CABLE ASSEMBLIES

Semi-rigid cable .141 (Tinned copper)



P/N: ST291 862 005 (MIL-C-17/130-00005)

APPLICATION NOTE

Due to the outer conductor coating (tin), this cable will be used instead of RG402 for applications requiring high corrosion resistance and improved solderability.

This cable is also an economical alternative to .141 silvered copper.

CONSTRUCTION / DIMENSIONS

	Material	mm	Inches
Center conductor	Solid SPCCS[1]	0.92	0.036
Dielectric	Solid PTFE[2]	2.98	0.117
Inner shield	TPC[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	1.90 mm	0.075 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] SPCCS = Silver Plated Copper Covered Steel
[2] PTFE = PolyTetraFluoroEthylene
[3] TPC = Tin Plated Copper

Semi-rigid cable .141 (Silvered copper)



P/N: ST291 861 066

APPLICATION NOTE

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

In addition, due to the outer conductor coating (silver), this cable will be used instead of RG402 for applications requiring high corrosion resistance and improved solderability.

CONSTRUCTION / DIMENSIONS

	Material	mm	Inches
Center conductor	Solid SPC[1]	0.92	0.036
Dielectric	Solid PTFE[2]	2.98	0.117
Inner shield	SPC[1] 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	1.90 mm	0.075 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

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

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