CABLE ASSEMBLIES

Hand-formable cable .085 (unjacketed)



P/N: C291 844 065

APPLICATION NOTE

This handformable cable is the perfect alternative to RG405 for applications requiring an easy routing on equipment.

Due to the outer conductor construction, this cable can be hand formed with exceptional ease with no spring back effect.

Cable can be reshaped, eliminating the need for costly drawings.

Attenuation is a little bit higher than RG405 but temperature range is wider.

CONSTRUCTION / DIMENSIONS

	Material	mm	Inches
Center conductor	Solid SPCCS[1]	0.51	0.020
Dielectric	Solid PTFE[2]	1.63	0.064
Inner shield	copper foil	-	-
Outer shield	TS[3] braid	2.21	0.087
Jacket	-	-	-

ELECTRICAL CHARACTERISTICS

Characteristic impedance	50Ω ± 2Ω	
Operating frequency range	DC - 20 GHz	
Shielding effectiveness	90 dB	
Voltage withstanding	5 000 V rms	
Peak power	1.9 kW	
Capacitance	97.5 pF / m	29.5 pF / ft
Velocity of propagation	70 % (4.8 ns / m)	

MECHANICAL CHARACTERISTICS

Recommended minimum bending radius	3.2[4] / 9.5[5] mm	0.125[4] / 0.375[5] inch
Weight	17.8 g / m	0.0119 lbs / ft

ENVIRONMENTAL CHARACTERISTICS

Operating temperature range	-65 / +150 °C	-85 / +302 °F
Fire resistance	N/A	
Halogen free	No	

FREQUENCY / ATTENUATION (typ.) / CW MAX POWER (sea level / 25 °C)

GHz	dB / m	dB / ft	Watts
1.0	0.67	0.20	100
2.0	0.97	0.29	71
3.0	1.21	0.37	58
6.0	1.78	0.54	41
8.0	2.10	0.64	35
10.0	2.39	0.72	32
12.4	2.71	0.82	28
18.0	3.39	1.03	24
20.0	3.62	1.10	22
Attenuation calculation (dB/m)	(0.63 x √f GHz) + (0.04 x f GHz)		
Power calculation (W)	100 / √f GHz		

[1] SPCCS = Silver Plated Copper Covered Steel
[2] PTFE = PolyTetraFluoroEthylene
[3] TS = Tin Soaked
[4] one time
[5] repeated

Semi-rigid cable .085 (RG405 - KS1)



P/N: C291 850 001 (MIL-C-17/133-RG405) (NF-C-93/551-KS1)

APPLICATION NOTE

RG405 is one of the most popular semi-rigid RG cables.
RG405 is a more preferred option to flexible RG316 or RD316 for applications requiring high frequency range, low attenuation, high screening effectiveness, very small bending radius and/or no spring back effect.

CONSTRUCTION / DIMENSIONS

	Material	mm	Inches
Center conductor	Solid SPCCS[1]	0.51	0.020
Dielectric	Solid PTFE[2]	1.68	0.066
Inner shield	Copper tubing	2.20	0.087
Outer shield	-	-	-
Jacket	-	-	-

ELECTRICAL CHARACTERISTICS

Characteristic impedance	50Ω ± 1.5Ω	
Operating frequency range	DC - 20 GHz	
Shielding effectiveness	110 dB	
Voltage withstanding	5 000 V rms	
Peak power	1.9 kW	
Capacitance	100 pF / m	30 pF / ft
Velocity of propagation	70 % (4.8 ns / m)	

MECHANICAL CHARACTERISTICS

Recommended minimum bending radius	3.17 mm	0.125 inch
Weight	20.0 g / m	0.0135 lbs / ft

ENVIRONMENTAL CHARACTERISTICS

Operating temperature range	-40 / +125 °C	-40 / +257 °F
Fire resistance	N/A	
Halogen free	No	

FREQUENCY / ATTENUATION (typ.) / CW MAX POWER (sea level / 25 °C)

GHz	dB / m	dB / ft	Watts
1.0	0.65	0.20	100
2.0	0.94	0.29	71
3.0	1.18	0.36	58
6.0	1.73	0.53	41
8.0	2.05	0.62	35
10.0	2.33	0.71	32
12.4	2.64	0.80	28
18.0	3.31	1.00	24
20.0	3.53	1.07	22
Attenuation calculation (dB/m)	(0.61 x √f GHz) + (0.04 x f GHz)		
Power calculation (W)	100 / √f GHz		

[1] SPCCS = Silver Plated Copper Covered Steel
[2] PTFE = PolyTetraFluoroEthylene

Note:
Typical attenuation for a couple of connectors (dB) = 0.045 x √f (GHz)