CABLE ASSEMBLIES

Flexible cable 5/50 D (RG223)



P/N: ST291 330 000 (MIL-C-17/84-RG223)

APPLICATION NOTE

RG223 is one of the most popular RG cables.
This cable is a good compromise between flexibility and electrical performance.
RG223 can be used instead of RG142 to reduce cost in applications that do not require high temperature resistance.

CONSTRUCTION / DIMENSIONS

	Material	mm	Inches
Center conductor	Solid SPC[1]	0.89	0.035
Dielectric	Solid PE[2]	2.95	0.116
Inner shield	SPC[1] braid	-	-
Outer shield	SPC[1] braid	4.19	0.165
Jacket	Black PVC[3]	5.38	0.212

ELECTRICAL CHARACTERISTICS

Characteristic impedance	50Ω ± 2Ω	
Operating frequency range	DC - 12.4 GHz	
Shielding effectiveness	65 dB (DC - 3 GHz)	
Voltage withstanding	5 000 V rms	
Peak power	2.6 kW	
Capacitance	96 pF / m	29 pF / ft
Velocity of propagation	66 % (5 ns / m)	

MECHANICAL CHARACTERISTICS

Recommended minimum bending radius	25 mm	0.984 inch
Weight	55 g / m	0.0370 lbs / ft

ENVIRONMENTAL CHARACTERISTICS

Operating temperature range	-40 / +85 °C	-40 / +185 °F
Fire resistance	No	
Halogen free	No	

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

GHz	dB / m	dB / ft	Watts
0.5	0.32	0.10	71
1.0	0.46	0.14	50
1.5	0.57	0.17	41
2.0	0.67	0.20	35
3.0	0.85	0.26	29
6.0	1.27	0.38	20
8.0	1.51	0.46	18
10.0	1.73	0.52	16
12.4	1.97	0.60	14
Attenuation calculation (dB/m)	(0.42 x √f GHz) + (0.04 x f GHz)		
Power calculation (W)	50 / √f GHz		

[1] SPC = Silver Plated Copper
[2] PE = PolyEthylene
[3] PVC = PolyVinyl Chloride

Flexible cable 5/50 D (RG400)



P/N: ST291 324 007 (MIL-C-17/128-RG400)

APPLICATION NOTE

Due to its stranded inner conductor, RG 400 is much more flexible than RG142 and RG223.
This cable can be used instead of equivalent RG's for specific applications requiring high flexibility.
Suitable for severe thermal conditions.

CONSTRUCTION / DIMENSIONS

	Material	mm	Inches
Center conductor	Stranded SPC[1]	0.98	0.039
Dielectric	Solid PTFE[2]	2.95	0.116
Inner shield	SPC[1] braid	-	-
Outer shield	SPC[1] braid	4.19	0.165
Jacket	Brown FEP[3]	4.95	0.195

ELECTRICAL CHARACTERISTICS

Characteristic impedance	50Ω ± 2Ω	
Operating frequency range	DC - 12.4 GHz	
Shielding effectiveness	65 dB (DC - 3 GHz)	
Voltage withstanding	5 000 V rms	
Peak power	3.4 kW	
Capacitance	97 pF / m	29.3 pF / ft
Velocity of propagation	70 % (4.8 ns / m)	

MECHANICAL CHARACTERISTICS

Recommended minimum bending radius	20 mm	0.79 inch
Weight	66 g / m	0.0442 lbs / ft

ENVIRONMENTAL CHARACTERISTICS

Operating temperature range	-55 / +200 °C	-67 / +392 °F
Fire resistance	yes (CSA FT6 / IEC 332-2)	
Halogen free	No	

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

GHz	dB / m	dB / ft	Watts
0.5	0.36	0.11	665
1.0	0.52	0.16	470
1.5	0.65	0.20	384
2.0	0.76	0.23	332
3.0	0.95	0.29	271
6.0	1.42	0.43	192
8.0	1.68	0.51	166
10.0	1.92	0.58	149
12.4	2.19	0.66	133
Attenuation calculation (dB/m)	(0.48 x √f GHz) + (0.04 x f GHz)		
Power calculation (W)	470 / √f GHz		

[1] SPC = Silver Plated Copper
[2] PTFE = PolyTetraFluoroEthylene
[3] FEP = Fluorinated Ethylene Propylene

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