

Selection Guide: 50 Ohm Coax Cable Assemblies

50 Ohm Coax Cable Assemblies

Standard RF coax cable assemblies feature low-loss cable and precision-grade connectors.

RF CABLE ASSEMBLIES

Jumpers

SMA
086 CABLE



GRF02-001-086
Page 33

SMA
141 CABLE



GRF02-001-141
Page 33

SMA - N
141 CABLE



GRF02-004-141
Page 34

N-N
141 CABLE



GRF02-0010-141
Page 34

SMA - N
141 CABLE

GRF02-024
Page 35

GRF02-001

Male SMA to Male SMA Jumper

- 18 GHz
- 086 and 141 Sizes
- 50 Ohm Coax Cable
- SST Connector Body
- No Jacket

086 JUMPER ASSEMBLY

Back-to-back jumper has male SMA plug on each end. 50 ohm low loss coax cable has unjacketed tinned copper braid for excellent flexibility. SMA connectors are stainless steel with gold-plated body and passivated coupling nut. Contact is gold-plated copper alloy.

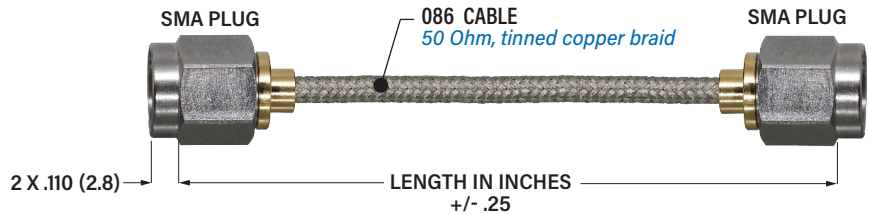
PART NUMBER

GRF02-001-086-◆

Replace ◆ with length in one inch increments, 3 inch minimum

SPECIFICATIONS

- Operating temperature: -55 °C to +165 °C
- Minimum bend radius: .236 in. (6.0 mm)
- Frequency range: DC - 18 GHz
- VSWR: 1.30 maximum
- Impedance: 50 ohm nominal



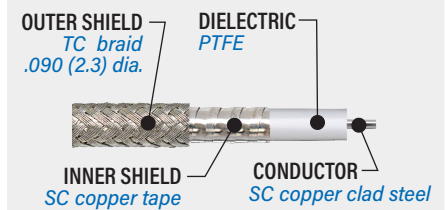
INSERTION LOSS (IL)

	Connector IL (dB)	Cable IL (dB/in)
3 GHz	.250	.036
6 GHz	.353	.053
12 GHz	.500	.074
15 GHz	.558	.089
18 GHz	.612	.099

Calculate Insertion Loss (IL)

Multiply cable length in inches times the Cable IL from table. Add this to connector IL from table. Connector IL includes both connectors.

086 CABLE CONSTRUCTION



WEIGHT

	Weight (ounces)
Connectors	.218
Coax Cable	.012 per inch

141 JUMPER ASSEMBLY

Back-to-back jumper has male SMA plug on each end. 50 ohm low loss coax cable has unjacketed tinned copper braid for excellent flexibility. SMA connectors are stainless steel with gold-plated body and passivated coupling nut.

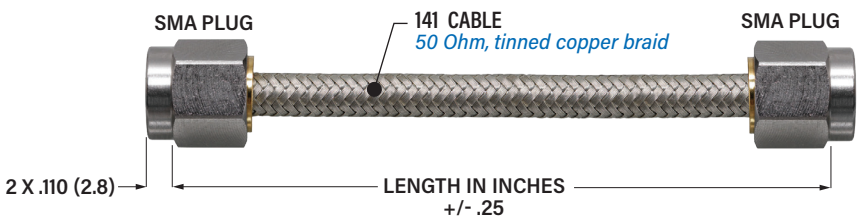
PART NUMBER

GRF02-001-141-◆

Replace ◆ with length in one inch increments, 3 inch minimum

SPECIFICATIONS

- Operating temperature: -55 °C to +165 °C
- Minimum bend radius: .394 in. (10.0 mm)
- Frequency range: DC - 18 GHz
- VSWR: 1.30 maximum
- Impedance: 50 ohm nominal



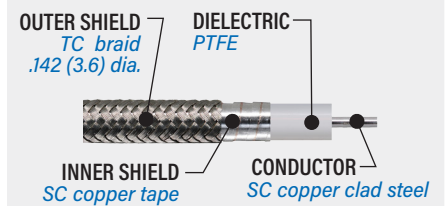
INSERTION LOSS (IL)

	Connector IL (dB)	Cable IL (dB/in)
3 GHz	.250	.020
6 GHz	.353	.030
12 GHz	.500	.046
15 GHz	.558	.053
18 GHz	.612	.060

Calculate Insertion Loss (IL)

Multiply cable length in inches times the Cable IL from table. Add this to connector IL from table. Connector IL includes both connectors.

141 CABLE CONSTRUCTION



WEIGHT

	Weight (ounces)
Connectors	.155
Coax Cable	.04 per inch

GRF02-004-141 Male N to Male SMA Jumper

GRF02-0010-141 Male N to Male N Jumper

- 18 GHz
- Precision-Grade Connectors
- Flexible cable

RF CABLE ASSEMBLIES

N-SMA JUMPER ASSEMBLY

RF cable assembly has male Type N plug on one end and SMA plug on the other end. 50 ohm low loss coax cable has unjacketed tinned copper braid for excellent flexibility. SMA connector is stainless steel with gold-plated body and passivated coupling nut. N connector is nickel-plated brass with gold-plated brass pin contact, PTFE insulator, silicone rubber gasket and SST snap-ring.

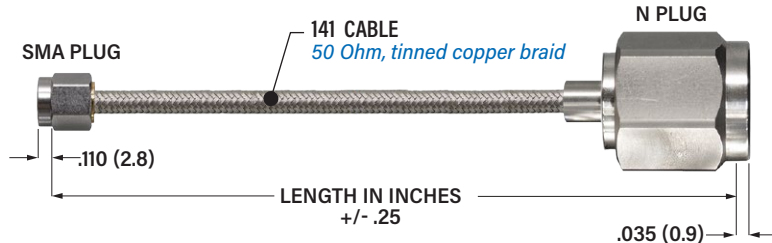
PART NUMBER

GRF02-004-141-◆

Replace ◆ with length in one inch increments, 3 inch minimum

SPECIFICATIONS

- Frequency range: DC - 18 GHz
- VSWR: 1.30 maximum
- Impedance: 50 ohm nominal



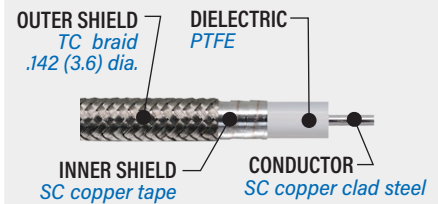
INSERTION LOSS (IL)

	Connector IL (dB)	Cable IL (dB/in)
3 GHz	.250	.020
6 GHz	.353	.030
12 GHz	.500	.046
15 GHz	.558	.053
18 GHz	.612	.060

Calculate Insertion Loss (IL)

Multiply cable length in inches times the Cable IL from table. Add this to connector IL from table. Connector IL includes both connectors.

141 CABLE CONSTRUCTION



WEIGHT

	Weight (ounces)
Connectors	1.56
Coax Cable	.04 per inch

N-N JUMPER ASSEMBLY

RF cable assembly has male Type N plug on both ends. 50 ohm low loss coax cable has unjacketed tinned copper braid for excellent flexibility. N connectors are nickel-plated brass with gold-plated brass pin contact, PTFE insulator, silicone rubber gasket and SST snap-ring.

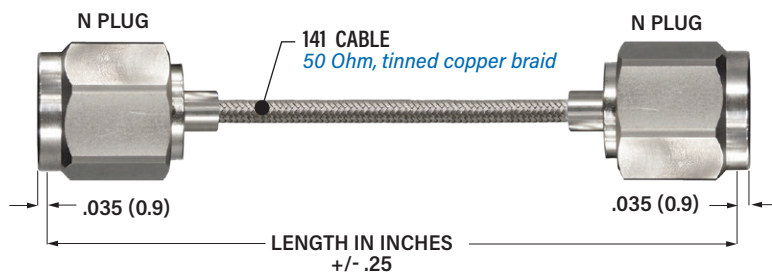
PART NUMBER

GRF02-0010-141-◆

Replace ◆ with length in one inch increments, 3 inch minimum

SPECIFICATIONS

- Frequency range: DC - 18 GHz
- VSWR: 1.30 maximum
- Impedance: 50 ohm nominal



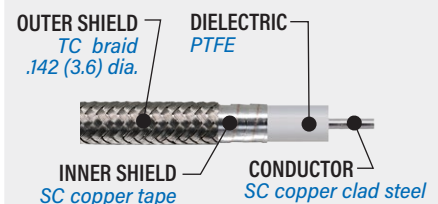
INSERTION LOSS (IL)

	Connector IL (dB)	Cable IL (dB/in)
3 GHz	.250	.020
6 GHz	.353	.030
12 GHz	.500	.046
15 GHz	.558	.053
18 GHz	.612	.060

Calculate Insertion Loss (IL)

Multiply cable length in inches times the Cable IL from table. Add this to connector IL from table. Connector IL includes both connectors.

141 CABLE CONSTRUCTION



WEIGHT

	Weight (ounces)
Connectors	2.96
Coax Cable	.04 per inch

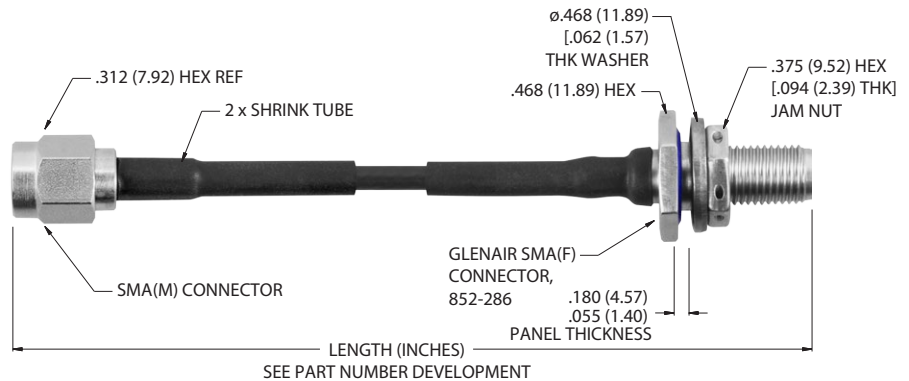
GRF02-0024

Male to Female SMA Assembly

- RG 174 or RG 316 Cable
- Precision-Grade Connectors
- Flexible cable

SMA JUMPER ASSEMBLY

RF cable assembly has male SMA connector on one end and female SMA hermetic jam-nut on the other end. Two 50 ohm cable types, RG174 and RG316, are available. RG174 coax cable has black PVC jacket rated to 85°C and RG316 cable has tan FEP jacket rated to 200°C. SMA connector outer body is stainless steel with passivated finish. Hermetic Jam-nut connector is stainless steel with passivated finish. Center contact is copper alloy and gold plated.



TOLERANCE IS:
 +1.80/-0.00 FOR "L" LESS THAN OR EQUAL TO 60.00 INCHES
 +3%/-0.00 FOR "L" GREATER THAN 60.00 INCHES

PART NUMBER

GRF02-0024-01-◆

- 01: RG174 50 ohm cable
- 02: RG316 50 ohm cable

Replace ◆ with length in one inch increments, 3 inch minimum

SPECIFICATIONS

- Frequency range:
 RG174: DC - 1 GHz
 RG316: DC - 3 GHz
- VSWR: 1.30:1 maximum
- Impedance: 50 ohm nominal
- Insertion Loss:
 See Insertion Loss table

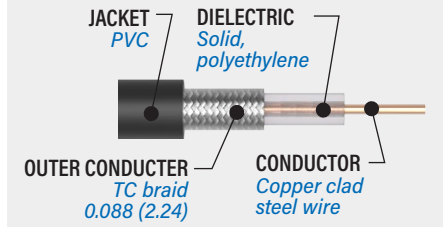
INSERTION LOSS (IL)

	Connector IL (dB)	Cable IL (dB/ft)
RG174: 1 GHz	.500	.320
RG316: 3 GHz	.500	.580

Calculate Insertion Loss (IL)

Multiply cable length in inches times the Cable IL from table. Add this to connector IL from table. Connector IL includes both connectors.

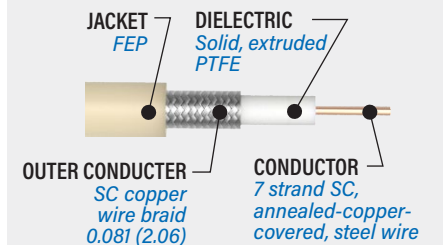
RG174 CABLE CONSTRUCTION



WEIGHT

	Weight
Connectors	0.289 oz
Coax Cable	.0095 lb per foot

RG316 CABLE CONSTRUCTION



WEIGHT

	Weight
Connectors	6.0775 oz
Coax Cable	1.22 lb per 100 ft

RF CABLE ASSEMBLIES