Product Data Sheet **SCF12-50J**

1/2" CELLFLEX® Superflexible Foam-Dielectric Coaxial Cable

Product Description

CELLFLEX® 1/2" superflexible cable

Application: OEM jumpers, Main feed transitions to equipment, GPS lines



1/2" CELLFLEX® Superflexible Foam Dielectric Coaxial Cable

Features/Benefits

- **Low Attenuation**
  The low attenuation of CELLFLEX® coaxial cable results in highly efficient signal transfer in your RF system.
- **Complete Shielding**
  The solid outer conductor of CELLFLEX® coaxial cable creates a continuous RFI/EMI shield that minimizes system interference.
- **Low VSWR**
  Special low VSWR versions of CELLFLEX® coaxial cables contribute to low system noise.
- **Outstanding Intermodulation Performance**
  CELLFLEX® coaxial cable's solid inner and outer conductors virtually eliminate intermods. Intermodulation performance is also confirmed with state-of-the-art equipment at the RFS factory.
- **High Power Rating**
  Due to their low attenuation, outstanding heat transfer properties and temperature stabilized dielectric materials, CELLFLEX® cable provides safe long term operating life at high transmit power levels.
- **Wide Range of Application**
  Typical areas of application are: feedlines for broadcast and terrestrial microwave antennas, wireless cellular, PCS and ESMR base stations, cabling of antenna arrays, and radio equipment interconnects.

Technical Features

Structure

Inner conductor:	Copper-Clad Aluminum Wire	[mm (in)]	3.6 (0.14)
Dielectric:	Foam Polyethylene	[mm (in)]	8.3 (0.33)
Outer conductor:	Corrugated Copper	[mm (in)]	12.3 (0.48)
Jacket:	Polyethylene, PE	[mm (in)]	13.7 (0.54)

Mechanical Properties

Weight, approximately	[kg/m (lb/ft)]	0.21 (0.14)
Minimum bending radius, single bending	[mm (in)]	
Minimum bending radius, repeated bending	[mm (in)]	32 (1.3)
Bending moment	[Nm (lb-ft)]	1.8 (1.33)
Max. tensile force	[N (lb)]	650 (146)
Recommended / maximum clamp spacing	[m (ft)]	0.30 / 0.30 (1.00 / 1.00)

Electrical Properties

Characteristic impedance	[Ω]	50 +/- 1
Relative propagation velocity	[%]	82
Capacitance	[pF/m (pF/ft)]	82.0 (25.0)
Inductance	[µH/m (µH/ft)]	0.207 (0.063)
Max. operating frequency	[GHz]	11.7
Jacket spark test RMS	[V]	5000
Peak power rating	[kW]	20.4
RF Peak voltage rating	[V]	1430
DC-resistance inner conductor	[Ω/km (Ω/1000ft)]	2.9 (0.88)
DC-resistance outer conductor	[Ω/km (Ω/1000ft)]	4.1 (1.25)

Recommended Temperature Range

Storage temperature	[°C (°F)]	-70 to +85 (-94 to +185)
Installation temperature	[°C (°F)]	-40 to +60 (-40 to +140)
Operation temperature	[°C (°F)]	-50 to +85 (-58 to +185)

Other Characteristics

Fire Performance:	Halogene Free		
VSWR Performance:	Standard	[dB (VSWR)]	Contact RFS for your VSWR performance specification for your required frequency band.
Other Options:	Phase stabilized and phase matched cables and assemblies are available upon request.		

Frequency	Attenuation		Power
[MHz]	[dB/100m]	[dB/100ft]	[kW]
0.5	0.229	0.0697	20.4
1.0	0.324	0.0986	20.4
1.5	0.397	0.121	20.4
2.0	0.458	0.140	18.8
10	1.03	0.314	8.37
20	1.46	0.446	5.91
30	1.80	0.548	4.79
50	2.33	0.710	3.70
88	3.11	0.949	2.77
100	3.33	1.01	2.59
108	3.46	1.05	2.49
150	4.10	1.25	2.10
174	4.43	1.35	1.95
200	4.76	1.45	1.81
300	5.89	1.79	1.46
400	6.85	2.09	1.26
450	7.29	2.22	1.18
500	7.71	2.35	1.12
512	7.81	2.38	1.10
600	8.50	2.59	1.01
700	9.23	2.81	0.934
750	9.58	2.92	0.900
800	9.92	3.02	0.869
824	10.1	3.07	0.854
894	10.5	3.21	0.821
900	10.6	3.22	0.814
925	10.7	3.27	0.806
960	11.0	3.34	0.784
1000	11.2	3.41	0.770
1250	12.7	3.86	0.679
1400	13.5	4.11	0.639
1500	14.0	4.26	0.616
1700	15.0	4.57	0.575
1800	15.5	4.72	0.556
2000	16.4	5.01	0.526
2100	16.9	5.15	0.510
2200	17.3	5.28	0.498
2400	18.2	5.55	0.474
2500	18.6	5.68	0.464
2600	19.0	5.81	0.454
2700	19.5	5.93	0.442
3000	20.7	6.30	0.417
3500	22.6	6.88	0.382
4000	24.4	7.44	0.353
5000	27.8	8.48	0.310
6000	31.0	9.44	0.278
7000	34.0	10.4	0.254
8000	36.8	11.2	0.234
9000	39.6	12.1	0.218
10000	42.3	12.9	0.204
11700	46.6	14.2	0.185

Attenuation at 20°C (68°F) cable temperature
Mean power rating at 40°C (104°F) ambient temperature

All information contained in the present datasheet is subject to confirmation at time of ordering