PRODUCT DATASHEET

SCF12-50JFN

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

CELLFLEX® 1/2" superflexible cable support CBRS, C-Band and LAA up to 6GHz; flame retardant/ halogen free jacket

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 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)**

1/2" CELLFLEX® Superflexible Foam Dielectric Coaxial Cable

Technical features

APPLICATIONS

Applications		OEM jumpers, Main feed transitions to equipment, GPS lines, Riser-rated In-Building, CPR classified cable

STRUCTURE

Size		1/2
Jacket Option		Black
Inner Conductor Diameter	mm (in)	3.56 (0.14)
Inner Conductor Material		Copper-Clad Aluminum Wire
Dielectric Diameter	mm (in)	9.3 (0.366)
Dielectric Material		Foam Polyethylene
Outer Conductor Diameter	mm (in)	12.3 (0.48)
Outer Conductor Material		Corrugated Copper
Jacket Diameter	mm (in)	13.75 (0.54)
Jacket Material		Polyethylene, PE, Metalhydroxite Filling
Cable Type		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, LS0H
Flame Retardant Jacket Specifications		Meets/Exceeds: IEC 60754-1, -2; IEC 60332-1-1, -2; IEC 61034-1, -2; IEC 60332-3-24 (formerly IEC 60332-3-C); UL 1581; UL 1666; NFPA130; NEC type CATVR; EN45545-2(GER production); CPR: https://products.rfsworld.com/userfiles/cpr/rfs-products-cpr-compliance.pdf
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	10.6
Velocity	%	77
Capacitance	pF/m (pF/ft)	86 (26)
Inductance	uH/m (uH/ft)	0.215 (0.066)
Peak Power Rating	kW	24
RF Peak Voltage	Volts	1550
Jacket Spark	Volt RMS	5000
Inner Conductor dc Resistance	Ω/1000 m (Ω/1000 ft)	2.97 (0.9)
Outer Conductor dc Resistance	Ω/1000 m (Ω/1000 ft)	6.5 (1.88)
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)	0.15 (0.1)
Minimum Bending Radius, Repeated Bends	mm (in)	32 (1.3)
Bending Moment	Nm (lb-ft)	2.5 (1.84)
Tensile Strength	N (lb)	650 (146)
Recommended / Maximum Clamp Spacing	m (ft)	0.3 / 0.5 (1 / 1.64)

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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	0.22	0.07	24
1	0.31	0.10	22.60
1.5	0.38	0.12	18.40
2	0.44	0.14	16
10	1.00	0.30	7.10
20	1.41	0.43	5.01
30	1.73	0.53	4.08
50	2.25	0.69	3.14
88	3.01	0.92	2.35
100	3.21	0.98	2.20
108	3.34	1.02	2.11
150	3.96	1.21	1.78
174	4.27	1.30	1.65
200	4.60	1.40	1.53
300	5.68	1.73	1.24
400	6.61	2.01	1.07
450	7.04	2.14	1
500	7.44	2.27	0.95
512	7.53	2.30	0.94
600	8.20	2.50	0.86
700	8.91	2.71	0.79
750	9.24	2.82	0.76
800	9.57	2.92	0.74
824	9.72	2.96	0.73
894	10.20	3.10	0.69
900	10.20	3.11	0.69
925	10.40	3.16	0.68
960	10.60	3.22	0.67
1000	10.80	3.29	0.65
1250	12.20	3.72	0.58
1400	13	3.96	0.54
1500	13.50	4.11	0.52
1700	14.50	4.41	0.49
1800	14.90	4.55	0.47
2000	15.80	4.82	0.45
2100	16.30	4.96	0.43
2200	16.70	5.09	0.42
2400	17.50	5.35	0.40
2500	17.90	5.47	0.39
2600	18.40	5.59	0.38

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2700	18.80	5.72	0.38
3000	19.90	6.07	0.36
3500	21.80	6.63	0.32
4000	23.50	7.16	0.30
5000	26.80	8.16	0.26
6000	29.80	9.09	0.24
7000	32.70	9.97	0.22
8000	35.50	10.80	0.20
9000	38.10	11.60	0.19
10000	40.60	12.40	0.17

External Document Links

Notes

Phase stabilized versions available upon request.
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