PRODUCT DATASHEET

SCF14-50JPLB

1/4" CELLFLEX® Superflexible Plenum-Rated Foam-Dielectric Coaxial Cable for In-Building Applications

CELLFLEX® 1/4" superflexible cable support CBRS, C-Band and LAA up to 6GHz; Plenum-Rated, CMP

FEATURES / BENEFITS

- **Low Attenuation**
  The low attenuation of CELLFLEX® coaxial cable results in highly efficient signal transferin 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 Technologies 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.
- **Meets or Exceeds: IEC 60754-1, -2; IEC 60332-1-1, -2;IEC 61034-1, -2; IEC 60332-3-24 (formerly IEC 60332-3-C)**
  ETL Certified and Listed to UL444, NEC 820-53 (a) CMP, NFPA-262, Canadian CSA C.22.2/FT6



1/4" CELLFLEX® Superflexible Plenum-Rated Foam Dielectric Coaxial Cable

Technical features

APPLICATIONS

Applications		Indoor	Wireless Communication	HF Defense	Microwave	Mobile Radio	Cable Solutions

STRUCTURE

Size		1/4
Jacket Option		Black
Inner Conductor Diameter	mm (in)	1.9 (0.075)
Inner Conductor Material		Copper-Clad Aluminum Wire
Dielectric Diameter	mm (in)	4.3 (0.17)
Dielectric Material		Foam Polyethylene
Outer Conductor Diameter	mm (in)	6.5 (0.26)
Outer Conductor Material		Corrugated Copper
Jacket Diameter	mm (in)	7.8 (0.31)
Jacket Material		PVC, Plenum Rated / Color Black Water-resistant
Cable Type		Plenum-Rated, Foam-Dielectric, Superflexible

All values nominal unless tolerances provided; information contained in the present datasheet is subject to confirmation at time of ordering

TESTING AND ENVIRONMENTAL

Fire Performance		Flame Retardant, Plenum Rated
Flame Retardant Jacket Specifications		ETL Listed to UL444, NEC 820-53 (a) CMP, NFPA-262, Canadian CSA C.22.2/FT6, UL 910
Installation Temperature	°C(°F)	-25 to 60 (-13 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	Ω	50 +/- 1
Maximum Frequency	GHz	20.4
Velocity	%	81
Capacitance	pF/m (pF/ft)	82 (25)
Inductance	uH/m (uH/ft)	0.207 (0.063)
Peak Power Rating	kW	5.5
RF Peak Voltage	Volts	740
Jacket Spark	Volt RMS	5000
Inner Conductor dc Resistance	Ω/1000 m (Ω/1000 ft)	10.5 (3.19)
Outer Conductor dc Resistance	Ω/1000 m (Ω/1000 ft)	9 (2.74)
Return Loss (VSWR) Performance		20 (1.22) @ 450-617 MHz 24 (1.13) @ 617-960 MHz 24 (1.13) @ 1695-2200 MHz 20 (1.22) @ 2300-2700 MHz 18 (1.28) @ 3500-4200 MHz 16 (1.37) @ 5150-6000 MHz
Phase Stabilized		Phase stabilized and phase matched cables and assemblies are available upon request.
Temperature & Power		Standard

MECHANICAL SPECIFICATIONS

Cable Weight, Nominal	kg/m (lb/ft)	0.07 (0.05)
Minimum Bending Radius, Repeated Bends	mm (in)	25 (1)
Bending Moment	Nm (lb-ft)	0.7 (0.5)
Tensile Strength	N (lb)	600 (135)
Recommended / Maximum Clamp Spacing	m (ft)	0.2 / 0.2 (0.67 / 0.67)

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

Frequency, MHz	dB per 100m	dB per 100ft	Power, kW
0.5	0.40	0.12	5.50
1	0.57	0.17	5.50
1.5	0.70	0.21	5.50
2	0.80	0.25	5.50
10	1.81	0.55	3.66
20	2.56	0.78	2.58
30	3.15	0.96	2.10
50	4.08	1.24	1.62
88	5.45	1.66	1.21
100	5.82	1.77	1.14
108	6.06	1.85	1.09
150	7.17	2.19	0.92
174	7.75	2.36	0.85
200	8.33	2.54	0.79
300	10.30	3.13	0.64
400	12	3.65	0.55
450	12.70	3.88	0.52
500	13.50	4.10	0.49
512	13.60	4.15	0.49
600	14.80	4.52	0.45
700	16.10	4.91	0.41
800	17.30	5.27	0.38
824	17.60	5.35	0.38
894	18.40	5.59	0.36
900	18.40	5.61	0.36
925	18.70	5.70	0.35
960	19.10	5.81	0.35
1000	19.50	5.94	0.34
1250	22	6.71	0.30
1500	24.30	7.41	0.27
1700	26.10	7.94	0.25
1800	26.90	8.20	0.25
2000	28.50	8.69	0.23
2100	29.30	8.93	0.23
2200	30.10	9.20	0.22
2400	31.60	9.60	0.21

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3000	35.80	10.90	0.19
3500	39.10	11.90	0.17
4000	42.20	12.90	0.16
5000	48	14.60	0.14
6000	53.40	16.30	0.12
7000	58.60	17.80	0.11
8000	63.40	19.30	0.10
9000	68.10	20.80	0.10
10000	72.60	22.10	0.09
12000	81	24.80	0.08
14000	89	27.20	0.07
16000	97	29.60	0.07
18000	105	31.90	0.06
20000	112	34.20	0.06
20400	113	34.60	0.06

External Document Links

Notes

Phase stabilized versions available upon request.

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