PRODUCT DATASHEET

LCF12-50J

1/2" CELLFLEX® Low-Loss Foam-Dielectric Coaxial Cable

CELLFLEX® 1/2" low loss flexible 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.

1/2" CELLFLEX® Low-Loss Foam Dielectric Coaxial Cable

Technical features

APPLICATIONS		
Applications		OEM jumpers, Main feed transitions to equipment, GPS lines, intended for outdoor usage
STRUCTURE		
Size		1/2
Jacket Option		Black
Inner Conductor	mm (in)	4.8 (0.19)
Inner Conductor Material		Copper-Clad Aluminum Wire
Dielectric	mm (in)	11.3 (0.44)
Dielectric Material		Foam Polyethylene
Outer Conductor	mm (in)	13.8 (0.54)
Outer Conductor Material		Corrugated Copper
Jacket	mm (in)	15.8 (0.62)
Jacket Material		Polyethylene, PE
Cable Type		Foam-Dielectric, Corrugated
TESTING AND ENVIRONMENTAL		
Fire Performance		Halogen free, outdoor-rated
Installation Temperature	°C(°F)	-40 to 60 (-40 to 140)
Storage Temperature	°C(°F)	-70 to 85 (-94 to 185)
Operation Temperature	°C(°F)	-50 to 85 (-58 to 185)

ELECTRICAL SPECIFICATIONS

Impedance, Ohm	Ω	50 +/- 1
Maximum Frequency	GHz	8.8
Velocity, percent	%	87
Capacitance	pF/m (pF/ft)	76 (23.2)
Inductance, uH/m (uH/ft)	µH/m (µH/ft)	0.19 (0.058)
Peak Power Rating	kW	38
RF Peak Voltage	Volts	1950
Jacket Spark	Volt RMS	8000
Inner Conductor dc Resistance, Ω/km (Ω/kft)	Ω/1000 m (Ω/1000 ft)	1.62 (0.5)
Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft)	Ω/1000 m (Ω/1000 ft)	3.55 (1.08)
Return Loss (VSWR) Performance		Standard or Premium
Min. Return Loss (Max. VSWR)	dB (VSWR)	Standard 20 (1.222), Premium 24 (1.135) / 23 (1.152)
Phase Stabilized		Phase stabilized and phase matched cables and accessories are available upon request.
Temperature & Power		Standard

MECHANICAL SPECIFICATIONS

Cable Weight, Nominal	kg/m (lb/ft)	0.18 (0.125)
Minimum Bending Radius, Single Bend	mm (in)	70 (3)
Minimum Bending Radius, Repeated Bends	mm (in)	125 (5)
Bending Moment, Nm (lb-ft)	Nm (lb*ft)	6.5 (4.79)
Tensile Strength	N (lb)	1050 (236)
Recommended / Maximum Clamp Spacing	m (ft)	0.6 / 1 (2 / 3.25)

ATTENUATION @ 20°C (68°F) AND POWER RATING @ 40°C (104°F)

Frequency, MHz	dB per 100m	dB per 100ft	Power, kW
1	0.21	0.07	35.30
1.5	0.26	0.08	28.80
2	0.30	0.09	25
10	0.68	0.21	11.10
20	0.96	0.29	7.83
30	1.18	0.36	6.37
50	1.53	0.47	4.91
88	2.04	0.62	3.68
100	2.18	0.66	3.45
108	2.27	0.69	3.31
150	2.69	0.82	2.80
174	2.90	0.88	2.59
200	3.12	0.95	2.41
300	3.85	1.17	1.95
400	4.48	1.37	1.68
450	4.77	1.45	1.57
500	5.04	1.54	1.49
512	5.11	1.56	1.47
600	5.56	1.69	1.35
700	6.03	1.84	1.24
750	6.26	1.91	1.20
800	6.48	1.98	1.16
824	6.58	2.01	1.14
894	6.88	2.10	1.09
900	6.91	2.10	1.09
925	7.01	2.14	1.07
960	7.15	2.18	1.05
1000	7.31	2.23	1.03
1250	8.25	2.52	0.91
1400	8.78	2.68	0.86
1500	9.12	2.78	0.82
1700	9.77	2.98	0.77
1800	10.10	3.07	0.75
2000	10.70	3.26	0.70
2100	11	3.35	0.68
2200	11.30	3.44	0.67
2400	11.80	3.61	0.63
2500	12.10	3.69	0.62
2600	12.40	3.78	0.61
2700	12.70	3.86	0.59

3000	13.40	4.09	0.56
3500	14.70	4.47	0.51
4000	15.80	4.83	0.47
5000	18	5.50	0.42
6000	20.70	6.30	0.37
7000	22	6.70	0.34
8000	23.80	7.26	0.32
8800	25.20	7.69	0.30

External Document Links

Notes