5.00 mm) .197"

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

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

GRF1-C SERIES

50 Ω GANGED MICRO-MINI RF CABLE

SPECIFICATIONS

For complete specifications see
www.samtec.com?GRF1-C

Shell Material:

Brass

Insulator Material:

PTFE

Contact Material:

BeCu

Pin Material:

Brass

Plating:

30 μ " (0.76 μ m) Au over50 μ " (1.27 μ m) Ni

Operating Temp Range:

-40 °C to +90 °C

Impedance:

50 Ω

RoHS Compliant:

Yes

RG 316 Cable:

Impedance:

50 Ω

Capacitance:

96.432 pF/meter

Propagation Delay:

4.83 nsec/meter

Max Attenuation

(cable only):

1.25 dB @ 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:

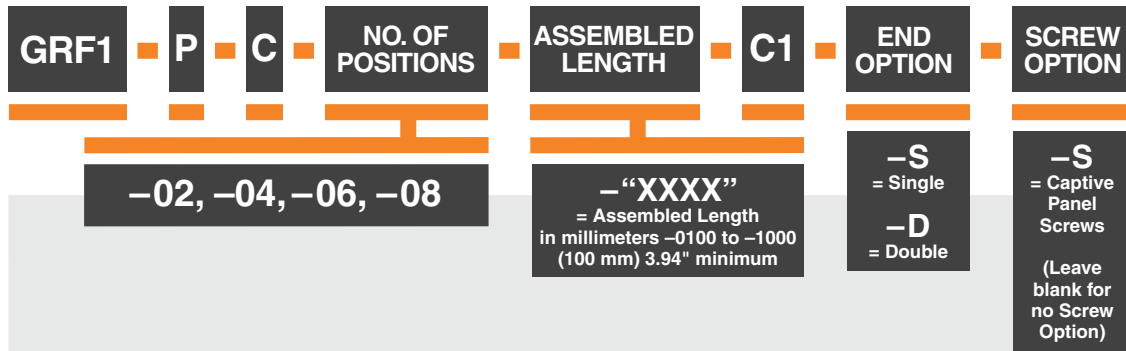
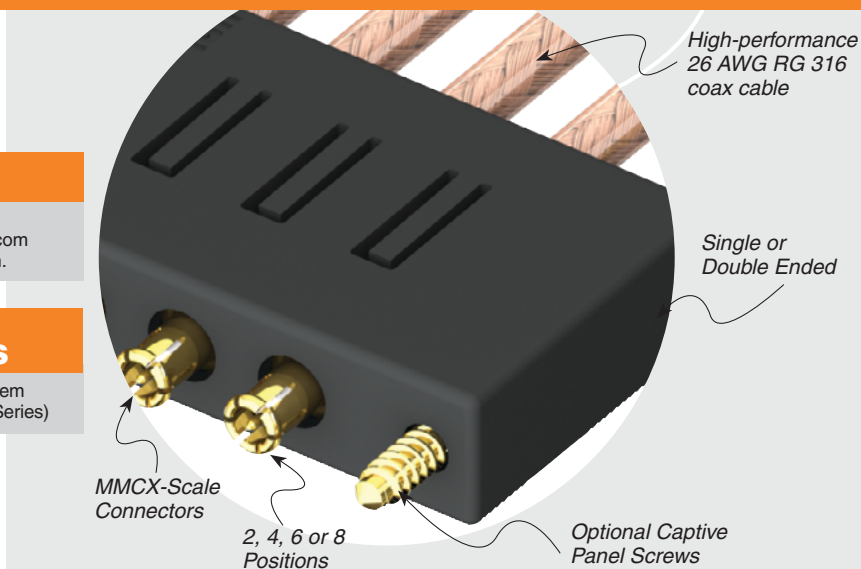
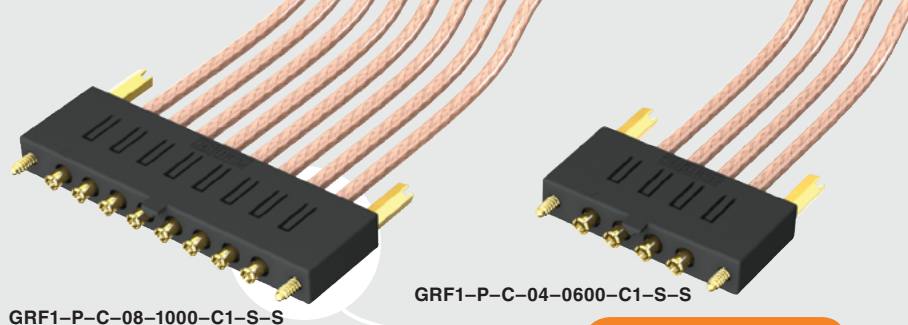
GRF1-J

TOOLING

Application Tooling.
 Contact atg@samtec.com
 for more information.

OTHER SOLUTIONS

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



RECOGNITIONS

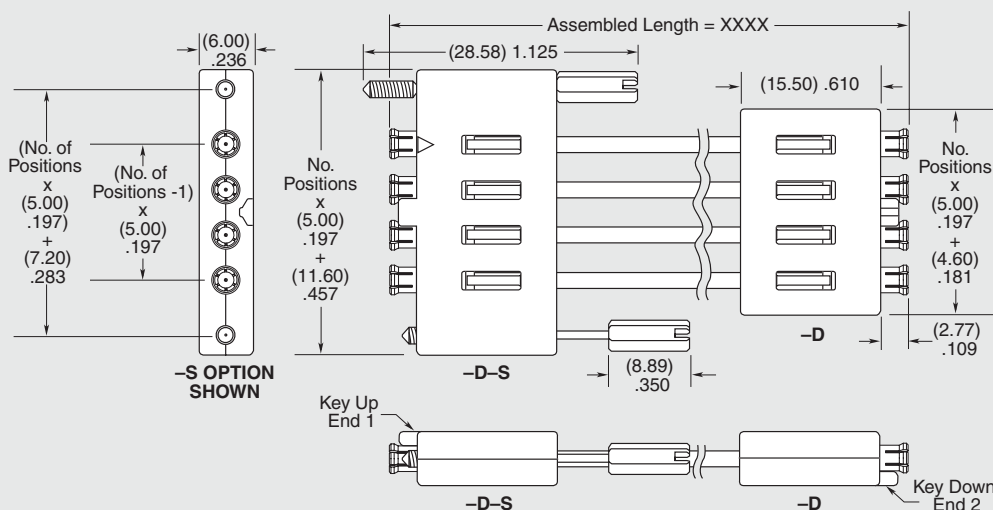
For complete scope of
 recognitions see
www.samtec.com/quality



Notes:

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

This Series is non-standard,
 non-returnable.



Due to technical progress, all designs, specifications and components are subject to change without notice.

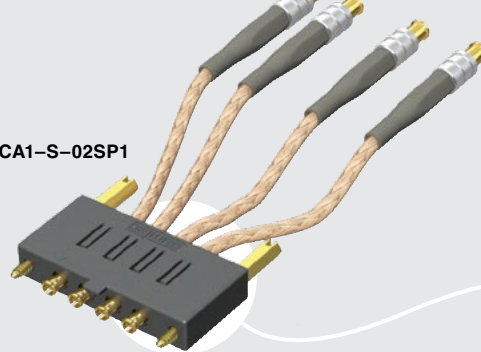
WWW.SAMTEC.COM

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(5.00 mm) .197"

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



50 Ω 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:

50 Ω

RoHS Compliant:

Yes

RG 316 Cable:

Impedance:

50 Ω

Capacitance:

96.432 pF/meter

Propagation Delay:

4.83 nsec/meter

Max Attenuation

(cable only):

1.25 dB @ 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

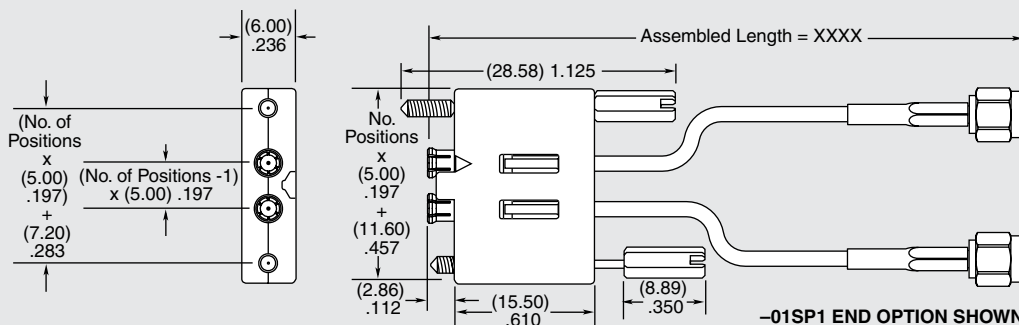
GRF1H

NO. OF
POSITIONSASSEMBLED
LENGTH

-2, -4, -6, -8

- "XXXX"

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



-01SP1 END OPTION SHOWN

RECOGNITIONS

For complete scope of
 recognitions see
www.samtec.com/quality



FILE NO. E111594

Notes:

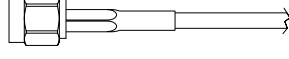
Cable lengths longer than
 40.00" (1 meter) are not
 supported with S.I. test data.

This series is non-standard,
 non-returnable.

END OPTIONS

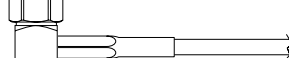
-01SP1 = SMA

Straight Plug
 (30 μ" (0.76 μm) Gold on Center
 Contact, Gold Flash on Shell)



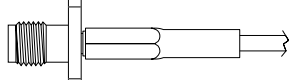
-01RP1 = SMA

Right-angle Plug
 (30 μ" (0.76 μm) Gold on Center
 Contact, Gold Flash on Shell)



-01PN1 = SMA

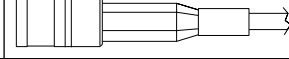
Straight Panel Mount Jack
 (30 μ" (0.76 μm) Gold on Center
 Contact, Gold Flash on Shell)



END OPTIONS

-07SP1 = SMB

Straight Plug
 (30 μ" (0.76 μm) Gold on Center
 Contact, Gold Flash on Shell)



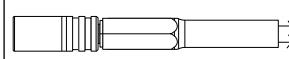
-07RP1 = SMB

Right-angle Plug
 (30 μ" (0.76 μm) Gold on Center
 Contact, Gold Flash on Shell)



-02SJ1 = MCX

Straight Jack
 (30 μ" (0.76 μm) Gold on Center
 Contact, Gold Flash on Shell)



Due to technical progress, all designs, specifications and components are subject to change without notice.

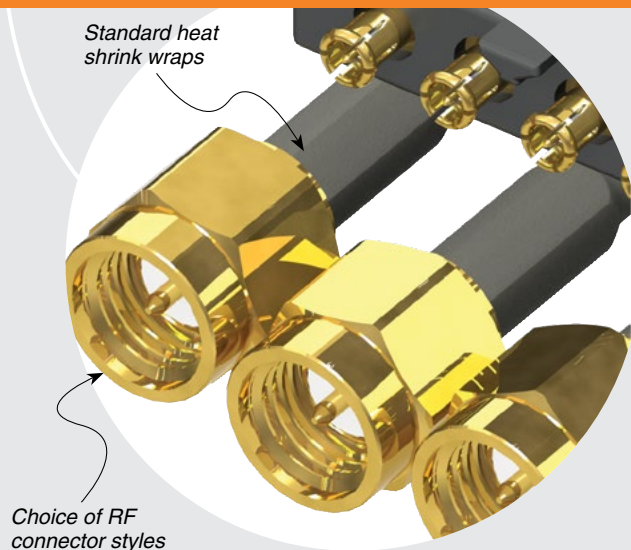
WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.

Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.



GRF1H-C SERIES



END 1 PLATING

–1
= All Gold components

CABLE TYPE

–CA1
= RG 316 cable

SCREW OPTION

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

END 2 OPTION

Specify END OPTIONS
from chart

END OPTIONS		END OPTIONS		END OPTIONS	
–02SP1 = MCX Straight Plug (30 μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)		–05SP3 = TNC Straight Plug (10 μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)		–07BJ1 = SMB Straight Bulkhead Jack (30 μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)	
–02RP1 = MCX Right-angle Plug (30 μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)		–01BJ1 = SMA Straight Bulkhead Jack		–04BJ2 = BNC Straight Bulkhead Jack (30 μ" (0.76 μm) Gold on Center Contact, Nickel on Shell)	
–03SP1 = MMCX Straight Plug (30 μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)		–01BR1 = SMA Straight Bulkhead Jack, Reversed Polarity		–05BJ3 = TNC Straight Bulkhead Jack (10 μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)	
–03RP1 = MMCX Right-angle Plug (30 μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)		–01SB1 = SMA Straight Bulkhead Jack, Sealed		–06BJ2 = N Type Straight Bulkhead Jack (30 μ" (0.76 μm) Gold on Center Contact, Nickel on Shell)	
–04SP3 = BNC Straight Plug (10 μ" (0.25 μm) Gold on Center Contact, Nickel on Shell)		–01SR1 = SMA Straight Bulkhead Jack, Sealed, Reversed Polarity (30 μ" (0.76 μm) Gold on Center Contact, Gold Flash on Shell)			

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

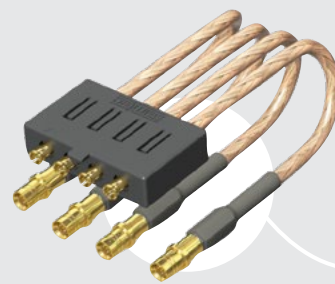
All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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

*All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.*

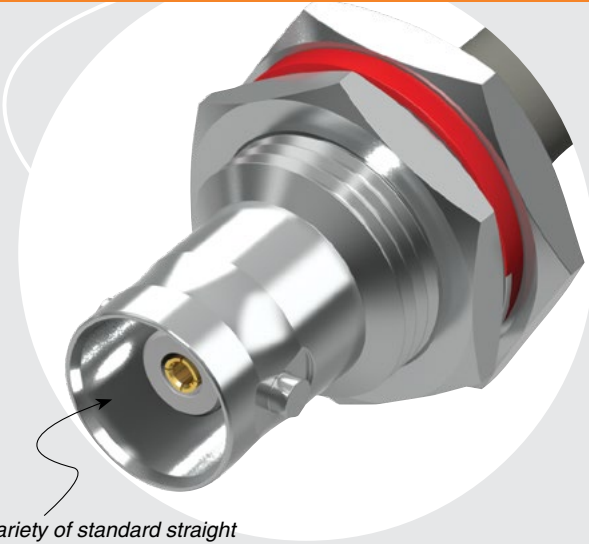


GRF7H-2-0300-1-CA3-S-74BJ3



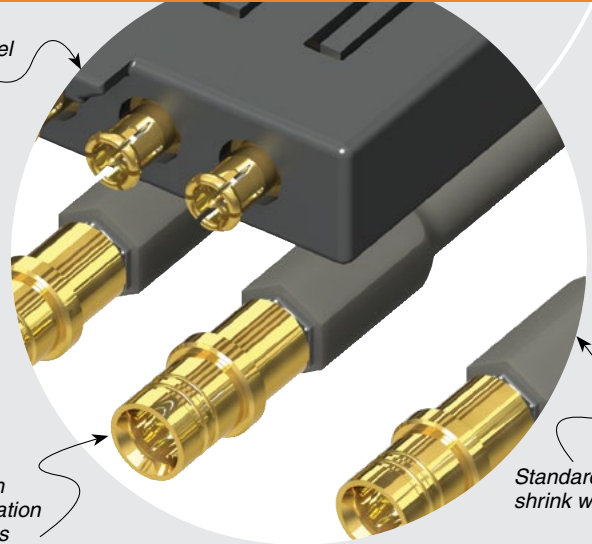
GRF7H-4-0800-1-CA3-73SJ1

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

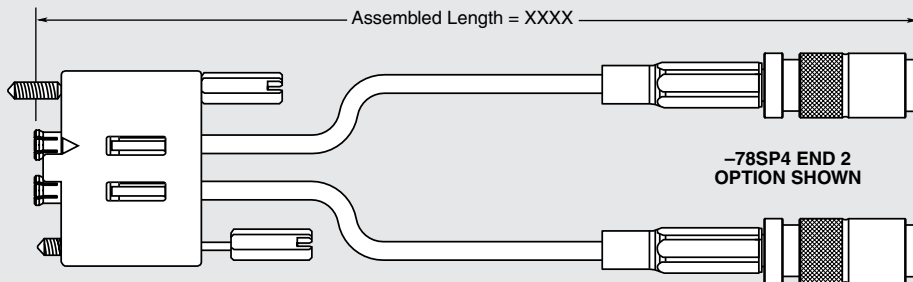
SCREW OPTION

-S

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

END 2 OPTION

Specify END OPTIONS
from chart



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

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

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

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

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

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

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

GRF7-J, GRF7-P SERIES

(5.00 mm) .197"

75 Ω GANGED MICRO-MINI RF SYSTEMS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?GRF7-J or 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

Impedance:
75 Ω

Dielectric Withstanding Voltage:
500 Vrms, 50 Hz

Dielectric Working Voltage:
170 Vrms, 50 Hz

Frequency Range:
0-6 GHz

RoHS Compliant:
Yes

PROCESSING

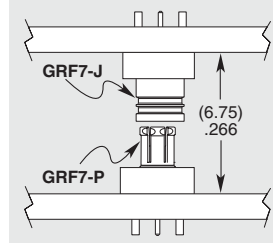
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality



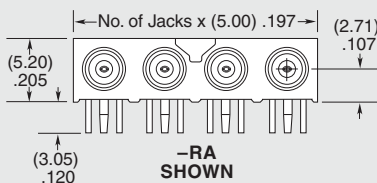
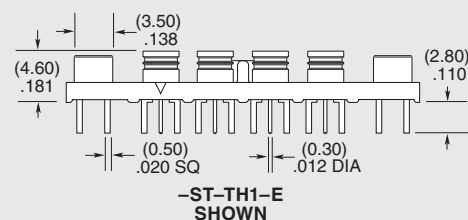
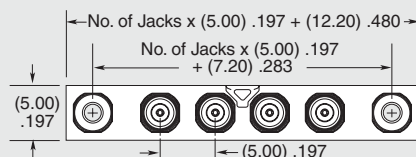
APPLICATION



OTHER SOLUTIONS

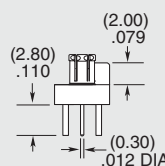
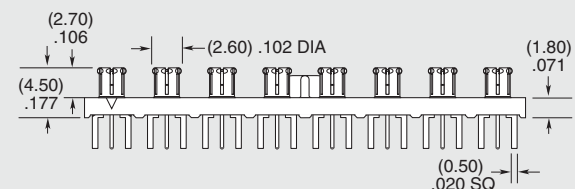
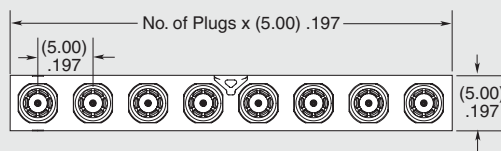
- Cable assembly (see GRF7H-C Series)

GRF7	J	P	NO. OF JACKS	PLATING	LEAD STYLE	TH1	INSERT OPTION
			-02, -04, -06, -08	-GF = 10 μ" (0.25 μm) Gold center contact, 3 μ" (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	



GRF7	P	P	NO. OF PLUGS	PLATING	ST	TH1
			-02, -04, -06, -08	-GF = 10 μ" (0.25 μm) Gold center contact, 3 μ" (0.08 μm) Gold outer contact		

Mates with:
GRF7-J



Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

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RF047-11RP9-11SP9-0100

RF047-01SP1-11SP9-0100

RF047 SERIES

50 Ω .047" DIA FLEXIBLE CABLE

SPECIFICATIONS

For complete specifications
see www.samtec.com?RF047

RF Connector:

Outer Contact Material:

Brass (SMA),
BeCu (HMHF1)

Contact Material:

Brass (SMA),
BeCu (HMHF1)

Insulator Material:

PTFE

Impedance:

50 Ω

Frequency Range:

0-10 GHz (HMHF1)

0-20 GHz (SMA)

Dielectric Withstanding:

1,000 Vrms (SMA)

CCA-047 (.047")

Cable:

Impedance:

50 Ω microwave

Capacitance:

95.14 pF/meter

Max Attenuation

(cable only):

1.15 @ 1 GHz for 1 meter

Conductor Size:

28 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:

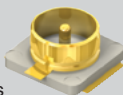
5 mm

Mates with:

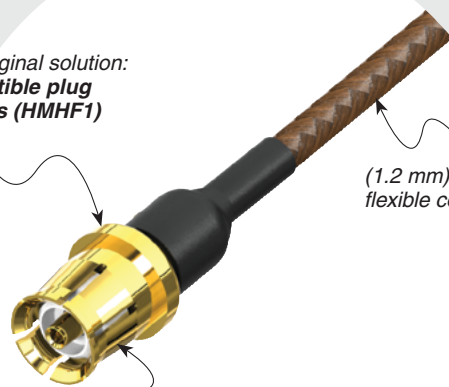
SMA, RSP-122811-01

MATING SOLUTION

- Micro RF PCB connectors for Micro High Frequency RFs
- MHF1 end mates with RSP-122811-01 (Cycles: 30 max.)



A Samtec original solution:
U.FL compatible plug to 500 cycles (HMHF1)



High frequency performance to 10 GHz

(1.2 mm) .047" DIA flexible coax cable

CABLE TYPE

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

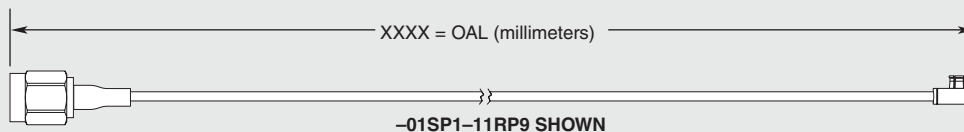
END 1 CONNECTOR

END 2 CONNECTOR

OVERALL LENGTH

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.

OTHER SOLUTIONS

- Cable connector kits (see cable components catalog pages)

END OPTIONS

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

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

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75 Ω MICRO-MINI SYSTEMS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see 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

Impedance:

75 Ω

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

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

-RA

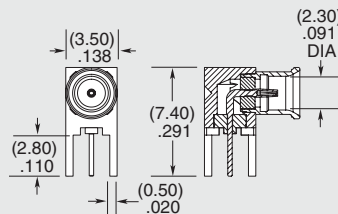
= Right-angle

-ST

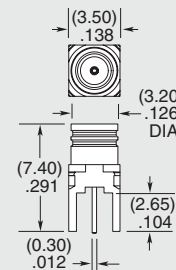
= Straight

-TH1

= Through-hole



-RA



-ST

OTHER SOLUTIONS

- 75 Ω Cable Components available
- Contact Samtec.

MMCX7

GENDER

TYPE

PLATING

ST

TH1

Mates with:

MMCX7-J, RF179,
GRF7H-C

-P

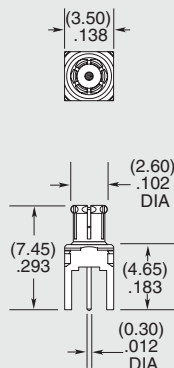
= Plug

-P

= PCB
Mount

-GF

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

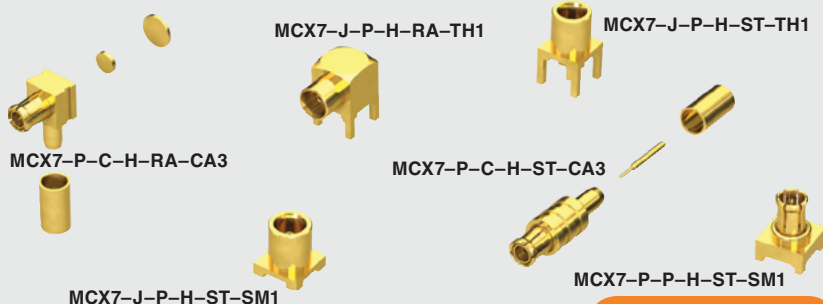


Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

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MCX7 SERIES

75 Ω OPTIMIZED MCX JACKS & PLUGS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MCX7-SM or www.samtec.com?MCX7-TH

Shell Material: Brass

Contact Material: BeCu

Insulator Material: PTFE

Impedance:

ST = 75 Ω $\pm$ 3 Ω

RA = 75 Ω $\pm$ 4 Ω

Frequency Range:

0-6 GHz

Working Voltage:

170 Vrms max

Dielectric Withstanding:

500 Vrms min

Engagement Force:

4.5 lbs max (-ST only)

Disengagement Force:

2.3 lbs max (-ST only)

Operating Temperature:

-65 $^{\circ}$ C to +125 $^{\circ}$ 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

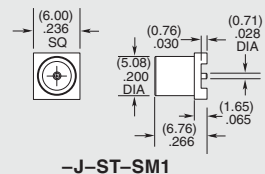
-H
= 30 μ " (0.76 μ m)
Gold center
contact,
3 μ " (0.08 μ m)
Gold outer
contact

-ST
= Straight

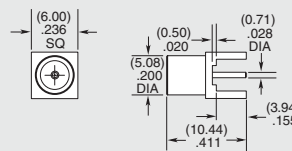
-RA
= Right-angle
(-J-TH1 only)

-SM1
= Surface Mount
(-ST only)

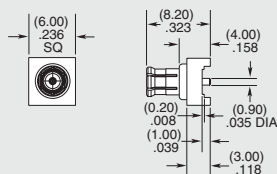
-TH1
= Through-hole
(-J only)



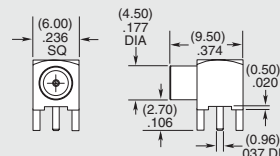
-J-ST-SM1



-J-ST-TH1



-P-ST-SM1



-J-RA-TH1

SPECIFICATIONS

For complete specifications and assembly instructions see 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:

75 Ω

Frequency Range:

0-6 GHz (-ST)

0-4.5 GHz (-RA)

Working Voltage:

170 Vrms max

Dielectric Withstanding:

500 Vrms min

Operating Temperature:

-65 $^{\circ}$ C to +125 $^{\circ}$ C

MCX7

GENDER

TYPE

PLATING

ORIENTATION

TERMINATION

-P
= Plug

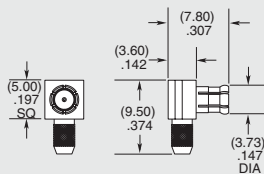
-C
= Cable

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

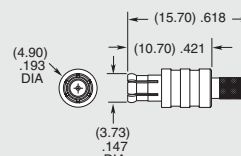
-ST
= Straight

-RA
= Right-angle

-CA3
= RG 179 Cable



-P-RA



-P-ST

Supplied with pins and ferrules. See website for dimensions.

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.

Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

(4.00 mm) .1575"

IJ5C-08-0600-S-D-NUS-1

IJ5C-04-0400-S-D-NUS-1

IJ5C SERIES

50 Ω HIGH ISOLATION RF CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?IJ5C

Insulator Material:

Black LCP

Contact Material:

Copper Alloy

Pin Material:

Copper Alloy

Dielectric Material:

Black LCP

Plating:
Au over 50 μ " (1.27 μ m) Ni
Operating Temp Range:

-40 °C to +90 °C

RoHS Compliant: Yes

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:
50 Ω
Current Rating: 2.5 A

RoHS Compliant: Yes

Cable (-2):
Conductor Size:
26 AWG,
(0.51 mm) .020" dia.
Conductor Material:

Silver and Copper

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:
50 Ω
Current Rating: 5 A DC

RoHS Compliant: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality



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

Mates with:
IP5

**EDGE
RATE[®]**
 CONTACT

RUGGEDIZED

BY SAMTEC

- Edge Rate[®] Contacts
- Positive Latching

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
Isolation = 60 dB	3.1 GHz / 6.2 Gbps

Performance and complete test data available at www.samtec.com?IJ5C or contact sig@samtec.com

Single or
Double Ended

High-performance
26 AWG
coax cable

Positive latching
system

1, 2, 4, 6 or 8
Positions

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
= 30 μ "
(0.76 μ m)
Gold on
contact

-S
= Single
Ended

-D
= Double
Ended

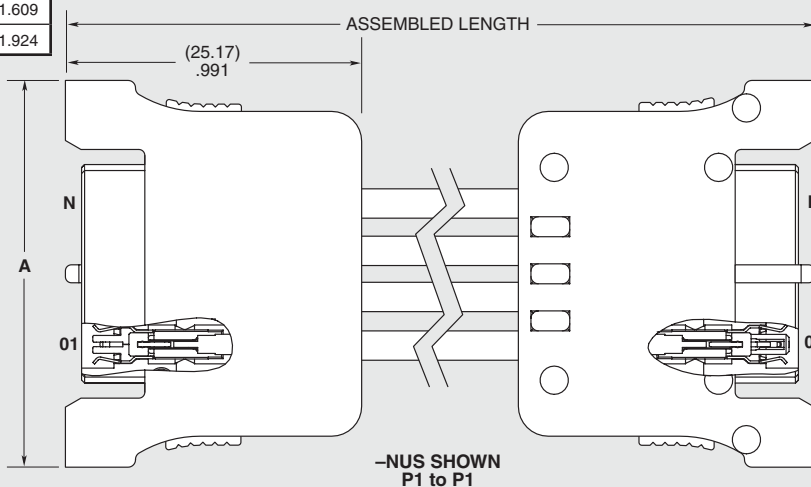
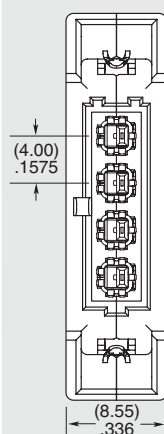
-NUS
= Notch up,
straight
P1 to P1

-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



Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

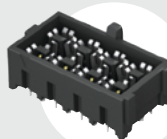
All parts within this catalog are built to Samtec's specifications.

Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

(4.00 mm) .1575"

IJ5-04-05.0-L-S-1-TR

IJ5-01-05.0-L-S-1-TR



IJ5-04-05.0-L-D-1-TR



IJ5-08-05.0-L-S-1-TR

IJ5 SERIES

50 Ω HIGH ISOLATION RF JACKS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see 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

50 μ" (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

Dielectric

Withstanding Voltage:

600 VAC

Working Voltage:

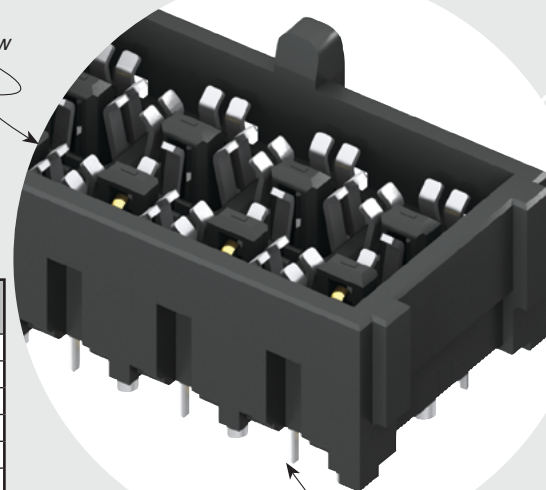
200 VAC

RoHS Compliant:

Yes

Mates with:

IP5

Single or
Double Row1, 2, 4, 6 or 8
Positions

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
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 or contact sig@samtec.com

PROCESSING

Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality



FILE NO. E111594

IJ5**JACKS
PER ROW****05.0****PLATING****ROW
OPTION****TAIL****TR**

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

-L

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

-S= Single
Row**-D**

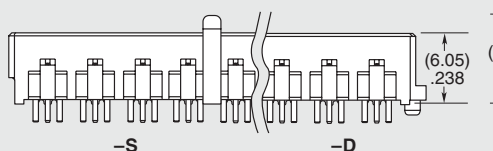
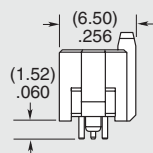
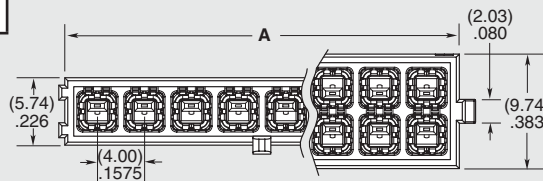
= Double
Row
(Not available
with -01)

-1

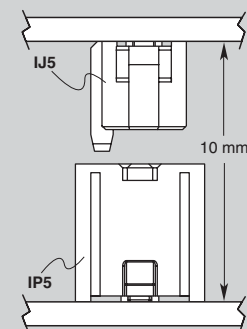
= (1.60 mm)
.062" board
thickness

-TR= Tape &
Reel

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



ALSO AVAILABLE (MOQ Required)

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

OTHER SOLUTIONS

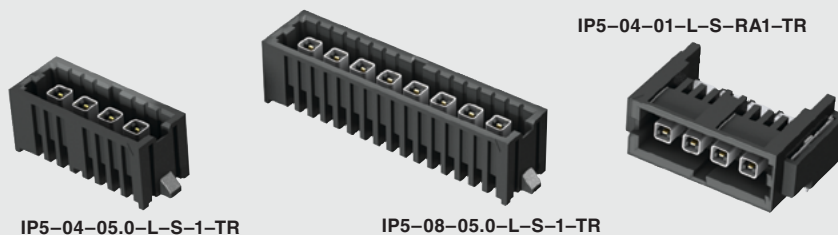
- Cable assembly
(see IJ5C Series)

Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

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

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

(4.00 mm) .1575"

IP5, IP5-RA SERIES

50 Ω HIGH ISOLATION RF PLUGS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see 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

50 μ" (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

Dielectric Withstanding Voltage:

IP5 = 600 VAC

IP5-RA = 190 VAC

Working Voltage:

IP5 = 200 VAC

IP5-RA = 190 VAC

RoHS Compliant:

Yes

IP5

PLUGS
PER ROW

05.0

PLATING

ROW
OPTION

TAIL

OPTION

TR

Mates with:
IJ5, IJ5C
 -01,
-02, -04,
-06, -08

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

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

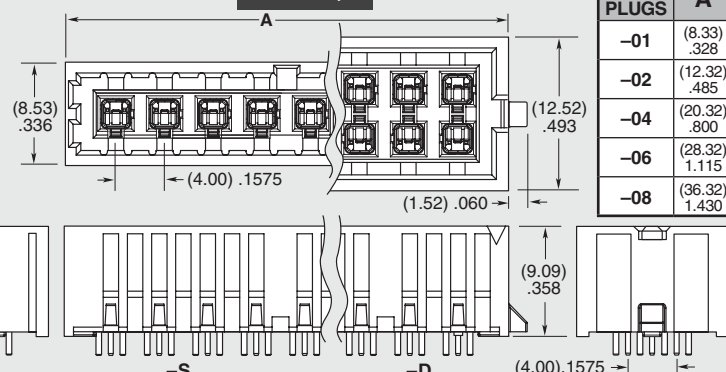
 -1
= (1.60 mm)
.062" board
thickness

 -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
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
or contact 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

PROCESSING

Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope
of recognitions see
www.samtec.com/quality



FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

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

IP5

PLUGS
PER ROW

01

PLATING

S

TAIL
OPTION

OPTION

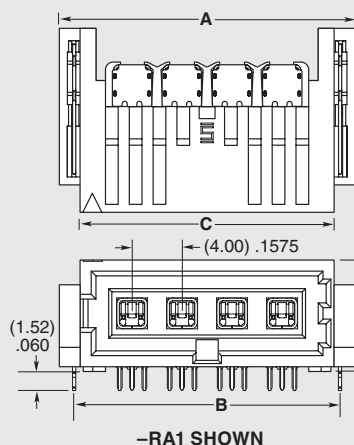
TR

Mates with:
IJ5, IJ5C
 -02, -04,
-06, -08

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

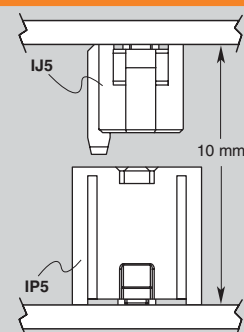
 -RA1
= (1.60 mm)
.062" board
thickness

 (Leave blank
for no Cable
Latch)
-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



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WWW.SAMTEC.COM

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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 RFTechnicalGroup@samtec.com



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*New products highlighted in bold.



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