

RG178D/RD178 LSFH, 50 Ohm, 6 GHz, 105°C, ø2.45 mm

ENVIROFLEX_178_D

Properties

- Halogen free alternative to RG cables
- Low smoke
- Ozone, UV and weathering resistance
- UL AWM style 3651



Construction			
Component	Material	Detail	Diameter
Centre conductor	Steel, Copper + Silver plated	Strand-07	0.305 mm
Dielectric	SPEX (Crosslink Foam PE)		0.82 mm
Outer conductor	Copper, Silver plated	Braid, 96%	1.27 mm
Outer conductor	Copper, Silver plated	Braid, 92%	1.72 mm
Jacket	RADOX	RAL 5012 - bl	2.45 mm +/- 0.07 mm

Electrical data	
Impedance	50 Ω +/- 2Ω
Operating frequency	≤ 6 GHz
Capacitance	94.5 pF/m
Velocity of signal propagation	70.1 %
Signal delay	4.72 ns/m
Screening effectiveness	60 dB at frequency 0.03 GHz ... 6GHz
Insulation resistance	10000000 MΩ*m
Inner conductor resistance	747 Ω/km
Outer conductor resistance	21.9 Ω/km
Operating Voltage (at sea level)	≤ 1 kVrms
Voltage Rating UL	300 V
Phase vs temperature	8400 ppm within the temperature range -40 ... 100 °C
Phase vs bending	0.7 °/GHz
Test voltage (50 Hz/1 min)	≤ 2 kVrms

Mechanical data	
Weight	approx. 11.2 g/m
Static bending radius	≥ 5 mm
Repeated bending radius	20 mm

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Mechanical data	
Dynamic bending radius	< 20 mm

Environmental data	
Operation temperature	-40 °C ... 105 °C
Installation temperature	-20 °C ... 60 °C
Flame propagation standard	UL 1581 § 1100
Fire characteristics	free of halogenes, acc. standard IEC 60754
Ageing test	MIL-C-17 § 4.8.16
Cold bend test	MIL-C-17 § 4.8.19
UV resistance	IEC 60068-2-5, proc. C
Solar radiation	IEC 60068-2-5, proc. C

Material compliance			
Item number	Directive / Regulation	Rating	Exemptions / Details
23030426	RoHS 2011/65/EU and (EU) 2015/863	Compliant without exemption	

Suitable connectors	
Cable group	X1

Ordering information		
Item number	Item description	Available as assembly only
23030426	ENVIROFLEX_178_D	No

Power Matrix			
Calculation: typical Attenuation [formula: (a*f^0.5 + b*f)] and maximum Power CW [formula: (p/f^0.5)]			
a coefficient typical =	1.4187	b coefficient typical =	0.207
fmax =	6	P at 1 GHz =	60
Frequency	Nom. attenuation	Nom. attenuation	CW power
GHz	(dB/m)	(dB/ft)	(W)
	sea level 25°C ambient temperature	sea level 25°C ambient temperature	sea level 40°C ambient temperature
0.10	0.469	0.143	190
0.20	0.676	0.206	134
0.30	0.839	0.256	110
0.40	0.980	0.299	95
0.60	1.223	0.373	77
0.80	1.435	0.437	67
1.00	1.626	0.496	60
1.20	1.803	0.549	55
1.40	1.968	0.600	51
1.60	2.126	0.648	47
1.80	2.276	0.694	45
2.00	2.420	0.738	42
2.50	2.761	0.841	38
3.00	3.078	0.938	35
3.50	3.379	1.030	32
4.00	3.665	1.117	30
5.00	4.207	1.282	27

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Power Matrix			
6.00	4.717	1.438	24

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