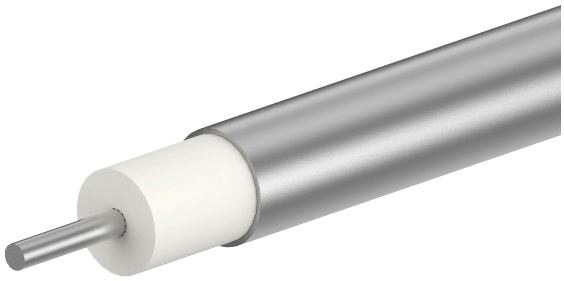
DATA SHEET

Semi-rigid Cryogenic Cable, 50 Ohm, up to 40 GHz, Ø0.86 mm, Stainless Steel

SR_34_SS_SP_02

Properties

- Low loss at cryogenic temperatures for stable RF performance down to 4K.
- Ultra-low thermal conductivity (67 × 10^-6 W/cm·K) minimizes heat transfer.
- High-frequency capability up to 40 GHz in a slim Ø0.86 mm cable design.



Construction			
Component	**Material**	**Detail**	**Diameter**
Centre conductor	Silver plated 304 SUS	Wire	0.2 mm +/- 0.01 mm
Dielectric	PTFE (Polytetrafluoroethylene)	95%	0.66 mm +/- 0.026 mm
Outer conductor	Stainless steel	Tube, 100%	0.86 mm +/- 0.05 mm

Electrical data	
Impedance	50 Ω
Operating frequency	≤ 40 GHz
Capacitance	76.7 pF
Velocity of signal propagation	77 %
Signal delay	4.543 ns/m @ 10 GHz
Screening effectiveness	> 100 dB at frequency 5 GHz ... 20GHz
Inner conductor resistance	13.06 Ω/m @ 300 K
Outer conductor resistance	3.14 Ω/m @ 300 K
Insertion Loss at 300 K (26.85 °C)	4.02 dB/m / 1 GHz
	12.72 dB/m / 10 GHz
	17.99 dB/m / 20 GHz
	25.44 dB/m / 40 GHz
	31.16 dB/m / 60 GHz
Insertion Loss at 10 GHz	12.59 dB/m @ 300.00 °K (26.85 °C)
	12.1 dB/m @ 110.00 °K (-163.15 °C)
	11.5 dB/m @ 77.00 °K (-196.15 °C)
	10.3 dB/m @ 20.00 °K (-253.15 °C)
	9.9 dB/m @ 4.00 °K (-269.15 °C)

Mechanical data	
Weight	approx. 4 g/m
Static bending radius	≥ 3.2 mm

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Environmental data	
Thermal conductivity at 4K	67 * 10-6 W·cm/K
Heat quantity at 4k - 20K	20 µW/K
Heat quantity at 4k - 100K	85 µW/K

Material compliance			
Item number	Directive / Regulation	Rating	Exemptions / Details
85268608	RoHS 2011/65/EU and (EU) 2015/863	Compliant without exemption	
	REACH 1907/2006 Article 33 SVHC	Free of SVHC >0,1%	

Ordering information	
Item number	Item description
85268608	SR_34_SS_SP_02_2M

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DOCUMENT PIM-P61797 / Date of publication: 10.11.2026 / uncontrolled copy