

RG316, 50 Ohm, 3 GHz, 200°C, Ø2.5 mm, FEP jacket

RG_316_/U

Properties

- According to RG cable standard
- Excellent RF performance for precision applications
- Suitable for use in applications up to 3 GHz
- Extended temperature range



Construction			
Component	Material	Detail	Diameter
Centre conductor	Steel, Copper + Silver plated	Strand-07	0.54 mm
Dielectric	PTFE (Polytetrafluoroethylene)		1.55 mm
Outer conductor	Copper, Silver plated	Braid, 95%	2 mm
Jacket	FEP (Fluorinated ethylene propylene)	RAL 8015 - br	2.5 mm +/- 0.1 mm

Electrical data	
Impedance	50 Ω +/-2Ω
Operating frequency	≤ 3 GHz
Capacitance	97 pF/m
Velocity of signal propagation	69 %
Signal delay	4.86 ns/m
Screening effectiveness	38 dB at frequency 0.0001 GHz ... 1GHz
Insulation resistance	100000000 MΩ*m
Inner conductor resistance	235 Ω/km
Outer conductor resistance	31 Ω/km
Operating Voltage (at sea level)	≤ 1.5 kVrms
Test voltage (50 Hz/1 min)	≤ 3 kVrms

Mechanical data	
Weight	approx. 16 g/m
Static bending radius	≥ 15 mm
Repeated bending radius	25 mm
Dynamic bending radius	< 37.5 mm

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Environmental data	
Operation temperature	-65 °C ... 200 °C
Installation temperature	-20 °C ... 60 °C
Flame propagation standard	IEC 60332-3
Fire characteristics	contains halogene

Material compliance			
Item number	Directive / Regulation	Rating	Exemptions / Details
22510079	RoHS 2011/65/EU and (EU) 2015/863	Compliant without exemption	
	REACH 1907/2006 Article 33 SVHC	Free of SVHC >0,1%	

Additional Information
MIL reference: M17/113-RG316

Suitable connectors
Cable group U2

Ordering information		
Item number	Item description	Available as assembly only
22510079	RG_316_/U	No

Power Matrix			
Calculation: typical Attenuation [formula: $(a \cdot f^{0.5} + b \cdot f)$] and maximum Power CW [formula: $(p/f^{0.5})$]			
a coefficient typical =	0.7727	b coefficient typical =	0.0972
fmax =	3	P at 1 GHz =	135
Frequency GHz	Nom. attenuation (dB/m)	Nom. attenuation (dB/ft)	CW power (W)
	sea level 25°C ambient temperature	sea level 25°C ambient temperature	sea level 40°C ambient temperature
0.20	0.365	0.111	302
0.40	0.528	0.161	213
0.60	0.657	0.200	174
0.80	0.769	0.234	151
1.00	0.870	0.265	135
1.20	0.963	0.294	123
1.40	1.050	0.320	114
1.60	1.133	0.345	107
1.80	1.212	0.369	101
2.00	1.287	0.392	95
3.00	1.630	0.497	78

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DOCUMENT PIM-P959 / Date of publication: 05.09.2025 / uncontrolled copy