CABLE ASSEMBLIES

Flexible cable 1/75 S (75 vmtx type)



P/N: ST291 055 076

APPLICATION NOTE

Due to its 75 ohms characteristic impedance, this cable is best suited for TV/Video applications.
The very small outer diameter and bending moment allow very easy routing during installation.
Its very light weight makes it perfect to be used in all miniature, space saving and dynamic applications.
Suitable for severe thermal conditions.

CONSTRUCTION / DIMENSIONS

	Material	mm	Inches
Center conductor	Solid SPCCS[1]	0.10	0.004
Dielectric	Solid PTFE[2]	0.57	0.022
Inner shield	SPC[3] braid	0.80	0.031
Outer shield	-	-	-
Jacket	White FEP[4]	1.22	0.048

ELECTRICAL CHARACTERISTICS

Characteristic impedance	80Ω ± 8Ω	
Operating frequency range	DC - 2 GHz	
Shielding effectiveness	40 dB	
Voltage withstanding	2 600 V rms	
Peak power	0.9 kW	
Capacitance	60 pF / m	18.3 pF / ft
Velocity of propagation	69 % (4.8 ns / m)	

MECHANICAL CHARACTERISTICS

Recommended minimum bending radius	6.1 mm	0.240 inch
Weight	3 g / m	0.002 lbs / ft

ENVIRONMENTAL CHARACTERISTICS

Operating temperature range	-90 / +200 °C	-130 / +392 °F
Fire resistance	Yes (UL94V0)	
Halogen free	No	

FREQUENCY / ATTENUATION (typ.) / CW MAX POWER (sea level / 40 °C)

GHz	dB / m	dB / ft	Watts
0.1	0.70	0.21	86
0.2	0.99	0.30	64
0.3	1.21	0.37	50
0.4	1.40	0.42	41
0.5	1.57	0.47	38
0.6	1.71	0.52	35
0.8	1.98	0.60	30
1.0	2.22	0.67	26
1.5	2.71	0.82	21
2.0	3.14	0.95	18
Attenuation calculation (dB/m)	(2.21 x √f GHz) + (0.005 x f GHz)		

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

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

Flexible cable 2/50 S (RG178 - KX21A)



P/N: ST291 145 007 (MIL-C-17/93-RG178)

P/N: ST291 145 017 (NF-C-93/550-KX21A)

APPLICATION NOTE

Due to its small diameter and its stranded inner conductor, RG 178 / KX21A is used for applications requiring high flexibility.

Its very low bending moment allows an easy routing during installation.

The insulation and jacket materials allow this cable to be used in severe thermal conditions.

CONSTRUCTION / DIMENSIONS

	Material	mm	Inches
Center conductor	Stranded SPCCS[1]	0.30	0.012
Dielectric	Solid PTFE[2]	0.84	0.033
Inner shield	SPC[3] braid	1.30	0.051
Outer shield	-	-	-
Jacket	Brown FEP[4]	1.78	0.07

ELECTRICAL CHARACTERISTICS

Characteristic impedance	50Ω ± 3Ω	
Operating frequency range	DC - 3 GHz	
Shielding effectiveness	40 dB	
Voltage withstanding	2 000 V rms	
Peak power	1 kW	
Capacitance	96 pF / m	29 pF / ft
Velocity of propagation	70 % (4.8 ns / m)	

MECHANICAL CHARACTERISTICS

Recommended minimum bending radius	7 mm	0.275 inch
Weight	8 g / m	0.0053 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
0.1	0.48	0.14	190
0.2	0.68	0.21	134
0.3	0.83	0.25	110
0.5	1.08	0.33	85
1.0	1.54	0.47	60
1.5	1.90	0.57	49
2.0	2.20	0.67	42
2.5	2.47	0.75	38
3.0	2.72	0.82	35
Attenuation calculation (dB/m)	(1.50 x √f GHz) + (0.04 x f GHz)		
Power calculation (W)	60 / √f GHz		

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