

## HIGH FREQUENCY

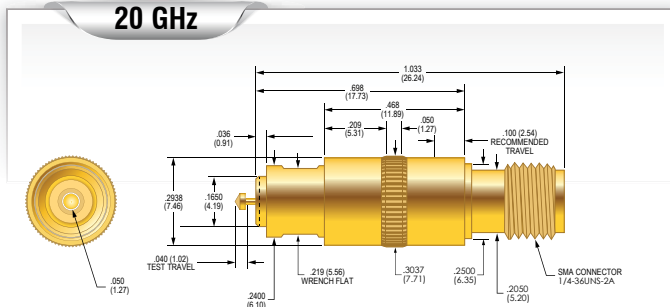
The K-50 series is developed in cooperation with a leading manufacturer of advanced communications systems and is supported by a leading instrument equipment manufacturer.

The precisely-controlled physical and electrical characteristics of the K-50 make it an ideal port-extending accessory for Network Analyzers and Time Domain Reflectometers. The RF center conductor system is captivated for maximum reliability. The K-50 incorporates spring probes in an open architecture format to accommodate a wide range of physical circuit topologies and to alleviate the need for special geometry contact pads on the circuit under test.

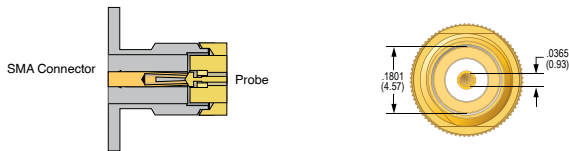


## CSP-30ES-013

## CSP-30JS-012



### Connection to SMA Connector



### Mechanical

Recommended Travel:	.100 (2.54)
Recommended Travel inner conductor:	.040 (1.02)
Recommended Travel outer conductor:	.100 (2.54)
Full Travel:	.200 (5.08)
Operating Temperature:	-55°C to 85°C
Connection (instrument side):	SMA Connector, 1/4 -36UNS-2A

### Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Standard	CSP-30ES-013	3.06 (86)	4.0 (113)

### Electrical (Static Conditions)

Nominal Impedance:	50 Ohms
Average Probe Resistance:	<50 mOhms
Bandwidth @ -1 dB:	>20 GHz

### Materials and Finishes

Housing:	Brass, Gold plated
Dielectric:	Rexolite
Spring:	Stainless Steel, Gold plated over hard Nickel

### Mounting

Hole diameter:	Ø.297 (7.54)
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### Replaceable Probes

Order Number (CSP-30ES-013):	SPL-30E-030
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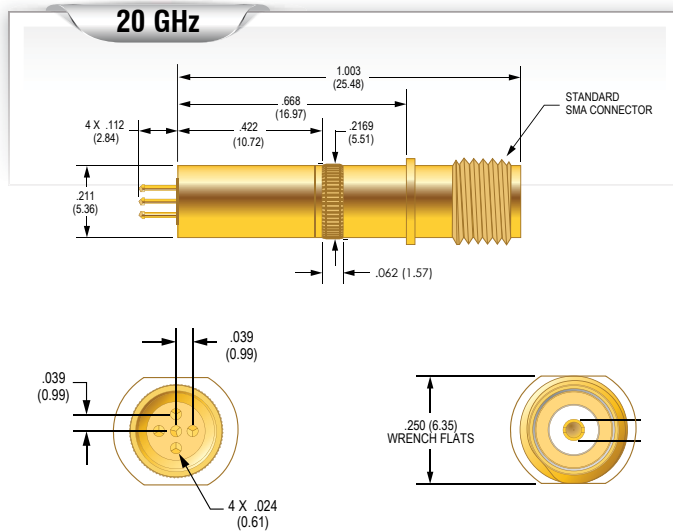
### Applications

The CSP-30ES-013 was specifically designed to mate with SMA connectors. Designed for use in interconnect applications where signal integrity is required, such as accessing high frequency RF connectors on circuit boards. Can also be used as R.F. mating connector.

# COMING SOON

## CSP-30TS-011

## CSP-03B-006 CSP-03G-003



### Mechanical

Recommended Travel:	.067 (1.70)
Full Travel:	.100 (2.54)
Operating Temperature:	-55°C to 85°C
Connection:	Standard SMA Connector

### Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Standard	CSP-30TS-011	1.59 (40)*	7.0 (198)*

\* Fully populated - 5 probes total

### Electrical (Static Conditions)

Nominal Impedance:	50 Ohms
Average Probe Resistance:	<50 mOhms
Bandwidth @ -1 dB:	>20 GHz

### Materials and Finishes

Housing:	Brass, Gold plated
Dielectric:	Rexolite
Spring:	Stainless Steel, Gold plated over hard Nickel

### Mounting

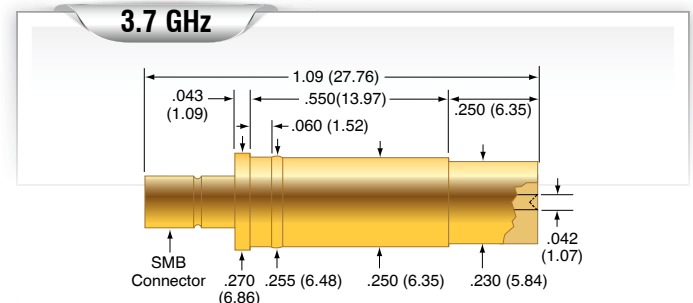
Hole diameter:	Ø.213 (5.4)
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### Replaceable Probes

Order Number (CSP-30TS-011):	
Signal	SPL-30T-020
Ground	SPL-30T-021

### Applications

Designed for use in interconnect applications where signal integrity is required, such as accessing high frequency RF targets on circuit boards. Can also be used as R.F. mating connector.



### CSP-03B-006

### CSP-03G-003

### Mechanical

Recommended Travel:	.167 (4.24)
Full Travel:	.250 (6.35)
Operating Temperature:	-35°C to +105°C
Connection:	Standard SMB 27-1 or equivalent Connector

### Spring Force in oz. (grams)

Standard	CSP-03B-006	0.80 (22)	4.0 (113)
Standard	CSP-03G-003	0.80 (22)	4.0 (113)

### Electrical (Static Conditions)

Nominal Impedance:	50 Ohms
Average Probe Resistance:	<50 mOhms
Dielectric Voltage Rating:	1K VAC
Minimum Insertion Loss @ 1GHz (tested with target):	0.13 dB typical
Maximum VSWR @ 1GHz (tested with target):	1.15:1 typical

### Materials and Finishes

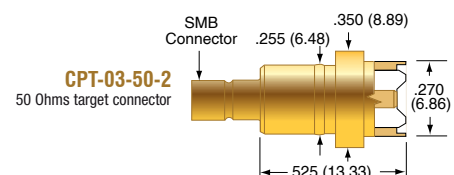
Housing:	Brass, Gold plated
Dielectric:	Premium virgin Teflon per MIL-P-18468

### Replaceable Probes

Order Number (CSP-03B-006):	SPL-03B-121
Order Number (CSP-03G-003):	SPL-03G-043

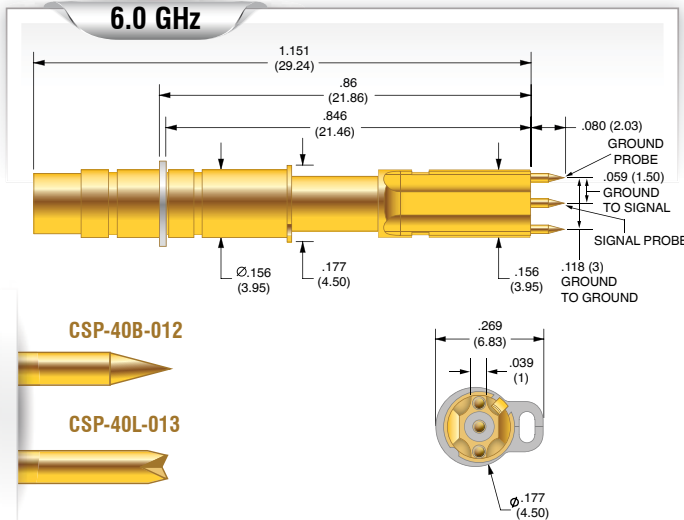
### Applications

Designed for use in interconnect applications where signal integrity is required, such as accessing high frequency targets on circuit boards. Can also be used as R.F. mating connector.



# High Frequency Probe

## CSP-40B-012 CSP-40L-013



CSP-40B-012

CSP-40L-013

### Mechanical

Recommended Travel: 0.133 (3.38) SHIELD, 0.211 (5.36) INCLUDING TRAVEL OF PROBES  
 Full Travel: 0.200 (5.08) SHIELD, 0.275 (6.99) INCLUDING TRAVEL OF PROBES  
 Operating Temperature CSP-40B-012: -35°C to +155°C  
 Operating Temperature CSP-40L-013: -35°C to +105°C  
 Connection: MMCX

### Spring Force in oz. (grams)

Standard	CSP-40B-012	1.9 (53.9)	8.0 (226.8)
Standard	CSP-40L-013	1.9 (53.9)	8.0 (226.8)

### Electrical (Static Conditions)

Nominal Impedance: 50 Ohms  
 Dielectric Voltage Rating: 1K VAC  
 Bandwidth @ -1 dB: 6 GHz

### Materials and Finishes

Housing: Brass, Gold plated  
 Dielectric: Teflon  
 Spring: Stainless Steel, Nickel Plated

### Replaceable Probes

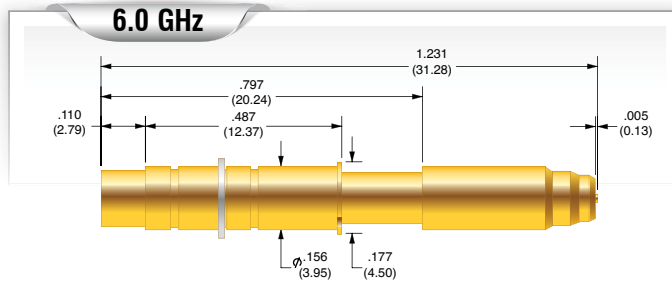
Ground Probe, Order Number (CSP-40B-012) SPL-00B-089  
 Signal Probe, Order Number (CSP-40B-012) SPL-40B-045  
 Ground Probe, Order Number (CSP-40L-013) SPL-00L-088  
 Signal Probe, Order Number (CSP-40L-013) SPL-40L-046

### Applications

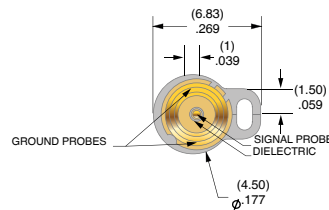
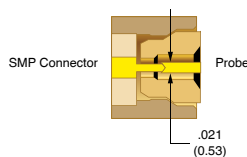
The CSP-40 coaxial probe provides instrumentation-quality interface for broadband R.F. measurements up to 6 GHz. With the CSP-40 R.F. Circuit Design, impedance characterization measurements can be performed using it as a Network Analyzer port-extending accessory. Accurate and repeatable small signal and R.F. power (50 Watts) measurements provide consistent and repeatable results.

## CSP-40A-015

## K-50B-S K-50H-S



### Connection to SMP Connector



### Mechanical

Recommended Travel: 0.133 (3.38) SHIELD, 0.211 (5.36) INCLUDING TRAVEL OF PROBES  
 Full Travel: 0.200 (5.08) SHIELD, 0.275 (6.99) INCLUDING TRAVEL OF PROBES  
 Operating Temperature: -35°C to + 155°C  
 Connection: MMCX

### Spring Force in oz. (grams)

Standard	CSP-40A-015	6.2 (175.2)	8.0 (226.8)
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### Electrical (Static Conditions)

Nominal Impedance: 50 Ohms  
 Dielectric Voltage Rating: 1K VAC  
 Bandwidth @ -1 dB: 6 GHz

### Materials and Finishes

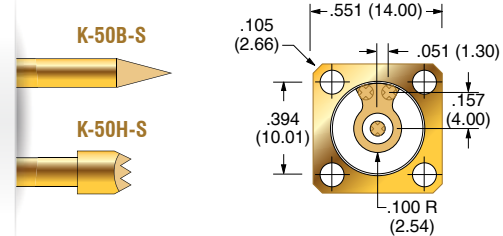
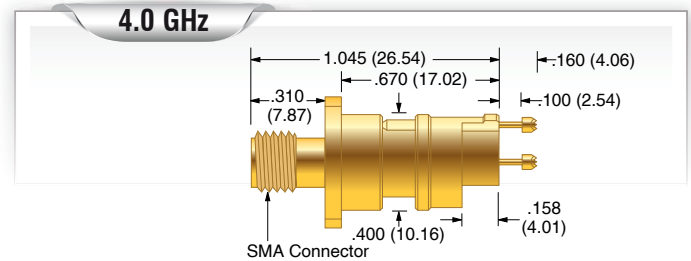
Housing: Brass, Gold plated  
 Dielectric: Teflon

### Replaceable Probes

Signal Probe, Order Number (CSP-40A-015) HPA-40G  
 (more information on this probe in the General Purpose section)

### Applications

The CSP-40 coaxial probe provides instrumentation-quality interface for broadband R.F. measurements up to 6 GHz to an SMP male connector. With the CSP-40 R.F. Circuit Design, impedance characterization measurements can be performed using it as a Network Analyzer port-extending accessory. Accurate and repeatable small signal and R.F. power (50 Watts) measurements provide consistent and repeatable results.



### Mechanical

Recommended Travel: .090 (2.29)  
 Full Travel: .100 (2.54)  
 Operating Temperature: -55°C to +105°C  
 Connection: Standard SMA Connector

### Spring Force in oz. (grams)

Standard	K-50B-S	4.47 (127)	12.00 (340)
Standard	K-50H-S	4.47 (127)	12.00 (340)

### Electrical (Static Conditions)

Nominal Impedance: 50 Ohms  
 Minimum Return Loss @ 1GHz: 23 dB, 26 dB typical  
 Minimum Insertion Loss @ 1GHz: 0.12 dB, 0.06 dB typical  
 Maximum VSWR @ 1GHz: 1.15:1, 1.11:1 typical

### Materials and Finishes

Housing: Brass, Gold plated  
 Dielectric: Premium virgin Teflon per MIL-P-18468

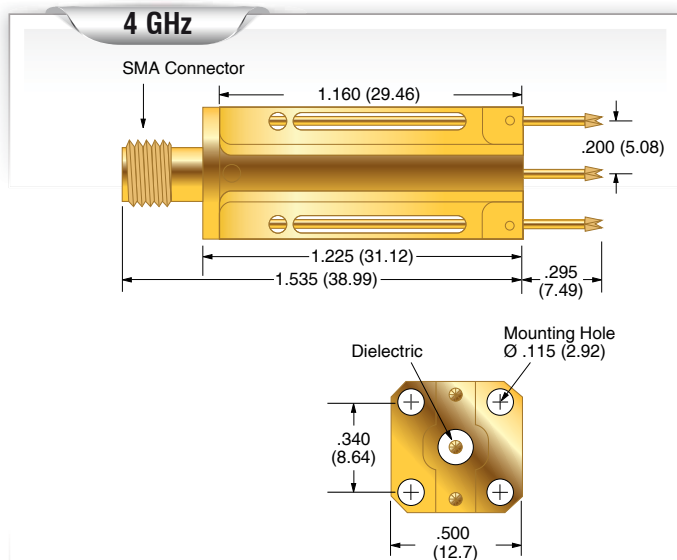
### Replaceable Probes

Order Number (K-50B-S): SPL-01B-119  
 Order Number (K-50H-S): SPL-01H-116

### Applications

The K-50H-S coaxial probe is a shorter version of the K-50 series measurement probe with .100 full travel and a slightly larger mounting flange. Electrical characteristics and applications are similar to the K-50.

## K-50L



### Mechanical

Recommended Travel:	.225 (5.72)
Full Travel:	.250 (6.35)
Operating Temperature:	-55°C to +105°C
Connection:	Standard SMA Connector

### Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Standard	K-50L	3.27 (93)	8.13 (231)

### Electrical (Static Conditions)

Nominal Impedance:	50 Ohms
Minimum Return Loss @ 1GHz:	23 dB, 26 dB typical
Minimum Insertion Loss @ 1GHz:	0.12 dB, 0.06 dB typical
Maximum VSWR @ 1GHz:	1.15:1, 1.11:1 typical

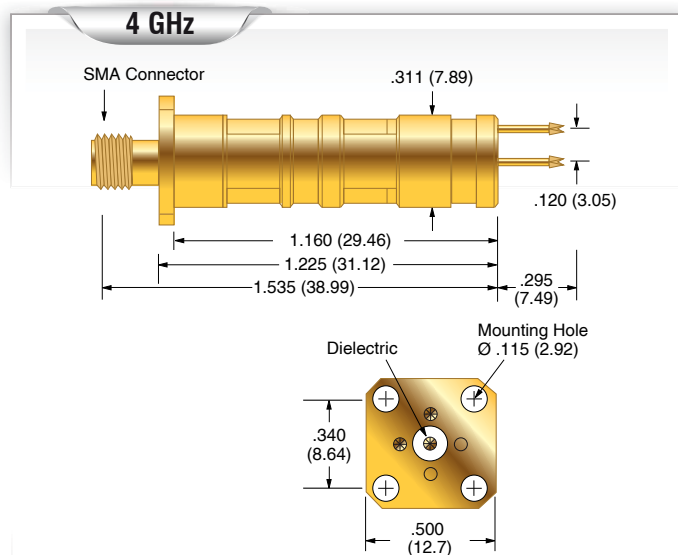
### Materials and Finishes

Housing:	Brass, Gold plated
Dielectric:	Premium virgin Teflon per MIL-P-18468

### Replaceable Probes

Order Number:	SPL-01L-039
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## K-50L-QG



### Mechanical

Recommended Travel:	.225 (5.72)
Full Travel:	.250 (6.35)
Operating Temperature:	-55°C to +105°C
Connection:	Standard SMA Connector

### Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Standard	K-50L-QG	3.27 (93)	8.13 (231)

### Electrical (Static Conditions)

Nominal Impedance:	50 Ohms
Minimum Return Loss @ 1GHz:	23 dB, 26 dB typical
Minimum Insertion Loss @ 1GHz:	0.12 dB, 0.06 dB typical
Maximum VSWR @ 1GHz:	1.15:1, 1.11:1 typical

### Materials and Finishes

Housing:	Brass, Gold plated
Dielectric:	Premium virgin Teflon per MIL-P-18468

### Replaceable Probes

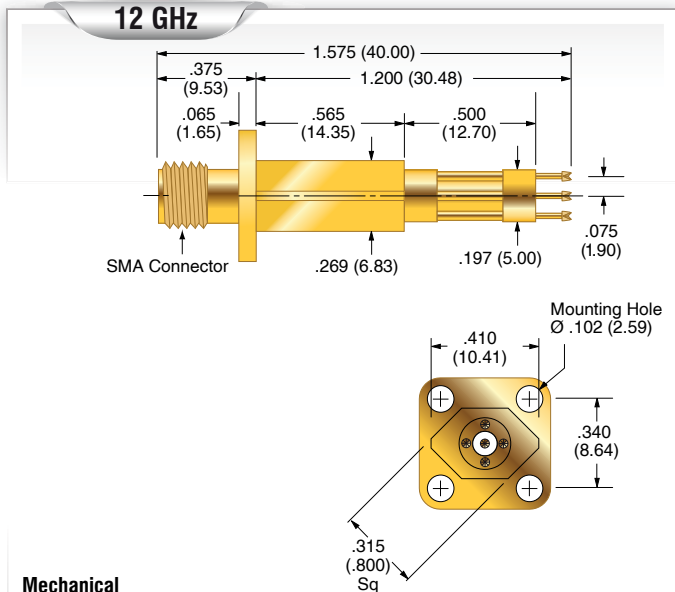
Order Number:	SPL-01L-039
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### Applications

The K-50 coaxial probe provides an instrumentation-quality interface for broadband R.F. measurements up to 4 GHz. With the K-50 R.F. Circuit Design, impedance characterization measurements can be performed using it as a Network Analyzer port-extending accessory. Accurate and repeatable small signal and R.F. power (50 Watts) measurements provide consistent and repeatable results.

## K-50L-QG-75

## K-50L-QG-75R



### Mechanical

Recommended Travel:	.067 (1.70)
Full Travel:	.100 (2.54)
Operating Temperature:	-55°C to +105°C
Connection:	Standard SMA Connector

### Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Standard	K-50L-QG-75R	3.74 (106)	14.35 (407)

### Electrical (Static Conditions)

Nominal Impedance:	50 Ohms
Minimum Return Loss @ 1GHz:	23.8 dB, 22.8 dB typical
Minimum Return Loss @ 5GHz:	18.3 dB, 16.4 dB typical
Minimum Return Loss @ 10GHz:	17.7 dB, 17.0 dB typical
Minimum Insertion Loss @ 1GHz:	0.183 dB, 0.186 dB typical
Minimum Insertion Loss @ 5GHz:	0.370 dB, 0.371 dB typical
Minimum Insertion Loss @ 10GHz:	0.577 dB, 0.572 dB typical
Maximum VSWR @ 1GHz:	1.14:1, 1.16:1 typical
Maximum VSWR @ 5GHz:	1.28:1, 1.36:1 typical
Maximum VSWR @ 10GHz:	1.30:1, 1.33:1 typical

### Materials and Finishes

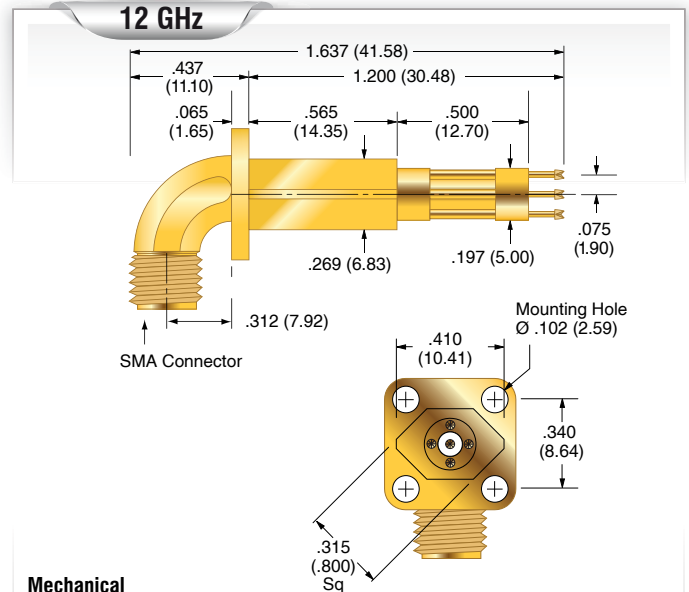
Housing:	Brass, Gold plated
Dielectric:	Premium virgin Teflon per MIL-P-18468

### Replaceable Probes

Order Number Ground Probe:	HPA-OL
Order Number Signal Probe:	SPG-72L-005

### Applications

The K-50L-QG-75 series coaxial probe provides an instrumentation-quality interface for broadband R.F. measurements up to 12 GHz. With the K-50L-QG-75 R.F. Circuit Design, impedance characterization measurements can be performed using it as a Network Analyzer port-extending accessory. Accurate and repeatable small signal and R.F. power (50 Watts) measurements provide consistent and repeatable results.



### Mechanical

Recommended Travel:	.067 (1.70)
Full Travel:	.100 (2.54)
Operating Temperature:	-55°C to +105°C
Connection:	Standard SMA Connector

### Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Standard	K-50L-QG-75R	3.74 (106)	14.35 (407)

### Electrical (Static Conditions)

Nominal Impedance:	50 Ohms
Minimum Return Loss @ 1GHz:	25.1 dB, 25.2 dB typical
Minimum Return Loss @ 5GHz:	18.0 dB, 17.5 dB typical
Minimum Return Loss @ 10GHz:	27.0 dB, 35.3 dB typical
Minimum Insertion Loss @ 1GHz:	0.160 dB, 0.159 dB typical
Minimum Insertion Loss @ 5GHz:	0.421 dB, 0.405 dB typical
Minimum Insertion Loss @ 10GHz:	0.489 dB, 0.429 dB typical
Maximum VSWR @ 1GHz:	1.12:1, 1.12:1 typical
Maximum VSWR @ 5GHz:	1.29:1, 1.31:1 typical
Maximum VSWR @ 10GHz:	1.09:1, 1.03:1 typical

### Materials and Finishes

Housing:	Brass, Gold plated
Dielectric:	Premium virgin Teflon per MIL-P-18468

### Replaceable Probes

Order Number Ground Probe:	HPA-OL
Order Number Signal Probe:	SPG-72L-005