

RF178-02RP1-01BJ1-0200

RF178-02SP1-02RP1-0300

# 50 $\Omega$ RG 178 CABLE ASSEMBLIES

## SPECIFICATIONS

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

### RF Connector:

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

### Center Contact Material:

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

### Insulator Material:

PTFE

### Operating Temperature:

-50 °C to +165 °C

### Frequency Range:

0-5 GHz  
(Connector dependent)

### Impedance:

50  $\Omega$

### RoHS Compliant:

Yes

### RG 178 Cable:

#### Impedance:

50  $\Omega$

#### 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  $\Omega$ /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  $\Omega$  and 75  $\Omega$  solutions
- Free samples available
- Visit: [rf.samtec.com](http://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

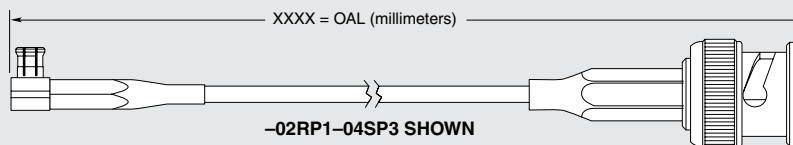
CABLE TYPE

END 1  
CONNECTOR

END 2  
CONNECTOR

**RF178**  
= RG 178 Cable

Specify END OPTIONS from chart



| END OPTIONS                                                                                                                                                                             |  | END OPTIONS                                                                                                        |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------|--|
| -01BJ1 = SMA<br>Straight Bulkhead Jack<br>-01BR1 = SMA<br>Straight Bulkhead Jack,<br>Reversed Polarity<br>(30 $\mu$ " (0.76 $\mu$ m) Gold<br>on Center Contact,<br>Gold Flash on Shell) |  | -02SP1 = MCX<br>Straight Plug<br>(30 $\mu$ " (0.76 $\mu$ m) Gold<br>on Center Contact,<br>Gold Flash on Shell)     |  |
| -02SJ1 = MCX<br>Straight Jack<br>(30 $\mu$ " (0.76 $\mu$ m) Gold<br>on Center Contact,<br>Gold Flash on Shell)                                                                          |  | -03SP1 = MMCX<br>Straight Plug<br>(30 $\mu$ " (0.76 $\mu$ m) Gold<br>on Center Contact,<br>Gold Flash on Shell)    |  |
| -02RP1 = MCX<br>Right-angle Plug<br>(30 $\mu$ " (0.76 $\mu$ m) Gold<br>on Center Contact,<br>Gold Flash on Shell)                                                                       |  | -03RP1 = MMCX<br>Right-angle Plug<br>(30 $\mu$ " (0.76 $\mu$ m) Gold<br>on Center Contact,<br>Gold Flash on Shell) |  |

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

[WWW.SAMTEC.COM](http://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

### 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<br>Straight Plug<br>(10 $\mu$ " (0.25 $\mu$ m)<br>Gold on<br>Center Contact,<br>Nickel on Shell)             |  | -05BJ3 = TNC<br>Straight<br>Bulkhead Jack<br>(10 $\mu$ " (0.25 $\mu$ m)<br>Gold on<br>Center Contact,<br>Nickel on Shell)    |  |
| -05SP3 = TNC<br>Straight Plug<br>(10 $\mu$ " (0.25 $\mu$ m)<br>Gold on<br>Center Contact,<br>Nickel on Shell)             |  | -06BJ2 = N Type<br>Straight<br>Bulkhead Jack<br>(30 $\mu$ " (0.76 $\mu$ m)<br>Gold on<br>Center Contact,<br>Nickel on Shell) |  |
| -04BJ2 = BNC<br>Straight<br>Bulkhead Jack<br>(30 $\mu$ " (0.76 $\mu$ m)<br>Gold on<br>Center Contact,<br>Nickel on Shell) |  | -SING =<br>Single Ended<br>(End 2 Callout)                                                                                   |  |
| -07BJ2 = SMB<br>Straight<br>Bulkhead Jack<br>(30 $\mu$ " (0.76 $\mu$ m)<br>Gold on<br>Center Contact,<br>Nickel on Shell) |  | XXXXXX =<br>Stripped & Tinned<br>(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.

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