

YSRPTC-185CR

110 GHz, ϕ 3.90 mm Ruggedized Precision Test Cable Assembly

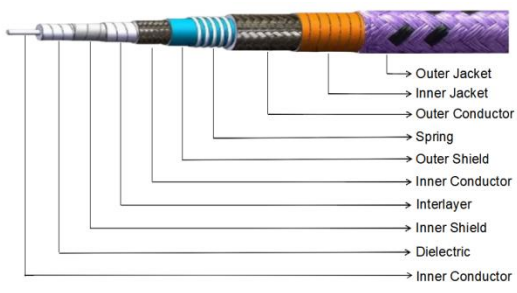
Key Features

- Ruggedized Construction
- Stable Phase Performance
- Low Loss & Low VSWR
- Enhanced Mechanical Protection
- High Reliability

Applications

- Electronic Warfare Systems
- Military Test Platforms
- Outdoor RF Systems
- Harsh Environment Applications
- Phase-Critical Microwave Systems

Cable Construction

	Cable Type	Dia.(mm)	Material
	Inner Conductor	ϕ 0.30	Silver plated Copper
	Dielectric	ϕ 0.88	Low Density PTFE
	Inner Shield	ϕ 1.00	Silver Plated Copper Strip
	Interlayer	ϕ 1.25	Low Density PTFE
	Outer Shield	ϕ 1.50	Silver Plated Copper Braid
	Jacket	ϕ 1.85	FEP
	Outer Conductor	ϕ 2.70	Silver plated Copper
	Outer Jacket	Φ 3.90	PTFE

Electrical Specifications		Mechanical Specifications	
Operating Freq.	110 GHz	Static Bending Radius	19.5 mm
Cut-off Freq.	128 GHz	Dynamic Bending Radius	39 mm
Impedance	50 Ω	Weight	33 g/m
Velocity of Propagation	75%	Phase Stability vs. Flexure	$\pm 10^\circ$
Shielding Effectiveness	>90 dB	Amplitude Stability	± 0.10 dB
Dielectric Withstanding Voltage	600 VDC	Flexure Cycling	$\geq 50,000$ Cycles
VSWR	≤ 1.5 @ 110 GHz	Environmental Specifications	
		Operating Temperature	-55 to +125°C

Attenuation (dB/100 M, Typical at +25°C) & Power Handling (W, Typical at +40°C)									
Freq.(GHz)	1	6	8	18	26.5	40	67	75	110
Attenuation	113.7	282.9	328.0	499.3	611.5	760.4	1002.7	1065.9	1314.3
Avg. Power	39	16	14	9	7	6	4	4	3

Typical Cable Attenuation Calculation Formula: $K1 \cdot \sqrt{F(\text{MHz})} + K2 \cdot F(\text{MHz})$
 $K1=3.557846, K2=0.001221$

Connectors Options						
Connectors	Freq.(Max)	VSWR (Max)	Connectors	Freq.(Max)	VSWR (Max)	
1.0 mm(1)	110 GHz	1.50:1	3.5 mm (3)	27 GHz	1.30:1	
1.85 mm(v)	67 GHz	1.30:1	SMA (S)	27 GHz	1.25:1	
2.4 mm (2)	50 GHz	1.30:1	SSMA (M)	40 GHz	1.30:1	
2.92 mm (K)	40 GHz	1.30:1				

Cable Assemblies Naming Rule:

PN: Cable-Length(M)-Connector 1-Connector 2

Eg.: YSRPTC-185CR-1M-SM-SF means YSRPTC-185CR cable, L=1M, SMA(M)-SMA(F).
Add "R" for Right-Angle Connector, Add "H" for Bulkhead Connector (e.g., SMR, SFH).