

PS26A SERIES

High Performance Phase Stable Armoured RF Test Assembly

DC to 26.5 GHz



Product Description

The PS26A Series is a premium armoured phase-stable RF test assembly engineered for demanding test & measurement applications where exceptional mechanical protection and long-term reliability are essential. Featuring excellent amplitude and phase stability under flexure, vibration and harsh operating conditions, RadianWorks PS26A delivers dependable, repeatable performance in the most demanding environments.

Constructed with a solid silver-plated copper centre conductor, ultra-low-density PTFE dielectric, multiple shielding layers and a stainless-steel armoured construction, the PS26A combines outstanding electrical performance with enhanced mechanical durability featuring superior resistance to abrasion, crushing and environmental exposure.

Key Features

- Phase stable over flexure
 - DC to 26.5 GHz frequency range
 - Precise, repeatable measurment
- Crush and abrasion resistant
 - Excellent VSWR performance
 - Dust and moisture proof

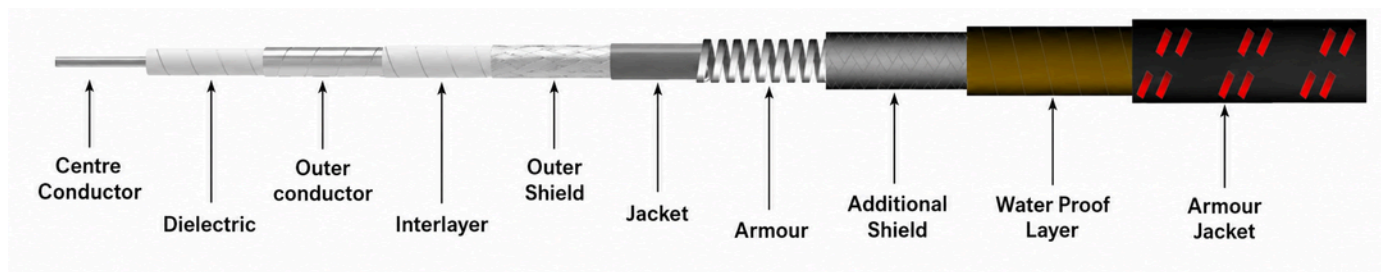
Typical Applications

- Test lab enviroments
 - Product development and R&D Centres
 - Wafer probing
- Production testing
 - Automated test equipment
 - Field test applications

Frequency	Impedance	VSWR (Connector dependent)	Attenuation
DC - 26.5 GHz	50 Ω	1.25 - 1.3 Max	1.25 dB/m @ 26.5 GHz

PS26A is available as Assemblies only

Construction & Specifications



Construction Materials

Component	Material	Size (mm)
Centre Conductor	Solid silver-plated copper	1.45
Dielectric	Low density PTFE	4.00
Outer Conductor	Silver-plated copper foil	4.20
Interlayer	PTFE tape	4.45
Outer Shield	Silver-plated copper braid	4.90
Jacket	FEP	5.40
Armour	Stainless Steel	6.40
Additional Shield	Silver-plated copper braid	7.00
Water Proof Layer	PTFE Binder	7.05
Armour Jacket	PTFE Braid	7.80

Electrical Specifications

Parameter	Value	Conditions
Frequency Range	DC to 26.5 GHz	
Impedance	50 Ω	
Attenuation	1.25 dB/m	@ 26.5 GHz, 25 °C
VSWR	1.3 max	With SMA - See available connectors
Insertion Loss	1.7dB	With SMA @ 1 Meter assembly
Phase Stability (Flexure)	$\pm 5^\circ$	360° at 78 mm radius
Amplitude stability with vibration	+/-0.1dB	
Capacitance	80 pF/m	Calculated
Velocity of Propagation	82%	
Power Handling	0.88 kW	@ 1 GHz, sea level, 40 °C

Mechanical Specifications

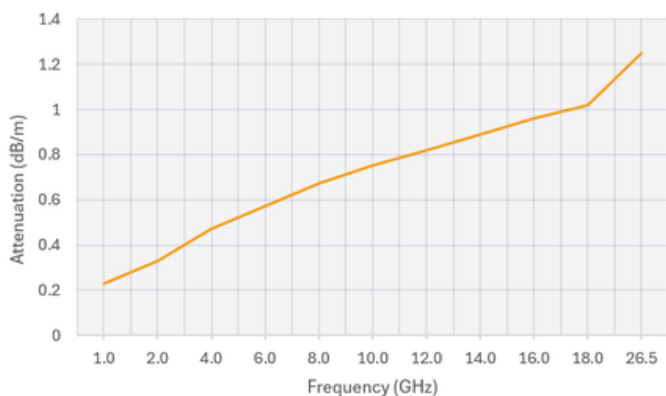
Parameter	Value
Cable Outer Diameter	7.8 mm (0.307 in)
Minimum Bend Radius (static)	39mm (1.535 in)
Minimum Bend Radius (repeated)	78 mm (3.071 in)
Flex life minimum (cycles)	20,000
Operating Temperature	-55 °C to +105 °C
Storage Temperature	-65 °C to +105 °C

Performance Data

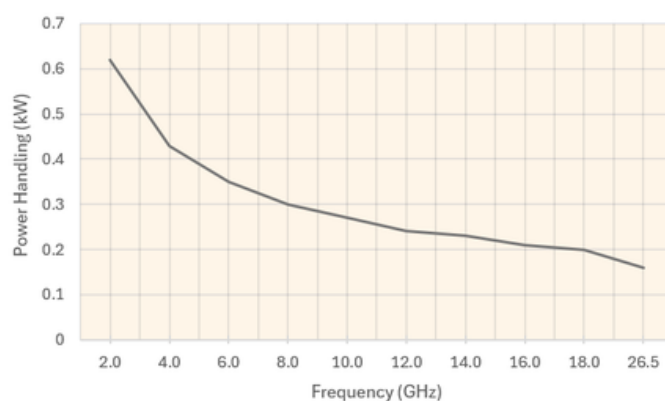
Attenuation vs Frequency

Freq (GHz)	1	2	4	6	8	10	12	14	16	18	26.5
dB/m	0.23	0.33	0.47	0.57	0.66	0.75	0.82	0.89	0.96	1.02	1.25

Attenuation vs Frequency



Power Handling vs Frequency



Performance Equations

$$\text{Attenuation (dB/m)} = K1 * \sqrt{f} + K2 * f$$

Where: K1 = 0.715686 (conductor loss), K2 = 0.000328 (dielectric loss), f = frequency in MHz

$$\text{Power Handling (W) @ 40 °C} = P_{\text{max}} / (\text{Attenuation Factor} * \sqrt{f})$$

Phase Stability

Phase change vs flexure: $\pm 5^\circ$ max over 360° bend at 26.5 GHz.

Phase change vs flexure: $\pm 4^\circ$ max over 360° bend at 18 GHz.

Phase-matched sets available upon request.

Available Connectors

Connector	Orientation	Gender	Max Freq (GHz)	VSWR Max
SMA	Straight	Male only	26.5	1.3
3.5mm	9Straight	Male only	26.5	1.3
N Type	Straight	Male only	18	1.25

Notes & Test Conditions

1. All measurements performed at 25 °C unless otherwise stated.
2. Attenuation values are typical and measured on 1m assembly with SMA connectors.
3. Mechanical phase stability measured wrapped 360° on 78 mm radius mandrel
4. Power handling is CW (continuous wave) at sea level with no derating.
5. Custom connector configurations available on request.

Ordering Information

Ordering Guide

Use the part number structure below to specify your cable assembly configuration.

Part Number Builder

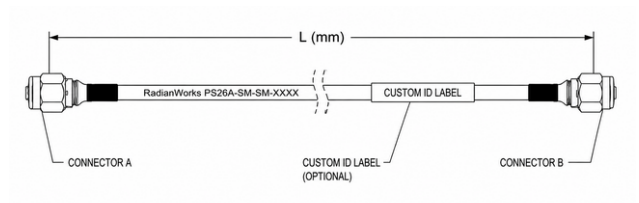
PS26A - CON A - CON B - LLLL

Example: PS26A-SM-SM-0500 = 500mm 26.5GHz assembly with straight SMA male connectors at each end

Code	Position	Description
PS26A	Product	PS26A Series Armoured Cable
SM	Connector	SMA Male
35M	Connector	3.5mm Male
NM	Connector	N Male
0500	Length	Length in mm (e.g. 0500 = 500mm)

Custom Requirements

Assemblies can be manufactured directly from customer drawings or developed from a performance specification, with our engineering team creating detailed assembly documentation where required. Options include custom lengths, connector configurations, ruggedised constructions, and customer-specific identification labels. For phase-critical applications, precision phase-matched cable sets can also be supplied to defined electrical matching tolerances.



Standard Lengths

500mm | 1000mm | 1500mm | 2000mm

Custom lengths available. Contact sales for non-standard requirements.

Cable Options

- Matched phase pairs (-MP suffix)
- Custom labelling and marking
- Ruggedised strain relief boots

Custom Solutions

RadianWorks specialises in custom cable assembly solutions for demanding applications. Our engineering team can design bespoke assemblies to meet your exact specifications including non-standard lengths, connector combinations, and environmental requirements.

PS26A is available as Assemblies only

Request a Quote

sales@radianworks.com | www.radianworks.com/quote

Precision. Reliability. Performance.