CABLE ASSEMBLIES

Semi-rigid cable .141 (Non magnetic)



P/N: C291861061

APPLICATION NOTE

Based on RG402 standard, this cable is used where non magnetic is required.

CONSTRUCTION / DIMENSIONS

	Material	mm	Inches
Center conductor	Solid SPC[1]	0.92	0.036
Dielectric	Solid PTFE[2]	2.98	0.117
Inner shield	Copper tubing	3.58	0.141
Outer shield	-	-	-
Jacket	-	-	-

ELECTRICAL CHARACTERISTICS

Characteristic impedance	50Ω ± 1Ω	
Operating frequency range	DC - 20 GHz	
Shielding effectiveness	110 dB	
Voltage withstanding	5 000 V rms	
Peak power	3.4 kW	
Capacitance	89 pF / m	27 pF / ft
Velocity of propagation	70 % (4.8 ns / m)	

MECHANICAL CHARACTERISTICS

Recommended minimum bending radius	2.54 mm	0.100 inch
Weight	46 g / m	0.0309 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	0.34	0.10	315
2.0	0.50	0.15	223
3.0	0.64	0.19	182
6.0	0.97	0.30	129
8.0	1.17	0.35	111
10.0	1.35	0.41	100
12.4	1.55	0.47	89
18.0	1.99	0.60	74
20.0	2.14	0.65	70
Attenuation calculation (dB/m)	(0.30 x √f GHz) + (0.04 x f GHz)		
Power calculation (W)	315 / √f GHz		

[1] SPC = Silver Plated Copper
[2] PTFE = PolyTetraFluoroEthylene

Semi-rigid cable .141 (Aluminum)



P/N: C291864187 (MIL-C-17/130-00009)

APPLICATION NOTE

Based on RG402 standard, this cable will be selected for application requiring easy conformability and/or application requiring reduced weight.

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

Cable can be reshaped, eliminating the need for costly drawings. The outer conductor material (aluminum) slightly increases the attenuation compared to standard RG402.

CONSTRUCTION / DIMENSIONS

	Material	mm	Inches
Center conductor	Solid SPCCS[1]	0.92	0.036
Dielectric	Solid PTFE[2]	2.98	0.117
Inner shield	TPAl[3]	3.58	0.141
Outer shield	-	-	-
Jacket	-	-	-

ELECTRICAL CHARACTERISTICS

Characteristic impedance	50Ω ± 1Ω	
Operating frequency range	DC - 20 GHz	
Shielding effectiveness	110 dB	
Voltage withstanding	5 000 V rms	
Peak power	3.4 kW	
Capacitance	89 pF / m	27 pF / ft
Velocity of propagation	70 % (4.8 ns / m)	

MECHANICAL CHARACTERISTICS

Recommended minimum bending radius	3.17 mm	0.125 inch
Weight	30 g / m	0.0185 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	0.36	0.11	315
2.0	0.53	0.16	223
3.0	0.67	0.20	182
6.0	1.02	0.31	129
8.0	1.23	0.37	111
10.0	1.41	0.43	100
12.4	1.62	0.49	89
18.0	2.08	0.63	74
20.0	2.23	0.68	70
Attenuation calculation (dB/m)	(0.32 x √f GHz) + (0.04 x f GHz)		
Power calculation (W)	315 / √f GHz		

[1] SPCCS = Silver Plated Copper Covered Steel
[2] PTFE = PolyTetraFluoroEthylene
[3] TPAl = Tin Plated Aluminum

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