PRODUCT DATASHEET

SCF12-50J

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

CELLFLEX® 1/2" superflexible cable support CBRS, C-Band and LAA up to 6GHz



FEATURES / BENEFITS

- **Ultra Low Attenuation**
  The reduced attenuation of CELLFLEX® coaxial cable results in extremly efficient signal transfer in your RF system, especially at high frequencies.
- **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

External Document Links

CELLFLEX Drum Selection Guide

Notes

Technical features

INFORMATION

Applications		OEM jumpers, Main feed transitions to equipment, GPS lines, intended for outdoor usage

STRUCTURE

Size		1/2
Inner Conductor Diameter	mm (in)	3.6 (0.142)
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 (0.484)
Outer Conductor Material		Corrugated Copper
Jacket Diameter	mm (in)	13.7 (0.539)
Jacket Material		Black Polyethylene

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

TESTING AND ENVIRONMENTAL

Phase Stabilized		Phase stabilized and phase matched cables and accessories are available upon request.
Compliance		DIN EN ISO 9001:2015 ISO 14001:2015 RoHS 2011/65/EU - China RoHS SJ/T 11364-2006 REACH (EC 1907/2006) UL1581 - UV Resistance Jacket IEC 60754-1/-2
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	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 (1.98)
Passive Intermodulation PIM	min. dBc	-160
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

MECHANICAL SPECIFICATIONS

Cable Weight, Nominal	kg/m (lb/ft)	0.135 (0.09)
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
1	0.31	0.1	22.6
100	3.21	0.98	2.20
200	4.60	1.40	1.54
450	7.04	2.14	1.00
700	8.91	2.71	0.79
800	9.57	2.92	0.74
900	10.2	3.11	0.69
1800	14.93	4.55	0.47
2000	15.83	4.83	0.45
2200	16.70	5.09	0.42
2400	17.54	5.35	0.40
2700	18.75	5.72	0.38
3000	19.91	6.07	0.35
3500	21.75	6.63	0.32
4000	23.50	7.16	0.30
5000	26.78	8.16	0.26
10600	42.14	12.85	0.17

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