Edition 2015

RF/Microwave Products

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GigaLane

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GigaLane

Contents

At any time, to respond to the needs of our customers, GigaLane is always on your side.

GigaLane is a company specializing in high performance RF connector, cable and assembly which is applicable to state-of-the-art technology for Telecom(Mobile Device & Network Infra), Industrial, Aerospace and Medical industries.

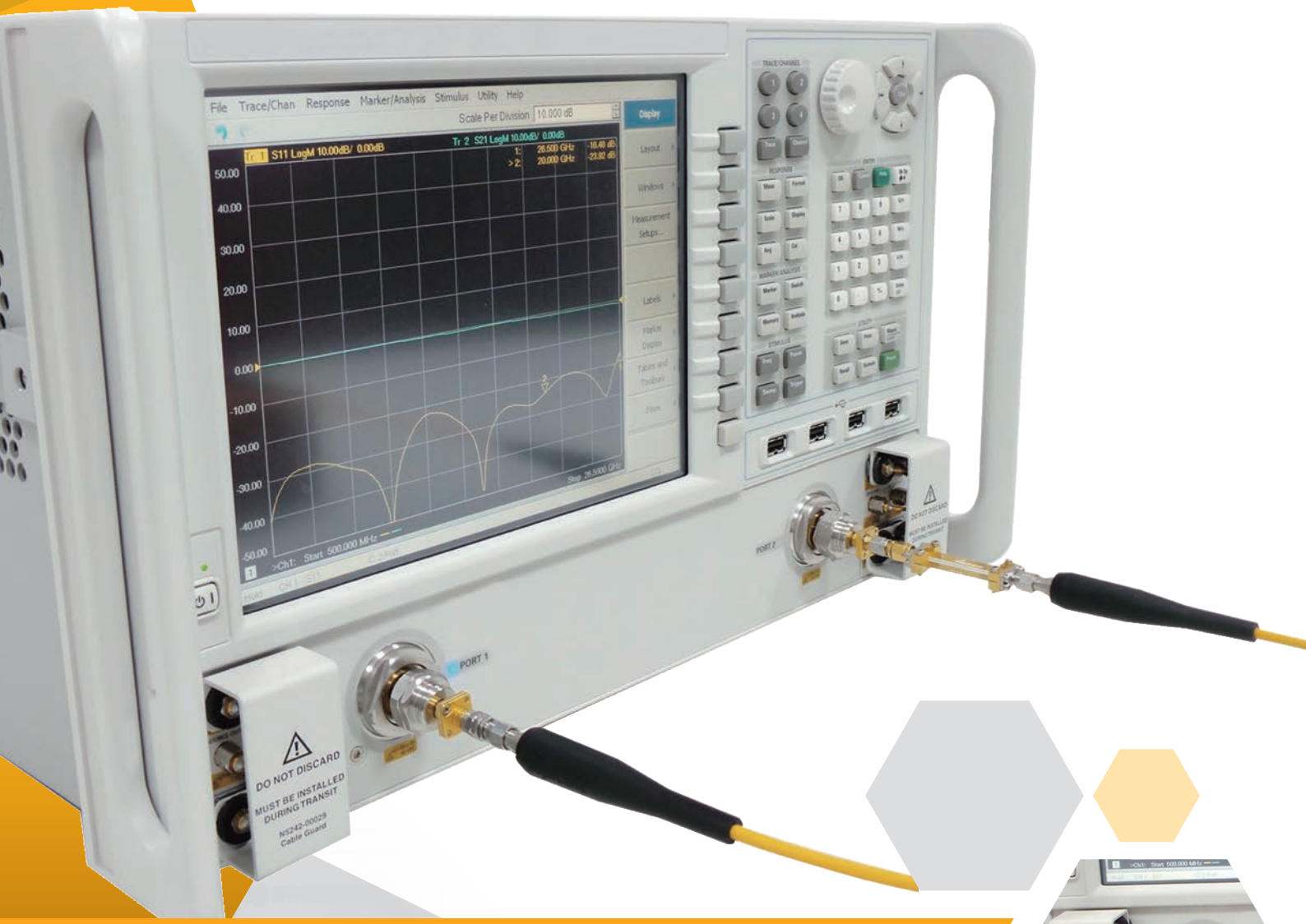
GigaLane performs all activities from original design to mass production based on its R&D and manufacturing competency.

RF products of GigaLane comply with all military standards in design, production, quality assuranceand etc.

GigaLane looks forward to growing together with its customers by enhancing customer satisfaction through high quality and reasonable price.

GigaLane is always at your service.

KOSDAQ
LISTED COMPANY



Contributing to build smarter world with cutting edge RF technologies

Connectors

To suit to the needs of our customers, GigaLane has developed these connectors for simple, fine feature and reliable quality. GigaLane's connectors are satisfied with MIL standard and developed for applications such as Aerospace, Military, Broadband, Instrumentation and telecom.

Adapters

GigaLane's Adapters are ideal for lab and production test applications, where measurement accuracy, repeatability and optimum electrical performance are critical.

Microwave Cable Assemblies

GigaLane is a company specialized in high performance RF cables which is applicable to state-of-the -art technology. GigaLane is a No 1 manufacturer of high frequency Low-Loss and assembly.

RF & MW Connectors

- 2.4 mm Connectors
- 2.92 mm Connectors
- Hermetic Seal (0.012” Glass Bead)
- SMP Connectors
- BMA Connectors
- High Performance End Lanch Connectors
- High Performance SMA Connectors
- SMA Connectors
- MCX Connectors
- MMCX Connectors
- N-Type Connectors

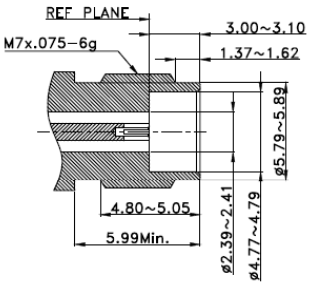
2.4mm Connectors

Introduction

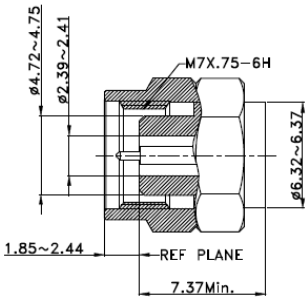
GigaLane 2.4mm Connectors are precision connectors for optimum RF performance up to 50 GHz. The connectors feature excellent mechanical stability, extreme reliability and it maintains highly cost-effective pricing, short lead-time. The connector is compatible with 1.85mm connectors. It is applicable to military and telecommunication application.

Interface Standards (MIL-STD-348)

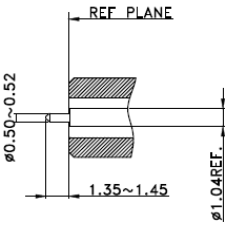
Unit : mm



(Jack)



(Plug)



Specification

Electrical

Frequency	DC ~ 50 GHz
Impedance	50 Ω
VSWR	1.3 : 1 to 50 GHz
Insulation Resistance	5000 MΩ
Dielectric Withstand Voltage	1200 Vrms max
Contact Resistance - Outer Conductor - Inner Conductor	 2mmΩ max 3mmΩ max
Insertion Loss	0.35 dB max (@ 50 GHz)
RF Leakage	-90 dB
Power Handling	70W (@2 GHz)

Mechanical

Mating Cycle(Durability)	500
Recommended Mating Torque Proof Torque	0.9 ~ 1.13 Nm / 8 ~ 10 lbs 1.7 Nm / 15.0 lbs
Coupling Nut Retention Force	270 N / 27.7 kfg / 61 lbs
Center Contact Retention Force	4 pound (axial)

Environmental

Temperature	- 40˚C to + 125˚C
Thermal Shock	MIL-STD-202, method 107, condition B
Corrosion (Salt Spray)	MIL-STD-202, method 101, condition B, 5% salt
Vibration	MIL-STD-202, method 204, condition D (20G)
Moisture Resistance	MIL-STD-202, method 106

Materials

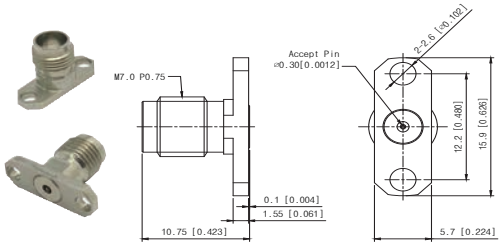
Body	Stainless Steel	Passivated
Center Contact	Beryllium Copper(BeCwu)	Gold Plated
Insulator	Engineering Plastic	-

- DC to 50 GHz
- Mechanically Compatible with 1.85 mm Connectors
- Air Dielectric
- Captivated Center Contact

▶ JACK (Female)

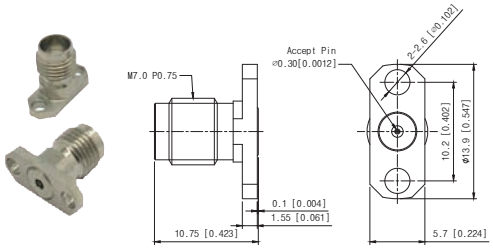
Unit : mm [Inch]

Panel Mount (2 HOLE, 15.9mm LONG)



- **Part No.** P2F-S00-000
- **Accept Pin DIA.** 0.30 [0.012]

Panel Mount (2 HOLE, 13.9mm LONG)



- **Part No.** P2F-S01-000
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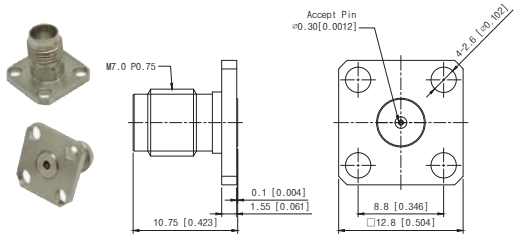
Panel Mount (4 HOLE, 12.8mm SQUARE)



- **Part No.** P2F-S02-000
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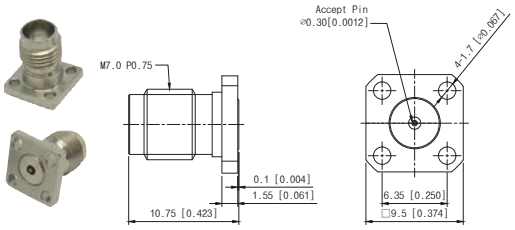
Panel Mount (4 HOLE, 9.5mm SQUARE)

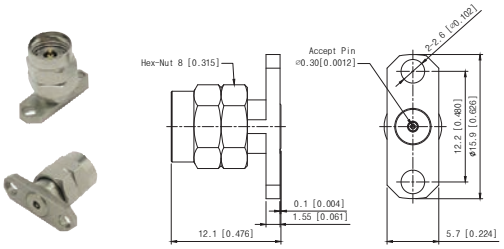


- **Part No.** P2F-S03-000
- **Accept Pin DIA.** 0.30 [0.012]

▶ PLUG (Male)

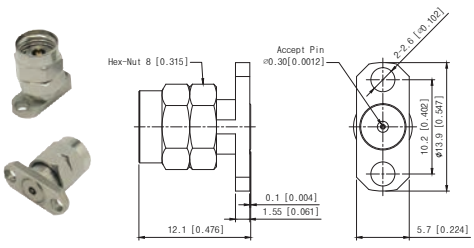
Unit : mm [Inch]

Panel Mount (2 HOLE, 15.9mm LONG)



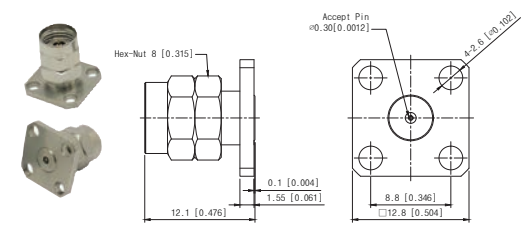
- **Part No.** P2M-S00-000
- **Accept Pin DIA.** 0.30 [0.012]

Panel Mount (2 HOLE, 13.9mm LONG)



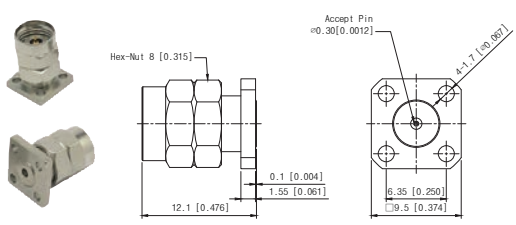
- **Part No.** P2M-S01-000
- **Accept Pin DIA.** 0.30 [0.012]

Panel Mount (4 HOLE, 12.8mm SQUARE)



- **Part No.** P2M-S02-000
- **Accept Pin DIA.** 0.30 [0.012]

Panel Mount (4 HOLE, 9.5mm SQUARE)



- **Part No.** P2M-S03-000
- **Accept Pin DIA.** 0.30 [0.012]

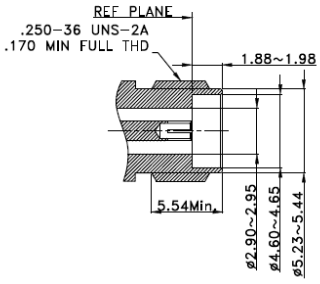
2.92mm Connectors

Introduction

GigaLane 2.92mm Connectors are precision connectors for optimum RF performance up to 40 GHz. 2.92mm connectors feature high mechanical stability and excellent repeatability. The connector is compatible with 3.5mm and SMA connectors. It is applicable to military and telecommunication application.

Interface Standards (MIL-STD-348)

Unit : mm



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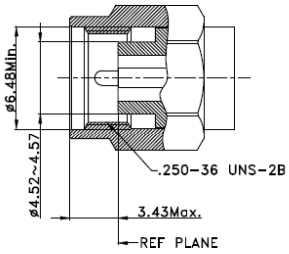
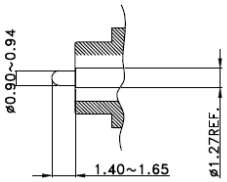




(Plug)

Specification

Electrical

Frequency	DC ~ 40 GHz
Impedance	50 Ω
VSWR	1.25 : 1 to 40 GHz
Insulation Resistance	5000 MΩ
Dielectric Withstand Voltage	1200 Vrms max
Contact Resistance - Outer Conductor - Inner Conductor	 2mmΩ max 3mmΩ max
Insertion Loss	0.3 dB max (@ 40 GHz)
RF Leakage	-90 dB
Power Handling	80W (@ 2 GHz)

Mechanical

Mating Cycle(Durability)	500
Recommended Mating Torque Proof Torque	0.9 ~ 1.13 Nm / 8 ~ 10 lbs 1.7 Nm / 15.0 lbs
Coupling Nut Retention Force	270 N / 27.7 kfg / 61 lbs
Center Contact Retention Force	4 pound (axial)

Environmental

Temperature	-40˚C to + 125˚C
Thermal Shock	MIL-STD-202, method 107, condition B
Corrosion (Salt Spray)	MIL-STD-202, method 101, condition B, 5% salt
Vibration	MIL-STD-202, method 204, condition D (20G)
Moisture Resistance	MIL-STD-202, method 106

Materials

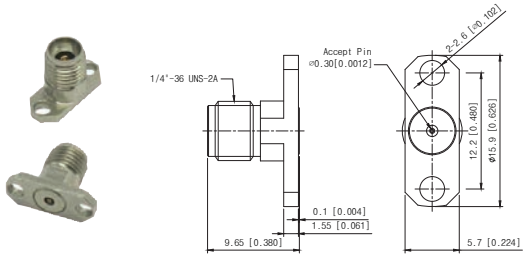
Body	Stainless Steel	Passivated
Center Contact	Beryllium Copper(BeCu)	Gold Plated
Insulator	Engineering Plastic	-

- DC to 40 GHz
- Mechanically Compatible with 2.92mm Connectors
- Air Dielectric
- Captivated Center Contact

▶ JACK (Female)

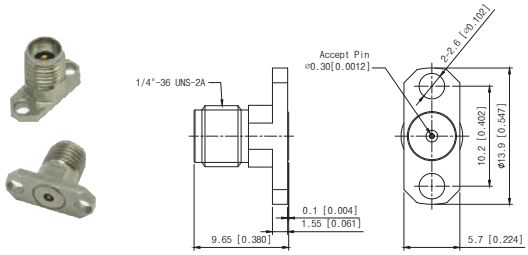
Unit : mm [Inch]

Panel Mount (2 HOLE, 15.9mm LONG)



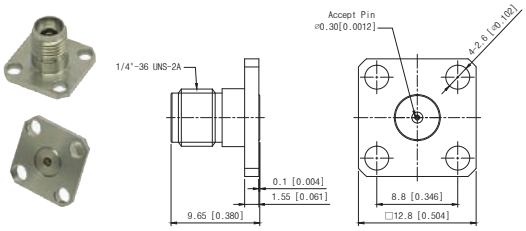
- **Part No.** PKF-S00-000
- **Accept Pin DIA.** 0.30 [0.012]

Panel Mount (2 HOLE, 13.9mm LONG)



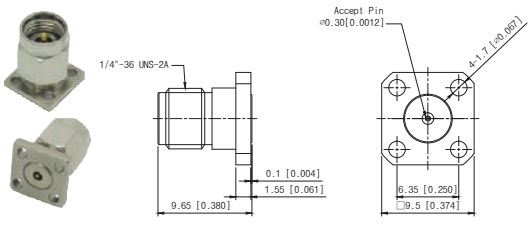
- **Part No.** PKF-S01-000
- **Accept Pin DIA.** 0.30 [0.012]

Panel Mount (4 HOLE, 12.8mm SQUARE)



- **Part No.** PKF-S02-000
- **Accept Pin DIA.** 0.30 [0.012]

Panel Mount (4 HOLE, 9.5mm SQUARE)

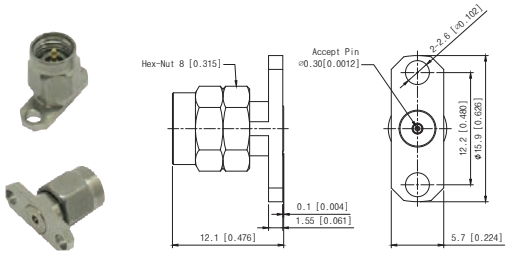


- **Part No.** PKF-S03-000
- **Accept Pin DIA.** 0.30 [0.012]

▶ PLUG (Male)

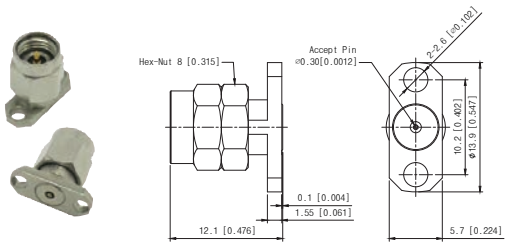
Unit : mm [Inch]

Panel Mount (2 HOLE, 15.9mm LONG)



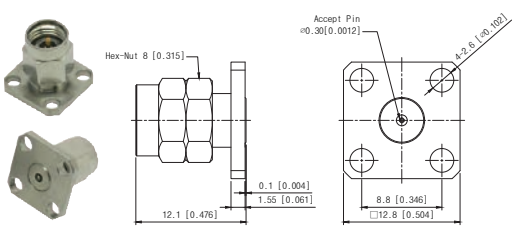
- **Part No.** P2M-S00-000
- **Accept Pin DIA.** 0.30 [0.012]

Panel Mount (2 HOLE, 13.9mm LONG)



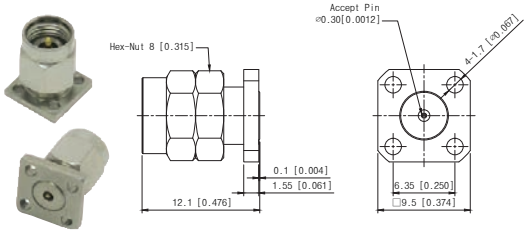
- **Part No.** P2M-S01-000
- **Accept Pin DIA.** 0.30 [0.012]

Panel Mount (4 HOLE, 12.8mm SQUARE)



- **Part No.** PKM-S02-000
- **Accept Pin DIA.** 0.30 [0.012]

Panel Mount (4 HOLE, 9.5mm SQUARE)

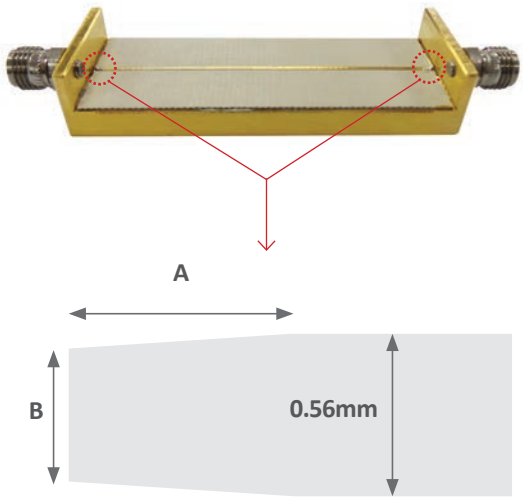


- **Part No.** PKM-S03-000
- **Accept Pin DIA.** 0.30 [0.012]

Test Result of 2.92mm Connectors

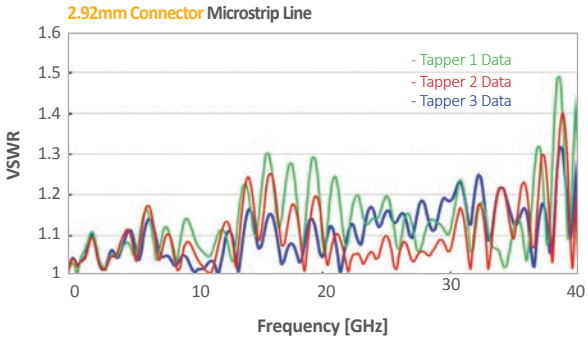
▶ Design Guide (Microstrip to coax)

A very reliable connector can still increase VSWR if it does not match impedance when it is connected. Therefore, 50ohm microstrip line structure is recommended to get a maximized future advantage with PKF series connector.

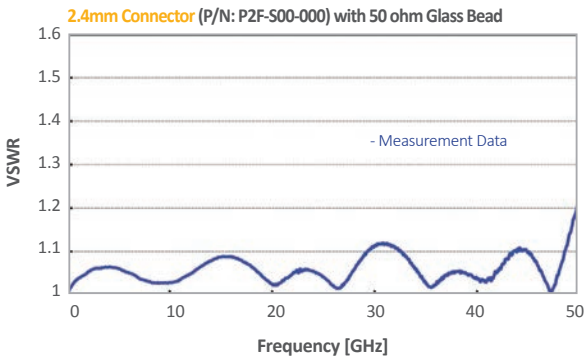


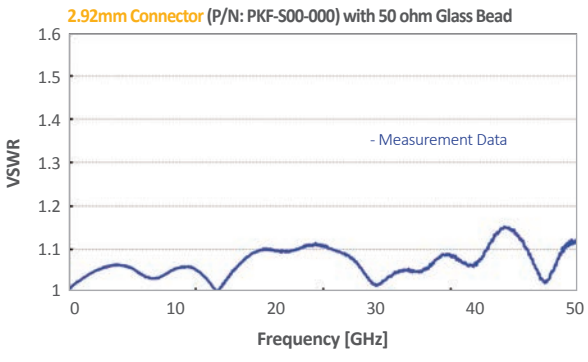
	t	w	g
Er 2.2	10 mil	0.56mm	0.1mm

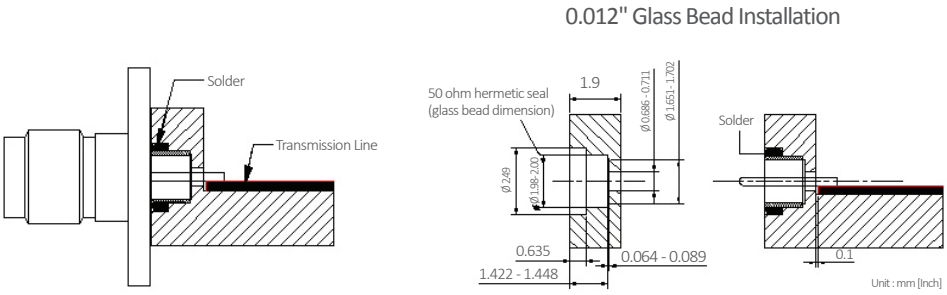
	Tapper 1	Tapper 2	Tapper 3
A	1.0mm	2.0mm	3.0mm
B	0.53mm	0.5mm	0.45mm

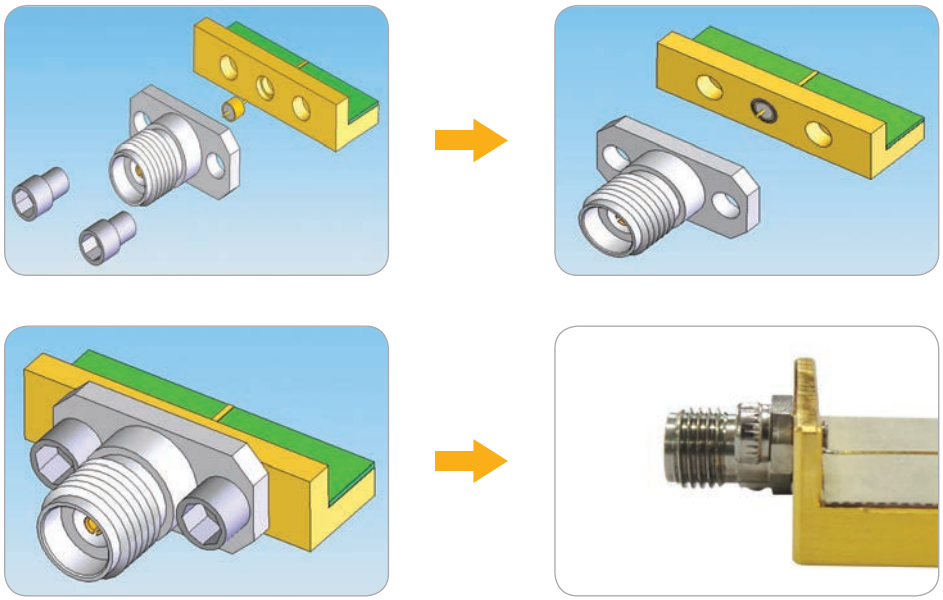


▶ Test result of Back to Back

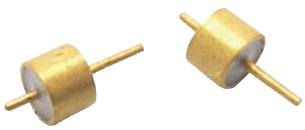


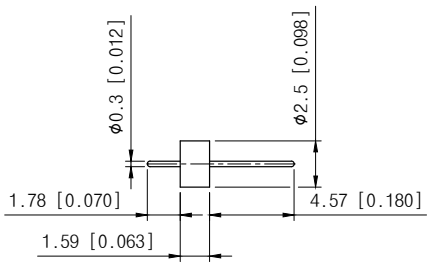






▶ Hermetic Seal (0.012” Glass Bead)





· **Part No.** TL-522

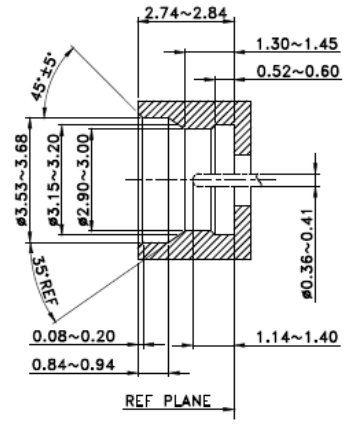
SMP Connectors

▶ Introduction

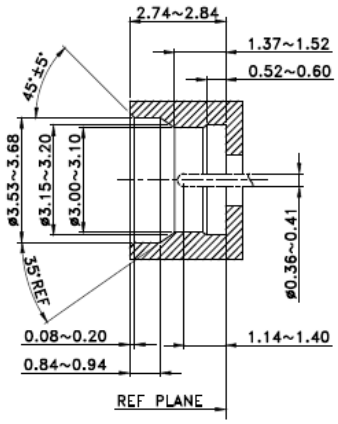
GigaLane SMP Connectors offer you precise mating and excellent VSWR performance through 40 GHz with competitive price. They have excellent vibration and shock performance based on MIL standard and suitable for application such as military, broadband, instrumentation and telecommunication application.

▶ Interface Standards (MIL-STD-348)

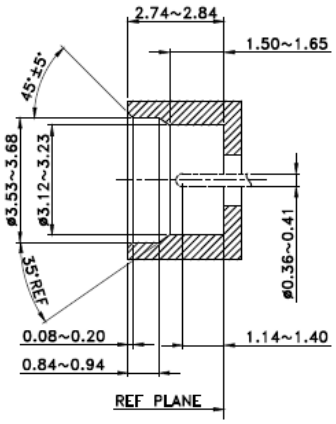
Unit : mm



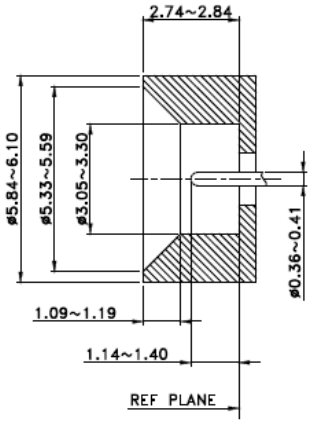
(Full Detent)



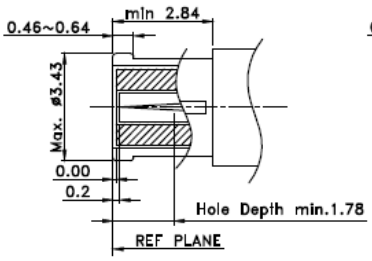
(Limited Detent)



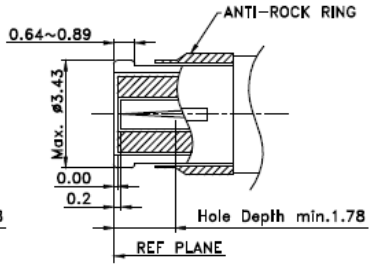
(Smooth Bore)



(Catechers Mit)

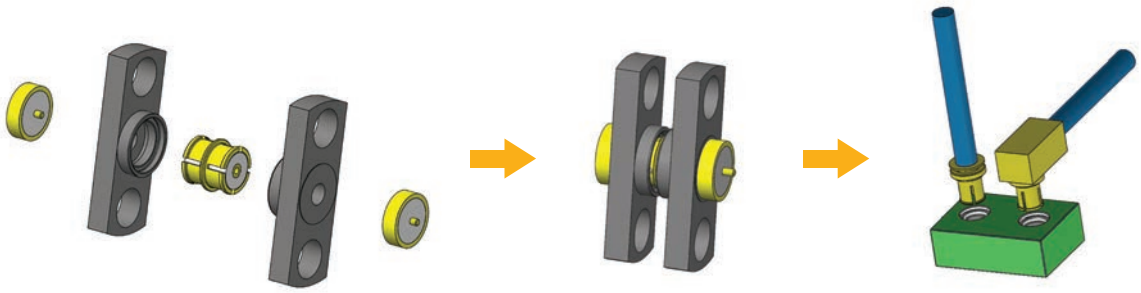


(Uncabled Connector)



(Cabled Connector)

▶ Installation of SMP Connectors



- DC to 40 GHz
- Excellent VSWR
- MIL-STD-202 qualified

▶ Specification

Electrical

Frequency	DC ~ 18 GHz DC ~ 40 GHz	
Impedance	50 Ω	
VSWR	DC to 18 GHz	1.2 : 1 typical
	18 to 40 GHz	1.3 : 1 typical
Insulation Resistance	Min 5,000 MΩ	
Dielectric Withstand Voltage	500 Vrms (@ sea level) 125 Vrms (@ 70,000ft)	
Contact Resistance - Outer Conductor - Inner Conductor	 2.0 mΩ max 6.0 mΩ max	
Insertion Loss	0.1 * √ f(GHz)	
RF Leakage	-70 dB @ 3 GHz	

Mechanical

Axial Misalignment	0 ~ 0.25 mm
Radial Misalignment	+/- 0.25 mm
Center to Center Spacing (min)	0.17 in (4.32mm)

Environmental

Temperature	-40˚C to + 125˚C
Thermal Shock	MIL-STD-202, method 107, test condition B
Corrosion (Salt Spray)	MIL-STD-202, method 101, test condition B, 5% salt
Shock	MIL-STD-202, method 213, test condition I
Vibration	MIL-STD-202, method 204, test condition D
Moisture Resistance	MIL-STD-202, method 106

Materials

Body	Stainless Steel Beryllium Copper(BeCu) Brass	Passivated Gold Plated Gold Plated
Center Contact	Beryllium Copper(BeCu) Brass	Gold Plated Gold Plated
Insulator	PTFE	-

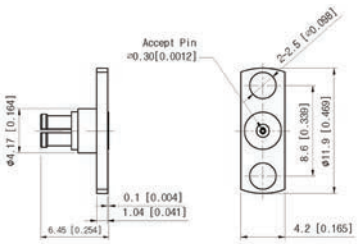
Mechanical Force for Shrouds

	Full Detent	Limited Detent	Smooth Bore
Force to Engage (max)	6.8 kg	4.5 kg	0.9 kg
Force to Disengage (min)	2.3 kg	0.9 kg	0.2 kg
Mating cycle	100	500	1,000

▶ JACK (Female)

Unit : mm [Inch]

Panel Mount (2 HOLE, 11.9mm LONG)



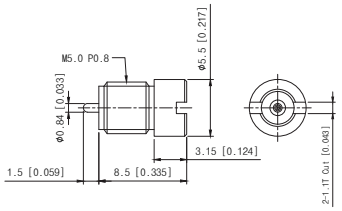
- **Part No.** PPF-S00-000

SMP Connectors

► PLUG (Male)

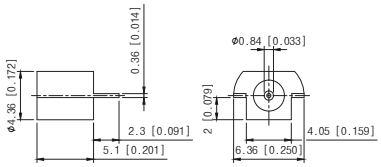
Unit : mm [Inch]

PCB Thread-in



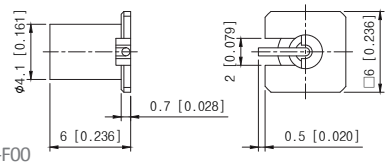
· Type.	· Part No.
Full	PPM-S02-F00
Limited	PPM-S02-L00
Smooth	PPM-S02-S00

PCB Edge Mount



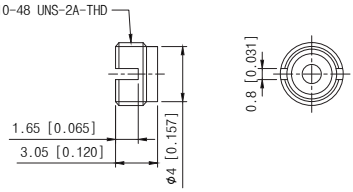
· Type.	· Part No.
Full	PPM-S03-F00
Limited	PPM-S03-L00
Smooth	PPM-S03-S00

PCB Right Angle Mount



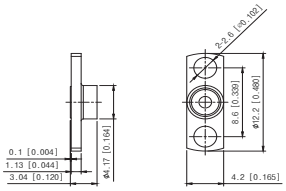
· Type.	· Part No.
Full	PPM-R00-F00
Limited	PPM-R00-L00
Smooth	PPM-R00-S00

Panel Shroud, Thread-in (No Center Contact)



· Type.	· Part No.
Full	PPM-S02-F01
Limited	PPM-S02-L01
Smooth	PPM-S02-S01

2 HOLE Panel Shroud (No Center Contact)

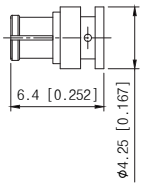


· Type.	· Part No.
Full	PPM-S00-F00
Limited	PPM-S00-L00
Smooth	PPM-S00-S00

► SMP Connectors for Cable Assemblies

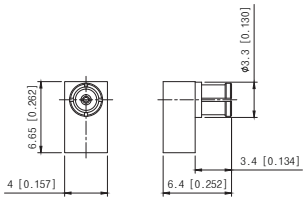
Unit : mm [Inch]

Straight JACK (SR085, SF085)



· Part No. PFS01

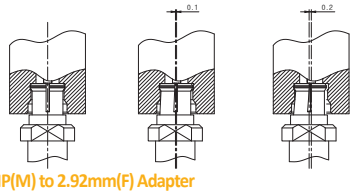
Right Angle JACK (SR085, SF085)



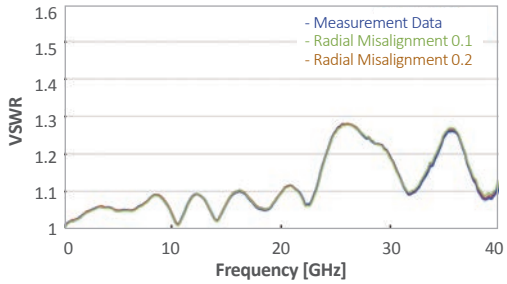
· Part No. PFR01

► Test Result of SMP Connectors

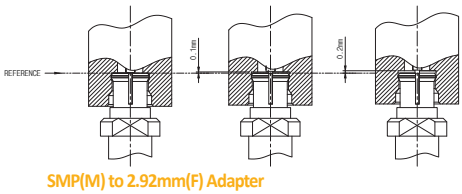
Radial Mis-Alignment Condition



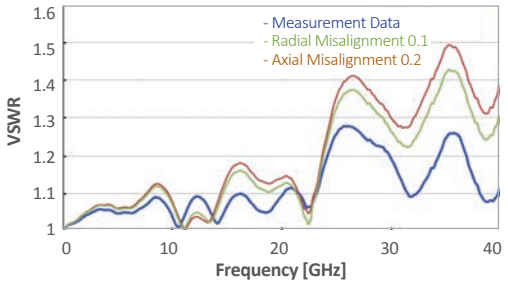
SMP(M) to 2.92mm(F) Adapter



Axial Mis-Alignment Condition



SMP(M) to 2.92mm(F) Adapter



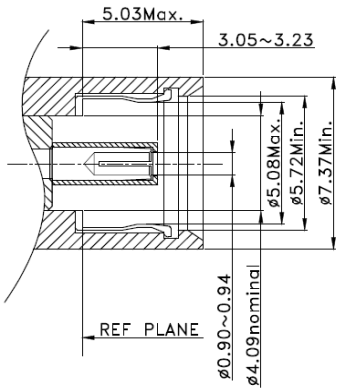
BMA Connectors

Introduction

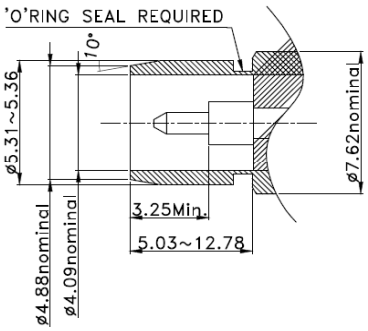
GigaLane BMA Connectors offer you precise mating and excellent VSWR performance through 18 GHz. They are designed based on MIL standard and are ideally suited for communication base station equipment, rack-and-panel applications with appropriate float-mounted jacks, building block systems such as radar.

Interface Standards (MIL-STD-348)

Unit : mm



(Jack)



(Plug)

Specification

Electrical

Frequency	DC to 18 GHz
Impedance	50 Ω
VSWR	1.3 : 1 typical
Insulation Resistance	5000 MΩ
Dielectric Withstand Voltage	1000 Vrms max
Contact resistance - Outer Conductor - Inner Conductor	 2mmΩ max 3mmΩ max
Insertion Loss	0.3dB max (@ 18 GHz)
RF Leakage	-90 dB @ 18 GHz

Mechanical

Mating Cycle(Durability)	1000
Engagement Force	1.5 kg max (14.7 N)
Disengagement Force	0.2 kg min (1.9 N)

Environmental

Temperature	-40˚C to + 125˚C
Thermal Shock	MIL-STD-202, method 107, test condition B
Corrosion (Salt Spray)	MIL-STD-202, method 101, test condition B, 5% salt
Shock	MIL-STD-202, method 213, test condition I
Vibration	MIL-STD-202, method 204, test condition D
Moisture resistance	MIL-STD-202, method 106

Materials

Body	Beryllium Copper(BeCu) Brass	Passivated Gold Plated
Center Contact	Beryllium Copper(BeCu) Brass	Gold Plated Gold Plated
Insulator	PTFE	-

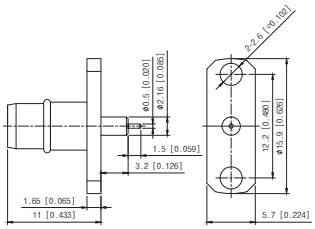
BMA Connectors

· DC to 18 GHz · High Reliability & Ease of Assembly · Push-On, Non-Locking Type

▶ PLUG (Male)

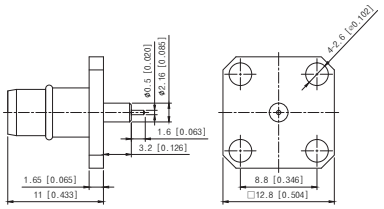
Unit : mm [Inch]

Panel Mount (2 HOLE, 15.9mm LONG)



· **Part No.** PMM-S00-000

Panel Mount (4 HOLE, 12.8mm SQUARE)

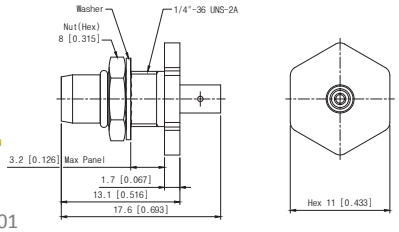


· **Part No.** PMM-S01-000

▶ BMA Connectors for Cable Assemblies

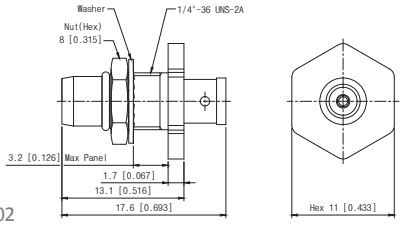
Unit : mm [Inch]

Straight PLUG Bulkhead (SR085, SF085)



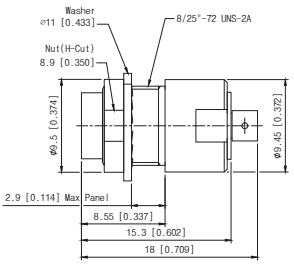
· **Part No.** MMS01

Straight PLUG Bulkhead (SR141, SF141)



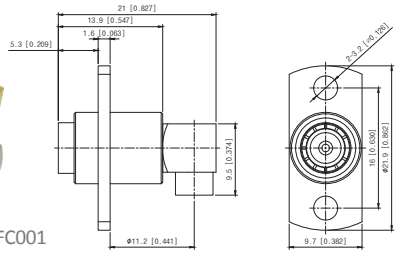
· **Part No.** MMS02

Straight Aligner JACK (SR085, SF085)



· **Part No.** MFS01

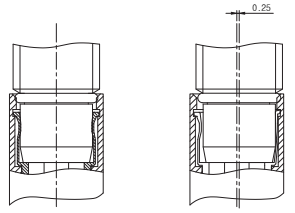
Right Angle JACK (2 HOLE, 21.9mm LONG) (SR141, SF141)



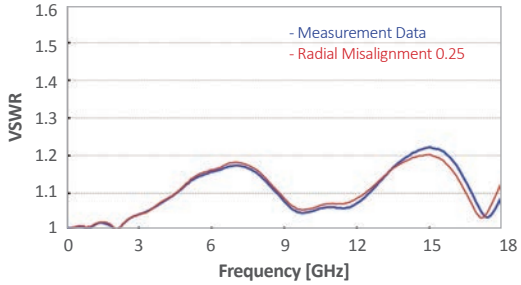
· **Part No.** G05RFC001

▶ Test Result of BMA Connectors

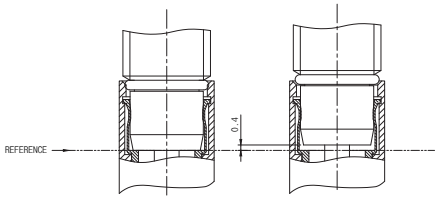
Radial Mis-Alignment Condition



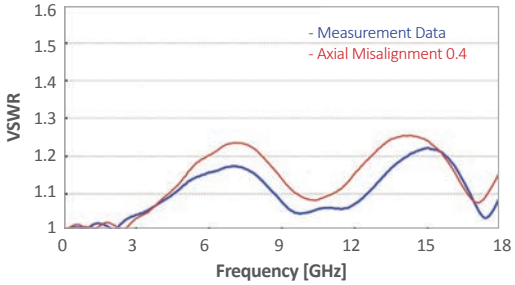
BMA(M) to SMA(F) Adapter



Axial Mis-Alignment Condition



BMA(M) to SMA(F) Adapter



Introduction

GigaLane High Performance End Launch Connectors are designed for 2.4mm (50 GHz), 2.92mm (40 GHz) and SMA (27 GHz) with Low VSWR. It is applicable to chip set evaluation/demo boards, Test fixtures and board characterization.

Specification

Electrical

Frequency	2.4 mm	DC ~ 50 GHz
	2.92 mm	DC ~ 40 GHz
	SMA	DC ~ 27 GHz
Impedance	50 Ω	
VSWR	Low VSWR	
Insulation Resistance	Low Insertion Loss	

Environmental

Thermal Shock	MIL-STD-202, method 107, test condition B
Corrosion (Salt Spray)	MIL-STD-202, method 101, test condition B, 5% salt
Shock	MIL-STD-202, method 213, test condition I
Vibration	MIL-STD-202, method 204, test condition D
Moisture Resistance	MIL-STD-202, method 106

Materials

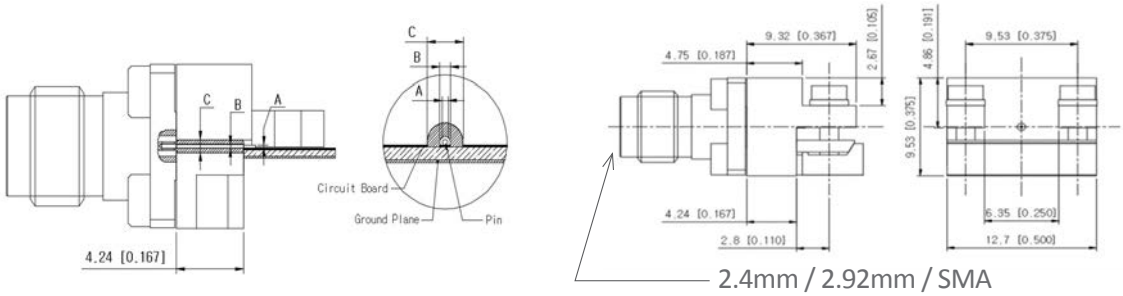
Connector	Body	Stainless Steel	Passivated
	Center Contact	Beryllium Copper(BeCu)	Gold Plated
	Insulator	Engineering Plastic	-
Launched Block	Launched Block	Brass	Ni plated
	Pin	Beryllium Copper(BeCu)	Gold Plated
	Insulator	PTFE	-

High Performance End Launch Connectors

Unit : mm [Inch]

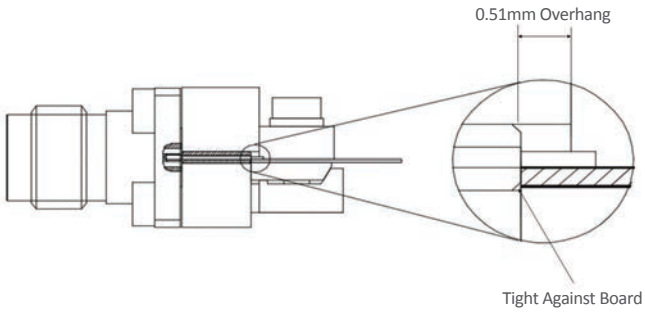
Part No.	Pin Diameter		Dielectric Diameter
	A	B	C
G01SFB001 (2.4 mm, 50 GHz)	0.13 [0.005]	0.23 [0.009]	0.76 [0.029]
G02SFB002 (2.92 mm, 40 GHz)	-	-	-
G06SFB102 (SMA, 27 GHz)	-	-	-

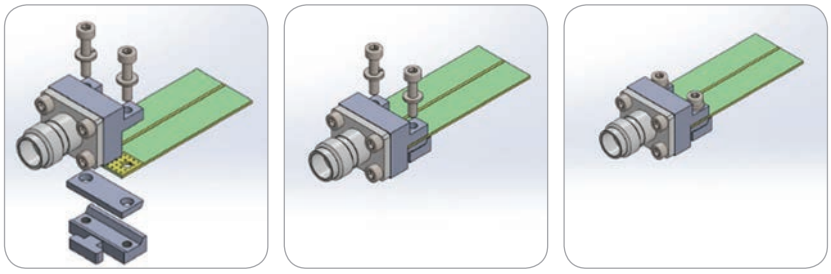
▶ Drawing

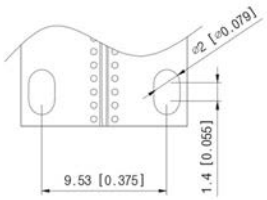


▶ Installation Procedure

- Mount the end launch connector on the board in the desired position.
- Make sure the launch pin is at the center of the trace.
- Make sure the launched block is tight against board.
- Tighten the M1.6(1.5mm) mounting screws to be tighten unit the connector is secured.

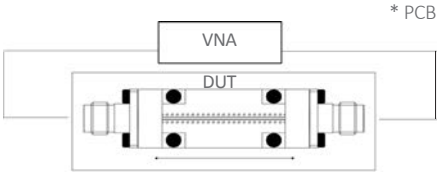






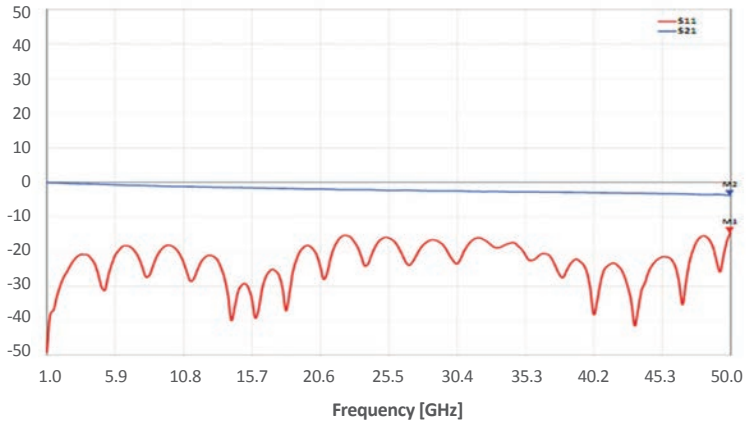
▶ GCPWG Test Result of G01SFB001

* PCB : 8 MIL R4003



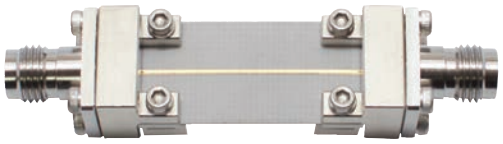
25.4mm[1.0inch]

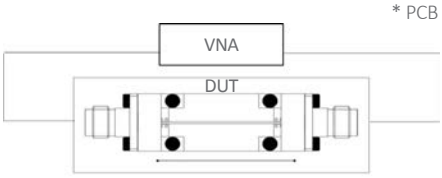
Specificaton	Test Result
- Insertion Loss : Min. -4.2 dB @ 0.1~50 GHz - Return Loss : Max. -13 dB @ 0.1~50 GHz	- Insertion Loss : Min. -3.824 dB @ 0.1~50 GHz - Return Loss : Max. -14.543 dB @ 0.1~50 GHz



▶ Microstrip with Top Ground Test Result of G01SFB001

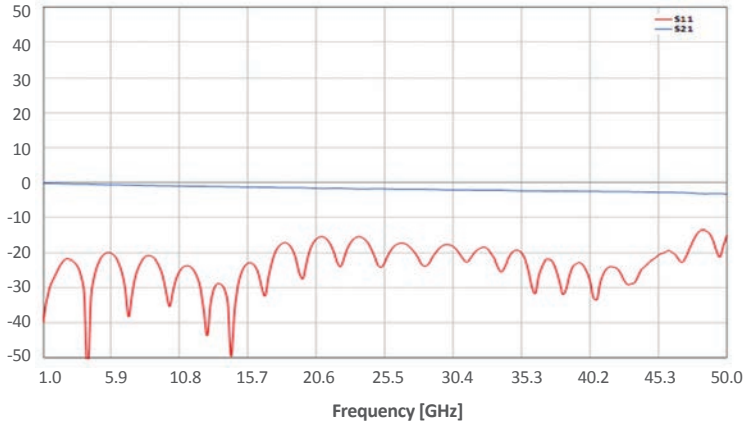
* PCB : 8 MIL R4003





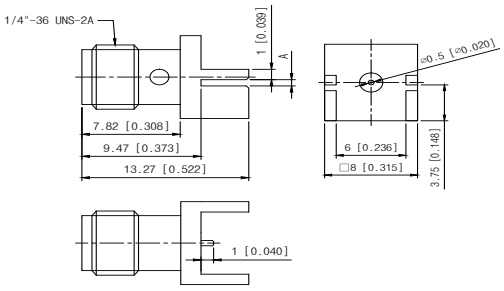
25.4mm[1.0inch]

Specificaton	Test Result
- Insertion Loss : Min. -4.2 dB @ 0.1~50 GHz - Return Loss : Max. -13 dB @ 0.1~50 GHz	- Insertion Loss : Min. -3.376 dB @ 0.1~50 GHz - Return Loss : Max. -13.504 dB @ 0.1~50 GHz



High Performance End Launch Connectors

GigaLane End Launch SMA Connector is designed for applications such as High Performance RF Circuit Boards. It is attached to RF circuit board by inserting the board edge between legs and soldering legs. It has excellent return Loss up to 26.5 GHz.

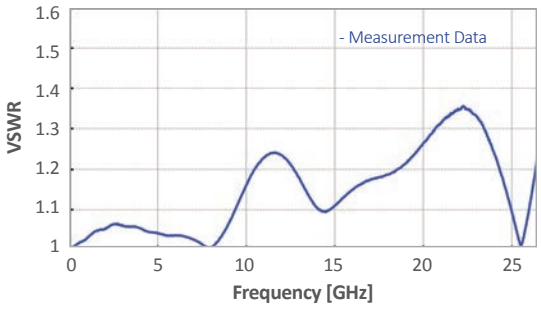


Unit : mm [Inch]

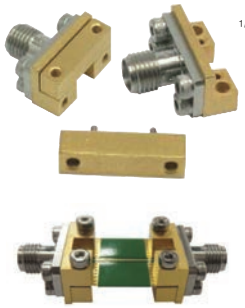
Part No.	PIN DiA.
PSF-S01-000	0.60 [0.024]
PSF-S01-001	0.80 [0.031]
PSF-S01-002	1.00 [0.039]
PSF-S01-003	1.10 [0.043]
PSF-S01-004	1.20 [0.047]
PSF-S01-005	1.30 [0.051]
PSF-S01-006	1.50 [0.059]
PSF-S01-007	1.60 [0.063]
PSF-S01-008	1.73 [0.068]
PSF-S01-009	2.10 [0.083]
PSF-S01-010	2.25 [0.089]
PSF-S01-011	3.60 [0.142]

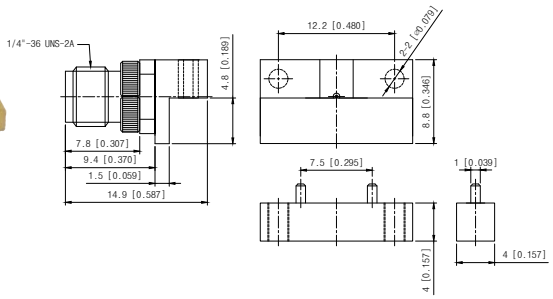
* PCB Pattern See Page 90p Fig 2

SMA Connector (P/N: PSF-S01-000~011)



GigaLane Edge Mount SMA Connector is designed for applications such as Multi-layer Board with coplanar waveguide and single layer board with microstrip. It has excellent electrical transition up to 18 GHz.

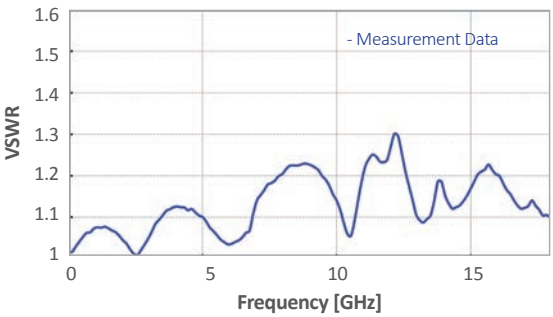




Part No.
PSF-S05-000

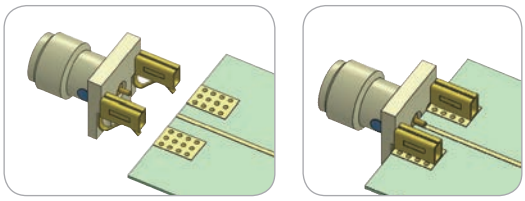
* PCB Pattern See Page 90p Fig 14

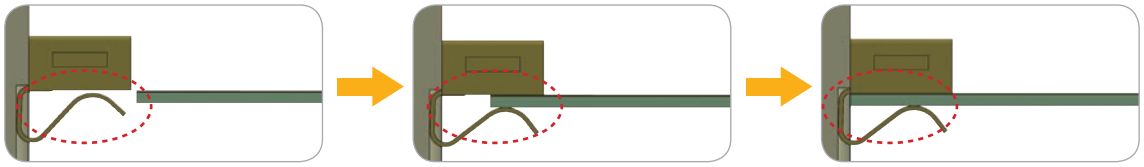
SMA Connector (P/N: PSF-S05-000)



High Performance End Launch Connectors

GigaLane Quick End Launch (QEL™ SMA) is designed for quick launch at the edge of PCB board up to 18 GHz. Specially designed leg immediately adjusts and firmly holds its attachment with the PCB. It is ideal solution for all active & speedy tests required in R&D. When compared with conventional end launch connector, it will effectually reduce soldering and assembly time when deployed in mass production.





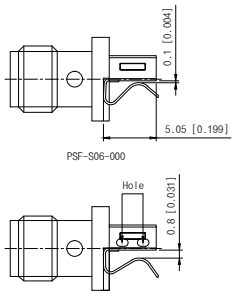
Easy & Speedy insertion

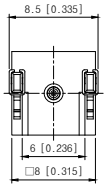
Uniquely designed legs maneuvers smoothly and evenly to fit the PCB thickness

Built-in tension of legs enables even and firm attachment to the PCB

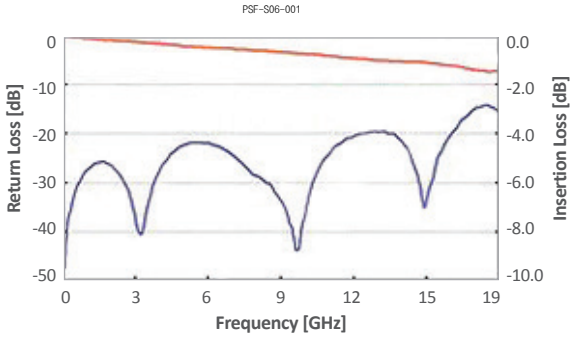
Unit : mm [Inch]

Quick End Launch JACK





Part No.	Board Clearance
PSF-S06-000	0.25 ~ 1.2mm
PSF-S06-001	1.25 ~ 2.0mm



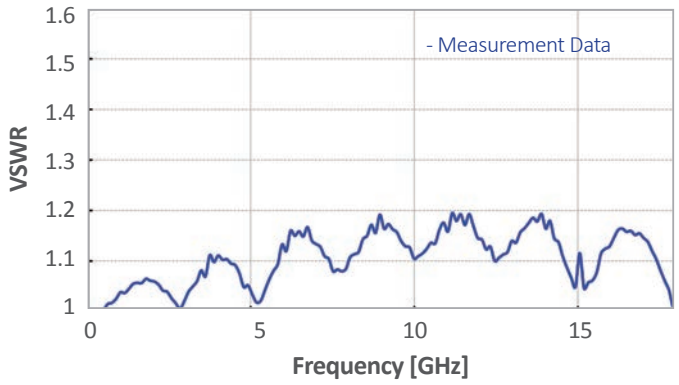
<DUT>
- Connector
  - PSF-S06-000 : 2ea
- PCB
  - FR4 Sub Thickness : 0.6mm
  - 50 Ω Line Width : 1.2mm
  - Line Length : 18mm

*As described in the table, 2 product specifications are available to accordingly cover all common PCB thicknesses.

High Performance End Launch Connectors

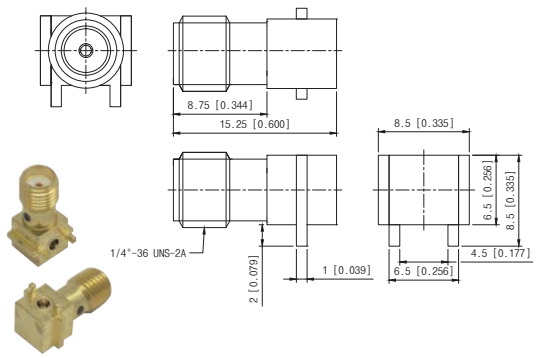
GigaLane VEREND™(Vertical-End launch) SMA Connector is designed for applications such as circuit boards for SMD(Surface Mounted Device) and for vertical mounting on RF test boards. It has excellent electrical transition on right angle section up to 18 GHz.

SMA Connector (P/N: VSF-S00-000)

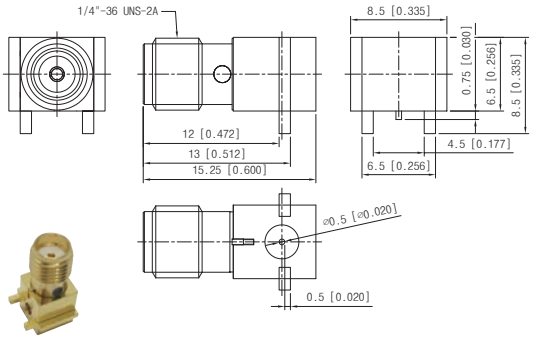


▶ JACK (Female)

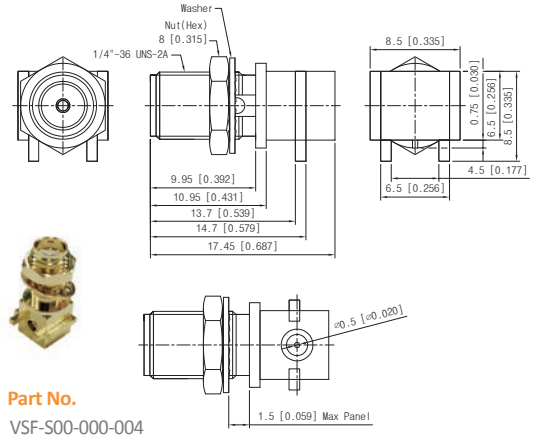
Unit : mm [Inch]



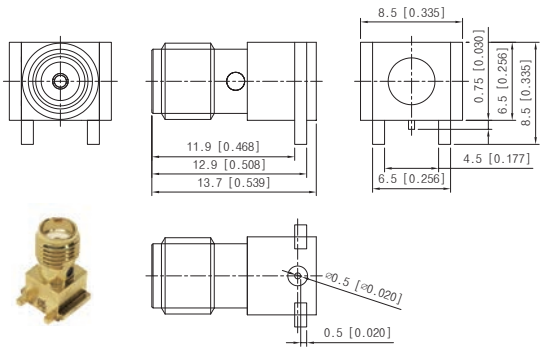
· **Part No.**
VSF-S00-000



· **Part No.**
VSF-S00-000-001



· **Part No.**
VSF-S00-000-004



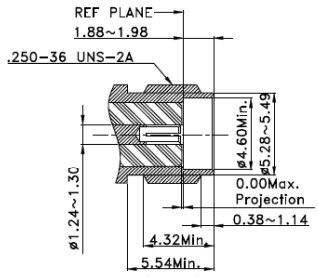
· **Part No.**
VSF-S00-000-005

Introduction

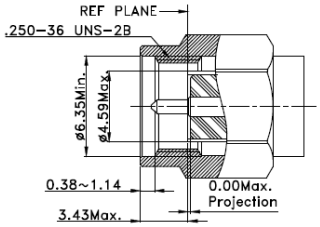
GigaLane High Performance SMA Connectors are designed for applications up to 26.5 GHz in the common high frequency substrates and it is suitable for military and microwave frequencies.

Interface Standards (MIL-STD-348)

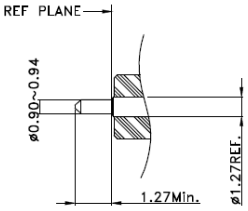
Unit : mm [Inch]



(Jack)



(Plug)



Specification

Electrical

Frequency	High performance SMA	DC ~ 26.5 GHz
Impedance	50 Ω	
VSWR	1.2 : 1 (@ 18 GHz) 1.3 : 1 (@ 26.5 GHz)	
Insulation Resistance	5000 MΩ	
Dielectric Withstand Voltage	1000 Vrms max	
Contact resistance - Outer Conductor - Inner Conductor	 2mmΩ max 3mmΩ max	
Insertion Loss	0.4 dB max (@ 26.5 GHz)	
RF Leakage	-90 dB	
Power Handling	200 W @ 2 GHz	

Mechanical

Mating Cycle(Durability)	500
Recommended Mating torque Proof torque	0.9 ~ 1.13 Nm / 8 ~ 10 lbs 1.7 Nm / 15.0 lbs
Coupling nut retention force	270 N / 27.7 kfg / 61 lbs
Center contact retention force	2.6 pound (axial)

Environmental

Temperature	-40˚C to + 125˚C
Thermal Shock	MIL-STD-202, method 107, test condition B
Corrosion (Salt Spray)	MIL-STD-202, method 101, test condition B, 5% salt
Shock	MIL-STD-202, method 213, test condition I
Vibration	MIL-STD-202, method 204, test condition D
Moisture resistance	MIL-STD-202, method 106

Materials

Body	Stainless Steel Brass	Passivated Gold Plated
Center Contact	Beryllium Copper(BeCu) Brass	Gold Plated Gold Plated
Insulator	PTFE	-

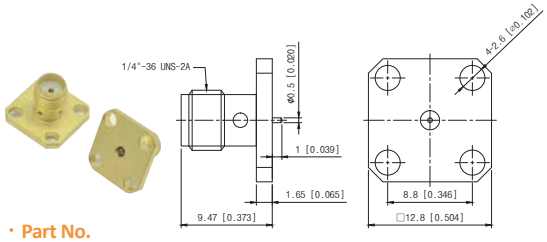
High Performance SMA Connectors

- DC to 26.5 GHz
- Mechanically Compatible with SMA 2.92mm Connectors
- Suitable for High-speed Wireless application

► JACK (Female)

Unit : mm [Inch]

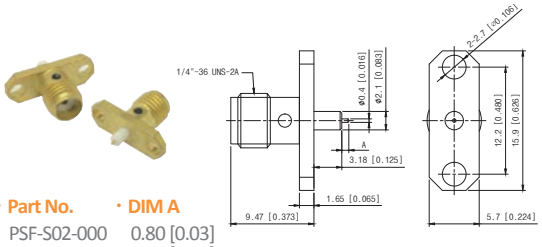
Panel Mount (4 HOLE, 12.8mm SQUARE)



- Part No.

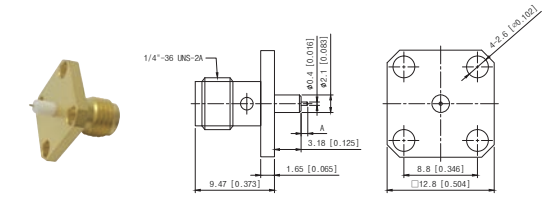
PSF-S00-000

Panel Mount (2 HOLE, 15.9mm LONG)



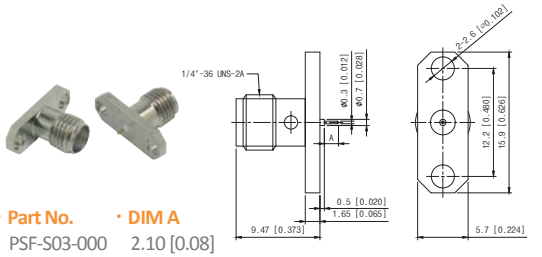
Part No.	DIM A
PSF-S02-000	0.80 [0.03]
PSF-S02-001	1.50 [0.06]

Panel Mount Jack (4 HOLE, 12.8mm SQUARE)



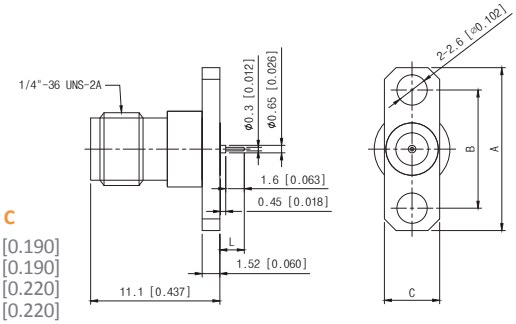
Part No.	DIM A
PSF-S02-003	0.80 [0.03]
PSF-S02-004	1.50 [0.06]

Panel Mount (2 HOLE, 15.9mm LONG)



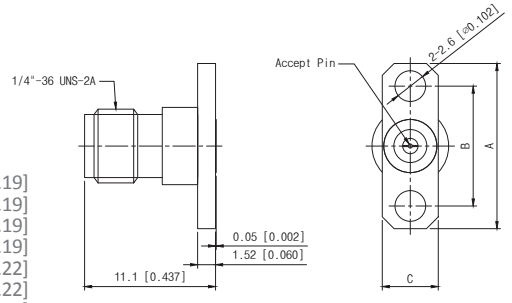
Part No.	DIM A
PSF-S03-000	2.10 [0.08]
PSF-S03-001	3.50 [0.14]

2 HOLE Panel Shroud (No Center Contact)



Part No.	DIM L	DIM A	DIM B	DIM C
PSF-S03-002	2.10 [0.080]	14.00 [0.550]	10.20 [0.400]	4.75 [0.190]
PSF-S03-003	3.50 [0.140]	14.00 [0.550]	10.20 [0.400]	4.75 [0.190]
PSF-S03-004	2.10 [0.080]	16.00 [0.630]	12.20 [0.480]	5.70 [0.220]
PSF-S03-005	3.50 [0.140]	16.00 [0.630]	12.20 [0.480]	5.70 [0.220]

Panel Mount Field Replaceable (EMI Shielding)



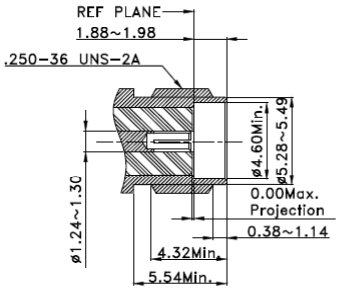
Part No.	DIM L	DIM A	DIM B	DIM C
PSF-S03-006	0.30 [0.012]	14.00 [0.55]	10.20 [0.40]	4.75 [0.19]
PSF-S03-007	0.38 [0.015]	14.00 [0.55]	10.20 [0.40]	4.75 [0.19]
PSF-S03-008	0.46 [0.018]	14.00 [0.55]	10.20 [0.40]	4.75 [0.19]
PSF-S03-009	0.51 [0.020]	14.00 [0.55]	10.20 [0.40]	4.75 [0.19]
PSF-S03-010	0.30 [0.012]	16.00 [0.63]	12.20 [0.48]	5.70 [0.22]
PSF-S03-011	0.38 [0.015]	16.00 [0.63]	12.20 [0.48]	5.70 [0.22]
PSF-S03-012	0.46 [0.018]	16.00 [0.63]	12.20 [0.48]	5.70 [0.22]
PSF-S03-013	0.51 [0.020]	16.00 [0.63]	12.20 [0.48]	5.70 [0.22]

Introduction

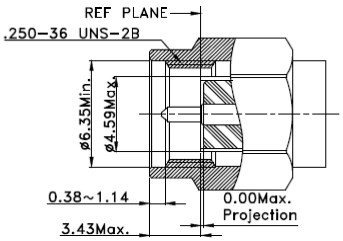
GigaLane SMA(Sub Miniature A) connectors are widely used in the frequency range DC to 18 GHz with low loss characteristics. SMA connectors are most used in military, microwave frequencies and telecommunication application.

Interface Standards (MIL-STD-348)

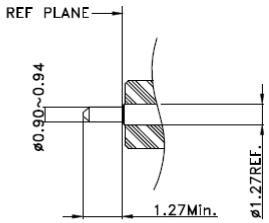
Unit : mm [Inch]



(Jack)



(Plug)



Specification

Electrical

Frequency	SMA	DC ~ 18 GHz
Impedance	50 Ω	
VSWR	1.2 : 1 (@ 6G Hz) 1.3 : 1 (@ 18 GHz)	
Insulation Resistance	5000 MΩ	
Dielectric Withstand Voltage	1000 Vrms max	
Contact resistance - Outer Conductor - Inner Conductor	 2mmΩ max 3mmΩ max	
RF Leakage	-90 dB	
Power Handling	200 W @ 2 GHz	

Mechanical

Mating Cycle(Durability)	500
Recommended Mating torque Proof torque	0.9 ~ 1.13 Nm / 8 ~ 10 lbs 1.7 Nm / 15.0 lbs
Coupling nut retention force	270 N / 27.7 kfg / 61 lbs
Center contact retention force	2.6 pound (axial)

Environmental

Temperature	-40˚C to + 125˚C
Thermal Shock	MIL-STD-202, method 107, test condition B
Corrosion (Salt Spray)	MIL-STD-202, method 101, test condition B, 5% salt
Shock	MIL-STD-202, method 213, test condition I
Vibration	MIL-STD-202, method 204, test condition D
Moisture resistance	MIL-STD-202, method 106

Materials

Body	Brass	Gold Plated
Center Contact	Brass	Gold Plated
Insulator	PTFE	-

SMA Connectors

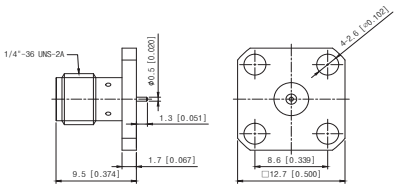
· DC to 18 GHz · Mechanically Compatible with SMA 2.92mm Connectors · High reliability, Durability and Mechanical stability

▶ JACK (Female)

Unit : mm [Inch]

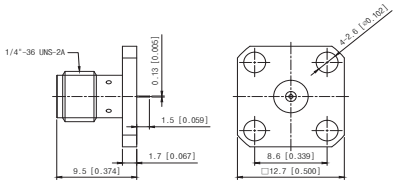
Panel Mount with Round Pin (4 HOLE, 12.7mm SQUARE)

· Part No.
PAF-S00-000



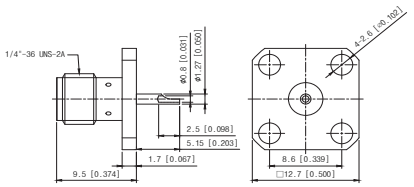
Panel Mount with Flat Pin (4 HOLE, 12.7mm SQUARE)

· Part No.
PAF-S00-001



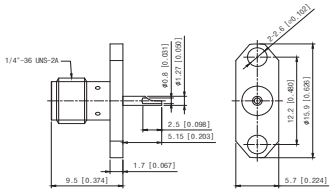
Panel Mount with Solder Pot Pin (4 HOLE, 12.7mm SQUARE)

· Part No.
PAF-S00-002



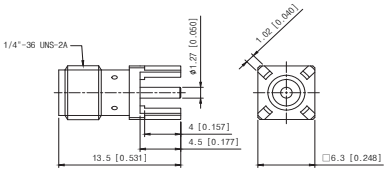
Panel Mount with Solder Pot Pin (2 HOLE, 15.9mm LONG)

· Part No.
PAF-S00-003



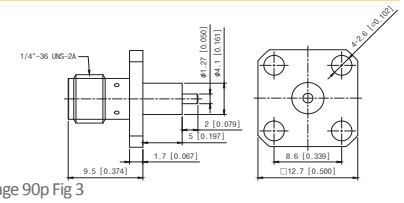
PCB Mount (13.5mm LONG)

· Part No.
PAF-S01-000
* PCB Pattern See Page 90p Fig 4

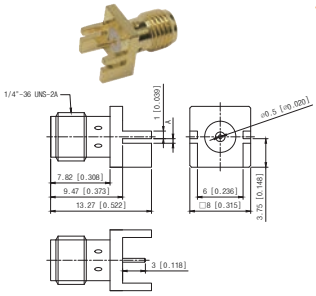


Panel Mount (4 HOLE, 12.7mm SQUARE)

· Part No.
PAF-S02-000
* PCB Pattern See Page 90p Fig 3



End Launch (13.27mm LONG)

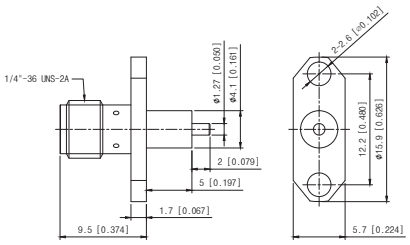


· Part No.	· DIM A
PAF-S05-000	0.60 [0.024]
PAF-S05-001	0.80 [0.031]
PAF-S05-002	1.00 [0.039]
PAF-S05-003	1.10 [0.043]
PAF-S05-004	1.20 [0.047]
PAF-S05-005	1.30 [0.051]
PAF-S05-006	1.50 [0.059]
PAF-S05-007	1.60 [0.063]
PAF-S05-008	1.73 [0.068]
PAF-S05-009	2.10 [0.083]
PAF-S05-010	2.25 [0.089]
PAF-S05-011	3.60 [0.142]

* PCB Pattern See Page 90p Fig 4

Panel Mount (4 HOLE, 15.9mm LONG)

· Part No.
PAF-S06-000

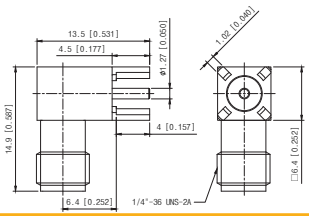


▶ JACK (Female)

Unit : mm [Inch]

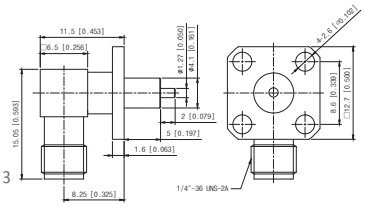
Right Angle PCB Mount

· Part No.
PAF-R00-000
* PCB Pattern See Page90p Fig 2

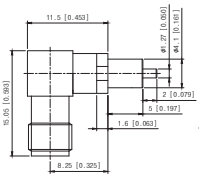


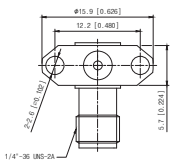
Right Angle Panel Mount (4 HOLE)

· Part No.
PAF-R01-000
* PCB Pattern See Page 90p Fig 3



Right Angle Panel Mount (2 HOLE)





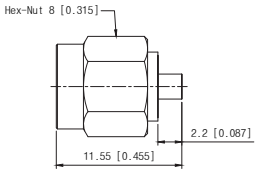
· Part No.
PAF-R02-000
* PCB Pattern See Page 90p Fig 3

For Semi-Rigid & Semi-Flexible Cable Assemblies

Unit : mm [Inch]

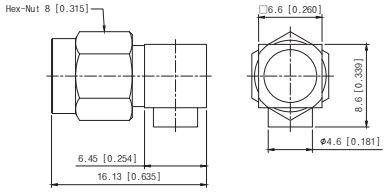
Straight PLUG(Male)

Cable	Part No.
047	AMS28
085	AMS19
141	AMS23



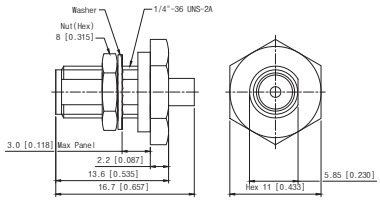
Right Angle PLUG(Male)

Cable	Part No.
085	AMR01
141	AMR02



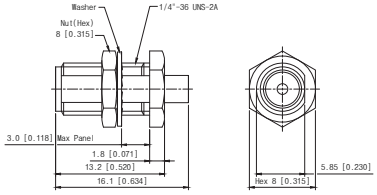
Bulkhead JACK(Female), 11mm HEX

Cable	Part No.
085	AFS01
141	AFS02



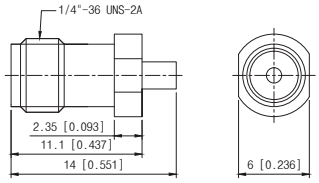
Bulkhead JACK(Female), 8.0mm HEX

Cable	Part No.
085	AFS34
141	AFS03



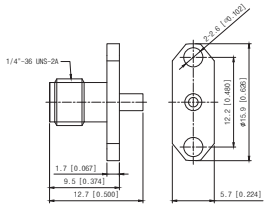
Straight JACK(Female)

Cable	Part No.
034	AFS20
047	AFS21
085	AFS22
141	AFS36

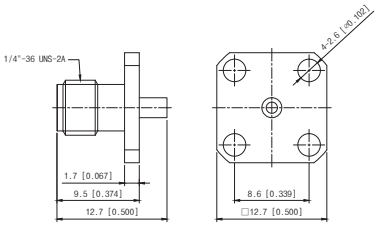


Panel Mount JACK (2 HOLE, 15.9mm LONG)

Cable	Part No.
047	AFS04
085	AFS05
141	AFS06



Panel Mount JACK (4 HOLE, 12.7mm SQUARE)



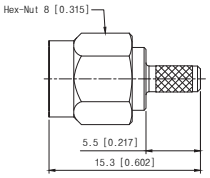
Cable	Part No.
047	AFS07
085	AFS08
141	AFS09

For Flexible Cable Assemblies

Unit : mm [Inch]

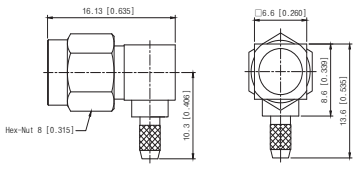
Right Angle PCB Mount

Cable	Part No.
RG316	AMS05
RG178	AMS06
RG400	AMS07



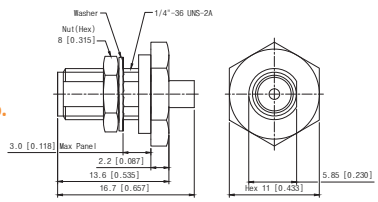
Right Angle Panel Mount (4 HOLE)

Cable	Part No.
RG316	AMR03
RG178	AMR04
RG400	AMR05



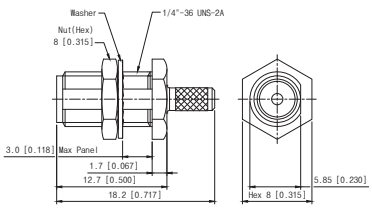
Bulkhead JACK(Female), 11mm HEX

Cable	Part No.
RG316	AFS10
RG178	AFS11
RG400	AFS12



Bulkhead JACK(Female), 8.0mm HEX

Cable	Part No.
RG316	AFS14
RG178	AFS15
RG400	AFS16



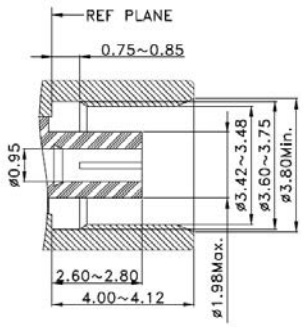
MCX Connectors

Introduction

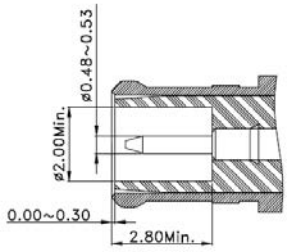
GigaLane MCX Connectors are intended for use with microwave application requiring excellent performance up to 6G Hz in 50 Ohm impedance. MCX connectors are similar in design to SMB connectors but smaller than SMB connectors. Typical applications for MCX connectors include GPS, wireless communication and automotives.

Interface Standards (MIL-STD-348)

Unit : mm



(Jack)



(Plug)

Specification

Electrical

Frequency	DC to 6 GHz
Impedance	50 Ω
VSWR	1.2 : 1 to 6 GHz
Insulation Resistance	5000 MΩ
Dielectric Withstand Voltage	750 Vrms max
Contact Resistance - Outer Conductor - Inner Conductor	 2mmΩ max 6mmΩ max
RF Leakage	> 60 dB
Power Handling	50W (@ 2 GHz)

Mechanical

Mating Cycle(Durability)	500
Engagement and Separation Force	3.5 kgf max (34.3 N max)
Contact Captivation	1.0 kgf Min. (9.8 N Min)
Mating Torque	6 pound max
Coupling Nut Retention Force	1.8 pound Min.
Center Contact Retention Force	2.25 pound (axial)

Environmental

Temperature	-40˚C to + 125˚C
Thermal Shock	CECC22220 4.6.7
Corrosion (Salt Spray)	CECC22220 4.6.10
Vibration	CECC22220 4.6.3
Moisture Resistance	CECC22220 4.6.4

Materials

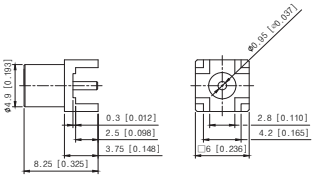
Body	Brass/Beryllium Copper(BeCu)	Gold Plated
Center Contact	Brass/Beryllium Copper(BeCu)	Gold Plated
Insulator	PTFE	-

*Note : These characteristics are typical but may not apply to all connectors.

▶ JACK (Female)

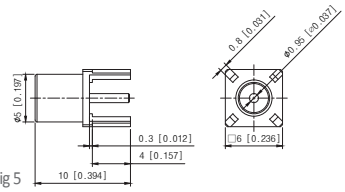
Unit : mm [Inch]

PCB Mount



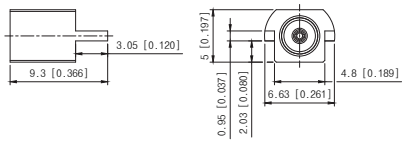
- Part No.
  PDF-S01-000
  * PCB Pattern See Page 90p Fig 5

PCB Mount



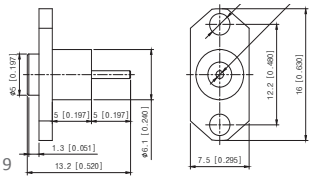
- Part No.
  PDF-S02-000
  * PCB Pattern See Page 90p Fig 5

PCB Edge Mount



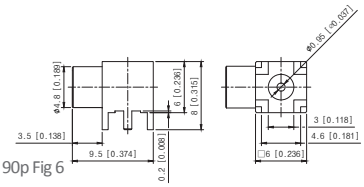
- Part No.
  PDF-S03-000
  * PCB Pattern See Page 90p Fig 8

Panel Mount (2 HOLE 16mm LONG)



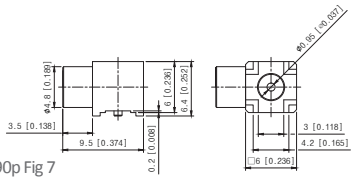
- Part No.
  PDF-S04-000
  * PCB Pattern See Page 90p Fig 9

Right Angle PCB Mount



- Part No.
  PDF-R00-000
  * PCB Pattern See Page 90p Fig 6

Right Angle PCB Mount

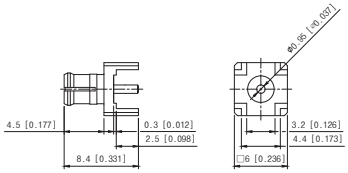


- Part No.
  PDF-R01-000
  * PCB Pattern See Page 90p Fig 7

▶ Plug(Male)

Unit : mm [Inch]

PCB Mount



- Part No.
  PDM-S01-000
  * PCB Pattern See Page 90p Fig 5

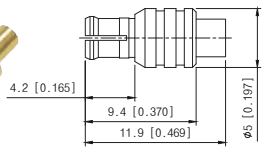
MCX Connectors for Cable Assemblies

▶ For Semi-Rigid & Semi-Flexible Cable Assemblies

Unit : mm [Inch]

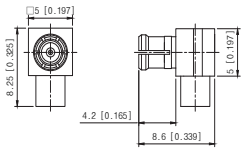
Straight PLUG

Cable	Part No.
047	DMS04
085	DMS01



Right Angle PLUG

Cable	Part No.
047	DMR05
085	DMR01

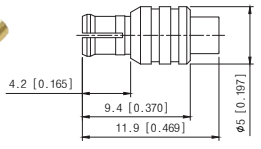


▶ For Flexible Cable Assemblies

Unit : mm [Inch]

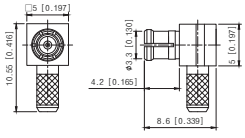
Straight PLUG

Cable	Part No.
RG178	DMS05
RG316	DMS02



Right Angle PLUG

Cable	Part No.
RG178	DMR04
RG316	DMR02



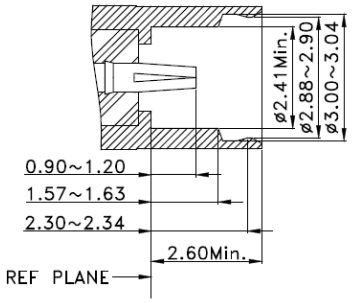
MMCX Connectors

Introduction

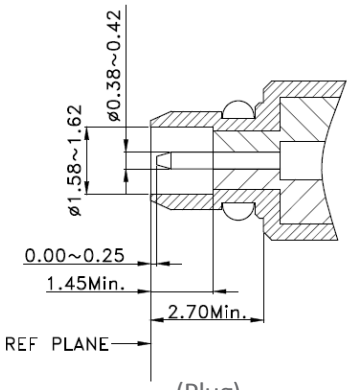
GigaLane MMCX Connectors are intended for use in applications where the smallest dimensions are required. These connectors operate up to 6 GHz and are optimum for wireless communication systems such as cellular, wireless and PCS. MMCX provides a low RF-leakage by its non-slotted outer contract.

Interface Standards (MIL-STD-348)

Unit : mm



(Jack)



(Plug)

Specification

Electrical

Frequency	DC to 6 GHz
Impedance	50 Ω
VSWR	1.3 : 1 to 6 GHz
Insulation Resistance	1000 MΩ
Dielectric Withstand Voltage	250 Vrms max
Contact Resistance - Outer Conductor - Inner Conductor	 2mmΩ max 6mmΩ max
RF Leakage	> 50 dB@ 3 GHz
Power Handling	50W (@ 2 GHz)

Mechanical

Mating Cycle(Durability)	500
Engagement and Separation Force	3.5 kgf max (34.3N max)
Center Contact Retention Force	2.25 pound (axial)

Environmental

Temperature	-40˚C to + 125˚C
Thermal Shock	CECC22220 4.6.7
Corrosion (Salt Spray)	CECC22220 4.6.10
Vibration	CECC22220 4.6.3
Moisture Resistance	CECC22220 4.6.4

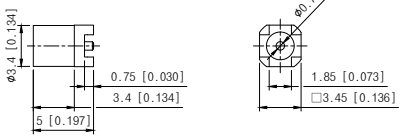
Materials

Body	Brass/Beryllium Copper(BeCu)	Gold Plated
Center Contact	Brass/Beryllium Copper(BeCu)	Gold Plated
Insulator	PTFE	-

▶ JACK (Female)

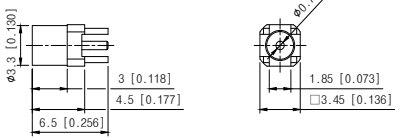
Unit : mm [Inch]

PCB Mount



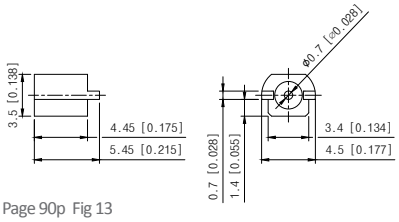
· Part No.
PEF-S00-000
* PCB Pattern See Page 90p Fig 10

PCB Mount



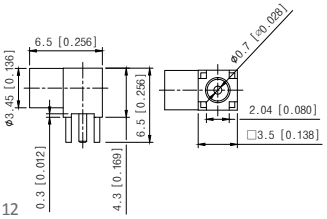
· Part No.
PEF-S01-000
* PCB Pattern See Page 90p Fig 11

PCB Edge Mount



· Part No.
PEF-S02-000
* PCB Pattern See Page 90p Fig 13

Right Angle PCB Mount



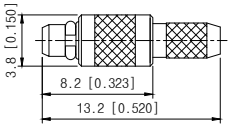
· Part No.
PEF-R00-000
* PCB Pattern See Page 90p Fig 12

MMCX Connectors for Cable Assemblies

▶ For Semi-Rigid & Semi-Flexible Cable Assemblies

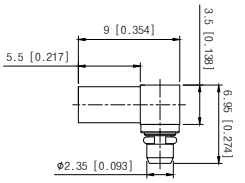
Unit : mm [Inch]

Straight PLUG



· Cable	· Part No.
047	EMS03
085	EMS02

Right Angle PLUG

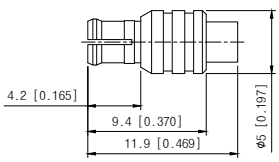


· Cable	· Part No.
047	EMS02
085	EMS03

▶ For Flexible Cable Assemblies

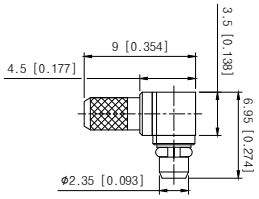
Unit : mm [Inch]

Straight PLUG



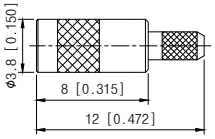
· Cable	· Part No.
RG178	EMS04
RG316	EMS01

Right Angle PLUG



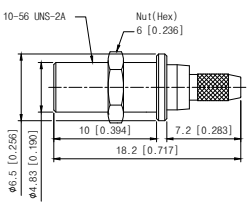
· Cable	· Part No.
RG178	EMR04
RG316	EMR01

Straight JACK



· Cable	· Part No.
RG178	EFS01
RG316	EFS03

Bulkhead JACK



· Cable	· Part No.
RG178	EFS04
RG316	EFS02

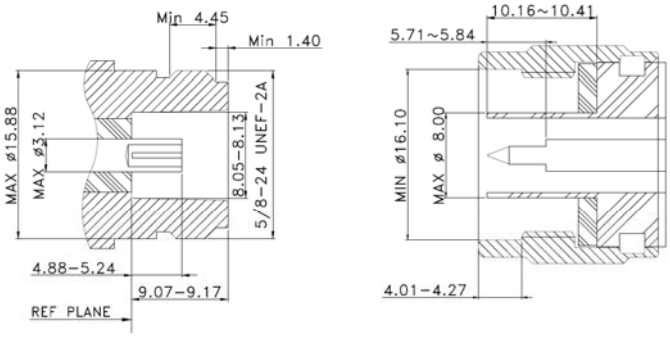
N-Type Connectors

Introduction

GigaLane N-type connectors are designed for applications up to 11 GHz
Because of the endurance, it is optimum for high power fixed wireless communication equipments.

Interface Standards (MIL-STD-348)

Unit : mm



(Jack) (Plug)

Specification

Electrical

Frequency	DC ~ 11 GHz
Impedance	50 Ω
VSWR	1.2 : 1 to 11 GHz
Insulation Resistance	5000 MΩ
Dielectric Withstand Voltage	1200 Vrms max
Contact Resistance - Outer Conductor - Inner Conductor	 1mmΩ max 1mmΩ max
Insertion Loss	0.2 dB max @ 11 GHz
RF Leakage	> 60 dB
Power Handling	50W (@ 2 GHz)

Mechanical

Mating Cycle(Durability)	500
Recommended Mating Torque Proof Torque	0.68 ~ 1.33 Nm / 5 ~ 12 lbs 1.73 Nm / 15.0 lbs
Coupling Nut Retention Force	45.8 kgf (450N)
Contact Captivation	2.8 kgf Min. (28N Min.)

Environmental

Temperature	-40˚C to + 125˚C
Thermal Shock	MIL-STD-202, method 107, test condition B
Corrosion (Salt Spray)	MIL-STD-202, method 101, test condition B, 5% salt
Vibration	MIL-STD-202, method 204, condition B (20G)
Shock	MIL-STD-202, method 213, condition I (100G)
Moisture Resistance	MIL-STD-202, method 106

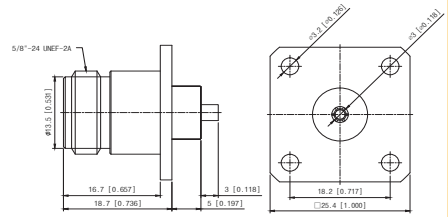
Materials

Body	Brass	Ni Plated
Center contact	Beryllium Copper(BeCu) Brass	Gold Plated Ni Plated
Insulator	PTFE	-
Gaskets	Silicon	-

▶ JACK (Female)

Unit : mm [Inch]

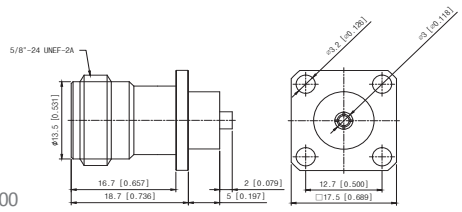
Panel Mount (4 HOLE, 25.4mm SQUARE)



- **Part No.**
  PNF-S00-000

*PCB Pattern See Page 90p Fig 15

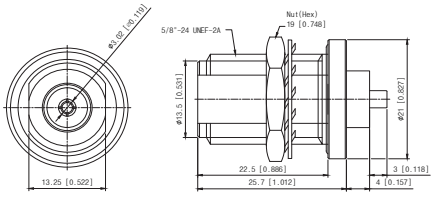
Panel Mount (4 HOLE, 17.5mm SQUARE)



- **Part No.**
  PNF-S01-000

*PCB Pattern See Page 90p Fig 15

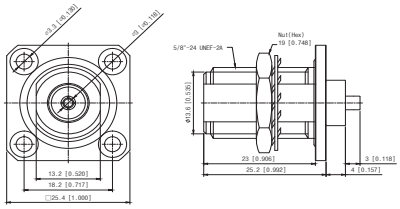
Bulkhead Mount



- **Part No.**
  PNF-S02-000

*PCB Pattern See Page 90p Fig 15

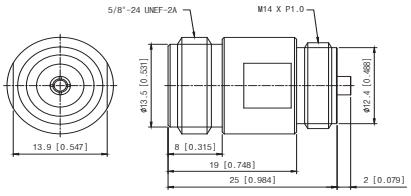
Bulkhead Mount (4 HOLE, 25.4mm SQUARE)



- **Part No.**
  PNF-S03-000

*PCB Pattern See Page 90p Fig 16

Panel Mount



- **Part No.**
  PNF-S04-000

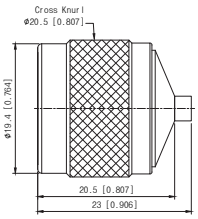
N-Type Connectors for Cable Assemblies

▶ For Semi-Rigid & Semi-Flexible Cable Assemblies

Unit : mm [Inch]

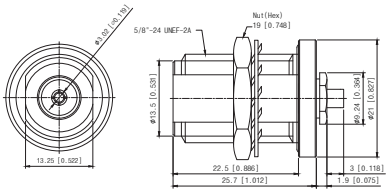
Straight PLUG

Cable	Part No.
047	NMS01
085	NMS31
141	NMS17

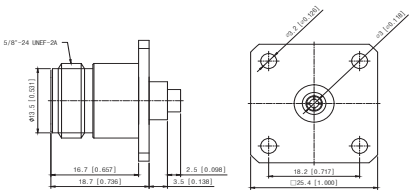


Right Angle PLUG

Cable	Part No.
085	NFS01
141	NFS02



Panel Mount (4 HOLE, 25.4mm SQUARE)

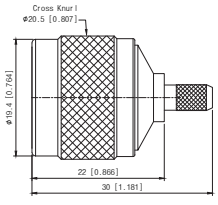


Cable	Part No.
085	NFS09
141	NFS03

▶ For Flexible Cable Assemblies

Unit : mm [Inch]

Straight PLUG



Cable	Part No.
RG316	NMS22
RG400	NMS04

RF & MW Adapters

- Precision Adapters in Series
- Precision Adapters between Series
- SMP Adapters
- BMA Adapters
- Standard Adapters

▶ 2.4mm to 2.4mm

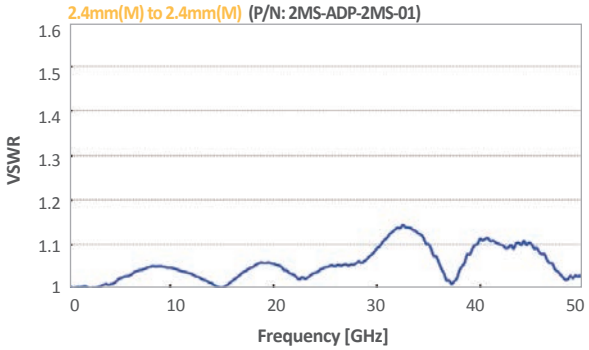
Electrical

Frequency	DC to 50 GHz
Insertion Loss	IL[dB] = max 0.06 x √F
Impedance	50Ω
VSWR	DC ~ 4 GHz 1.05 : 1 max 4 ~ 20 GHz 1.2 : 1 max 20 ~ 50 GHz 1.25 : 1 max
Temperature	-55˚C to + 135˚C

Materials

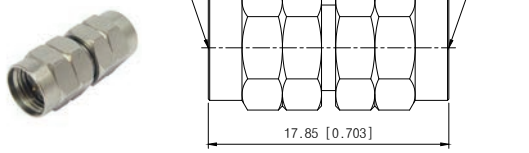
Body	Stainless Steel	Passivated
Center Contact	Beryllium Copper(BeCu)	Gold Plated
Insulator	Engineering Plastic	-

2.4mm(M) to 2.4mm(M) **(P/N: 2MS-ADP-2MS-01)**



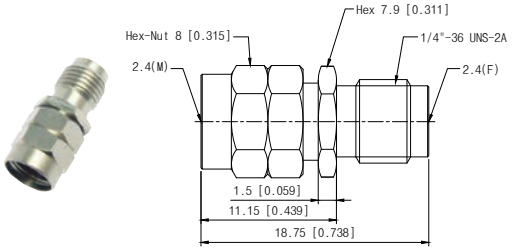
Unit : mm [Inch]

2.4 mm (M) - 2.4 mm (M)



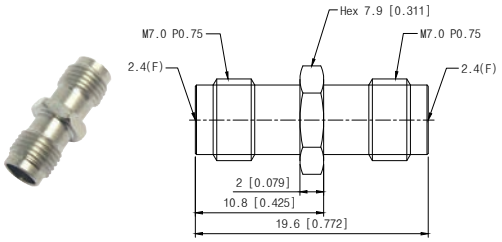
- **Part No.** 2MS-ADP-2MS-01
- **Freq.** 50 GHz
- **VSWR** Max. 1.25

2.4 mm (M) - 2.4 mm (F)



- **Part No.** 2MS-ADP-2FS-01
- **Freq.** 50 GHz
- **VSWR** Max. 1.25

2.4 mm (F) - 2.4 mm (F)



- **Part No.** 2FS-ADP-2FS-01
- **Freq.** 50 GHz
- **VSWR** Max. 1.25

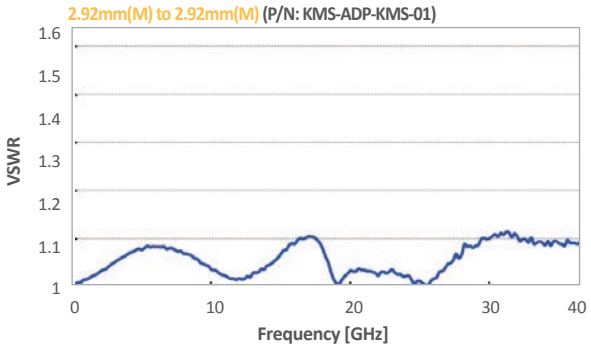
▶ 2.92mm to 2.92mm

Electrical

Frequency	DC to 40 GHz
Insertion Loss	IL[dB] = max 0.06 x √F
VSWR	DC ~ 4 GHz 1.05 : 1 max 4 ~ 40 GHz 1.2 : 1 max
Temperature	-55˚C to + 135˚C

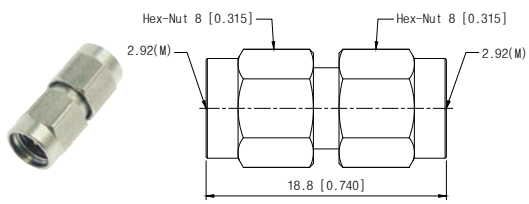
Materials

Body	Stainless steel	Passivated
Center Contact	Beryllium Copper(BeCu)	Gold Plated
Insulator	Engineering Plastic	-



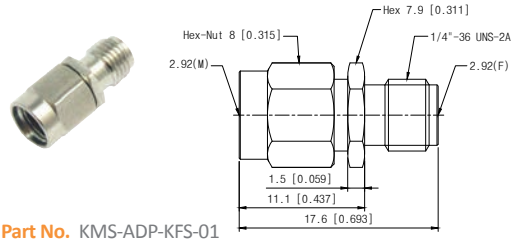
Unit : mm [Inch]

2.92 mm (M) - 2.92 mm (M)



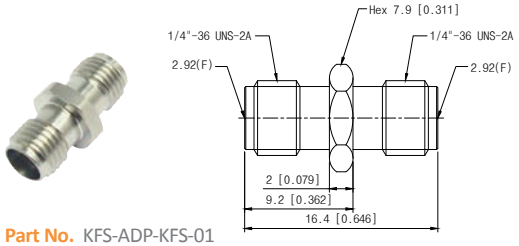
- **Part No.** KMS-ADP-KMS-01
- **Freq.** 40 GHz
- **VSWR** Max. 1.2

2.92 mm (M) - 2.92 mm (F)



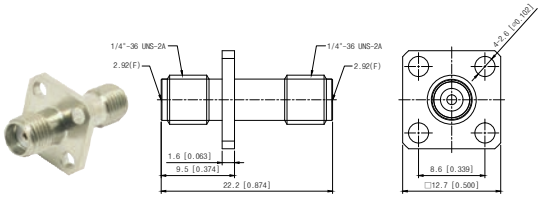
- **Part No.** KMS-ADP-KFS-01
- **Freq.** 40 GHz
- **VSWR** Max. 1.2

2.92 mm (F) - 2.92 mm (F)



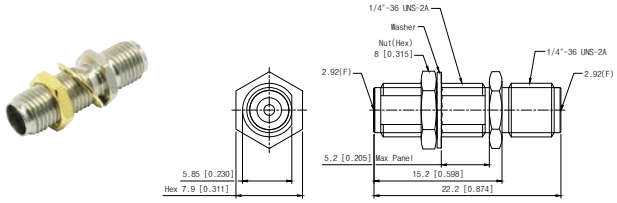
- **Part No.** KFS-ADP-KFS-01
- **Freq.** 40 GHz
- **VSWR** Max. 1.2

2.92 mm (F) - 2.92 mm (F) (4 HOLE, 12.7mm SQUARE)



- **Part No.** KFS-ADP-KFS-03-4H
- **Freq.** 40 GHz
- **VSWR** Max. 1.2

2.92 mm (M) - 2.92 mm (M)



- **Part No.** KFS-ADP-KFS-02-BH
- **Freq.** 40 GHz
- **VSWR** Max. 1.2

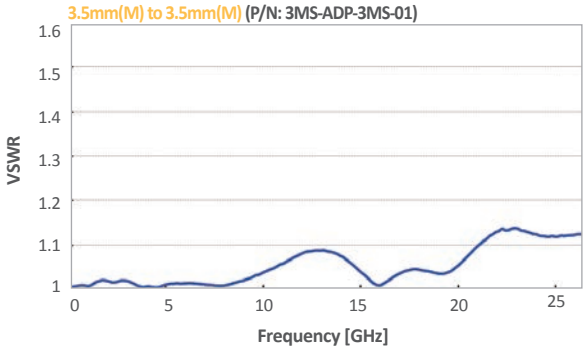
▶ 3.5mm to 3.5mm

Electrical

Frequency	DC to 26.5 GHz
Insertion Loss	IL[dB] = max 0.06 x √F
VSWR	1.2 : 1 max
Temperature	-40˚C to + 125˚C

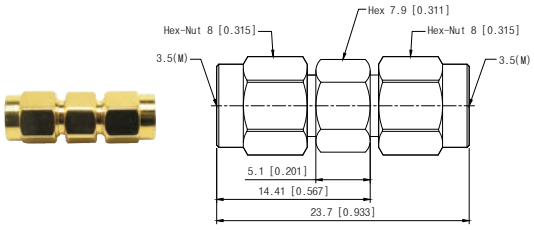
Materials

Body	Stainless Steel	Gold Plated
Center Contact	Beryllium Copper(BeCu)	Gold Plated
Insulator	Engineering Plastic	-



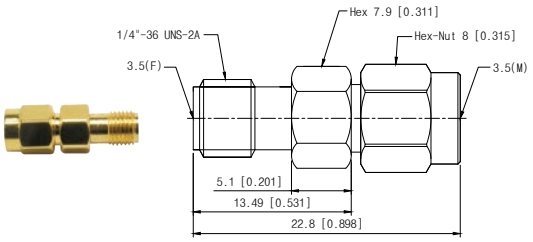
Unit : mm [Inch]

3.5 mm (M) - 3.5 mm (M)



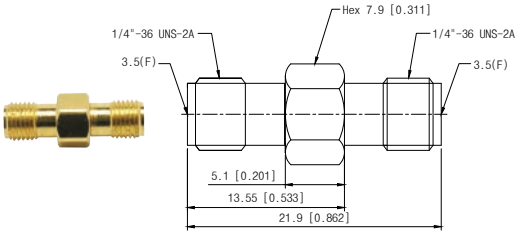
- **Part No.** 3MS-ADP-3MS-01
- **Freq.** 26.5 GHz
- **VSWR** Max. 1.2

3.5 mm (M) - 3.5 mm (F)



- **Part No.** 3MS-ADP-3FS-01
- **Freq.** 26.5 GHz
- **VSWR** Max. 1.2

3.5 mm (F) - 3.5 mm (F)



- **Part No.** 3FS-ADP-3FS-01
- **Freq.** 26.5 GHz
- **VSWR** Max. 1.2

▶ SMA to SMA

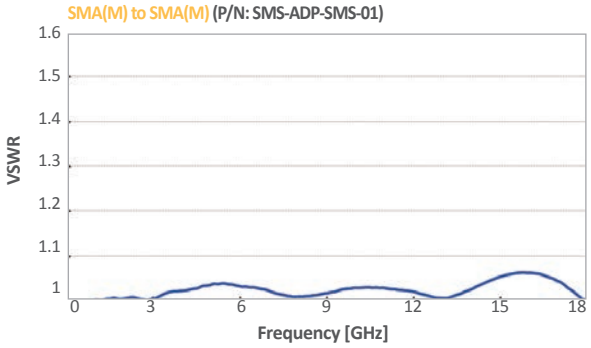
Electrical

Frequency	DC to 18 GHz
Insertion Loss	IL[dB] = max 0.06 x √F
VSWR	1.2 : 1 max
Temperature	-40˚C to + 125˚C

Materials

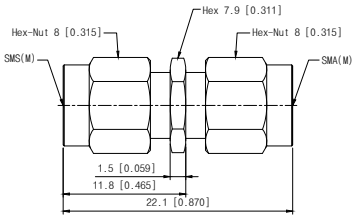
Body	Stainless steel	Passivated
Center Contact	Beryllium Copper(BeCu)	Gold Plated
Insulator	PTFE	-

SMA(M) to SMA(M) **(P/N: SMS-ADP-SMS-01)**



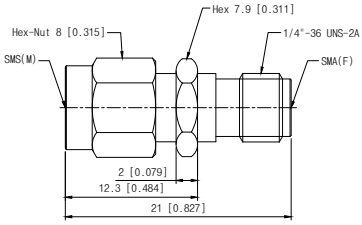
Unit : mm [Inch]

SMA (M) - SMA (M)



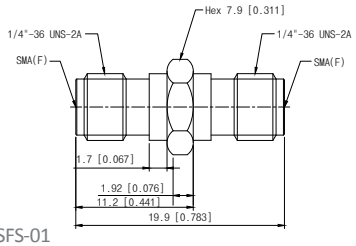
- **Part No.** SMS-ADP-SMS-01
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

SMA (M) - SMA (F)



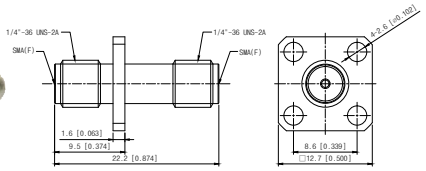
- **Part No.** SMS-ADP-SFS-01
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

SMA (F) - SMA (F)



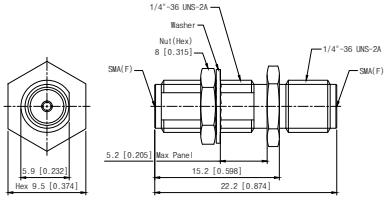
- **Part No.** SFS-ADP-SFS-01
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

SMA (F) - SMA (F) (4 HOLE 12.7mm SQUARE)



- **Part No.** SFS-ADP-SFS-06-4H
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

SMA (F)-SMA (F) Bulkhead



- **Part No.** SFS-ADP-SFS-05-BH
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

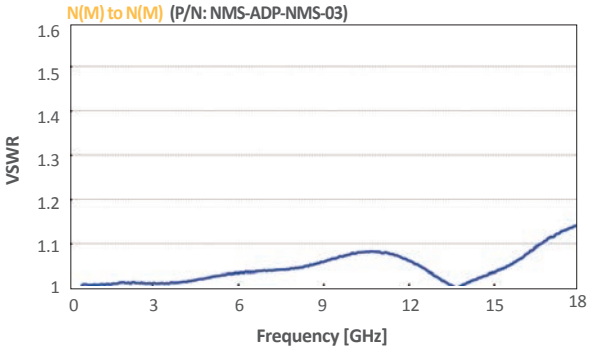
▶ N to N

Electrical

Frequency	DC to 18 GHz
Insertion Loss	IL[dB] = max 0.06 x √F
VSWR	1.2 : 1 max
Temperature	-40˚C to + 125˚C

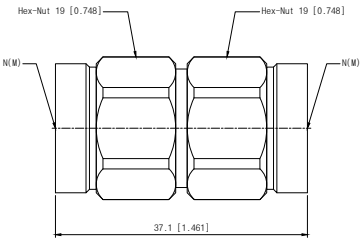
Materials

Body	Stainless Steel	Passivated
Center Contact	Brass	Gold Plated
Insulator	Engineering Plastic	-



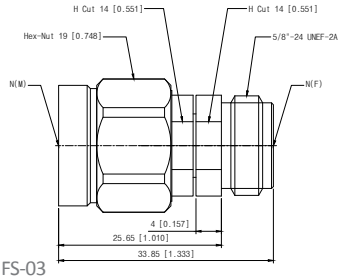
Unit : mm [Inch]

N (M) - N (M)



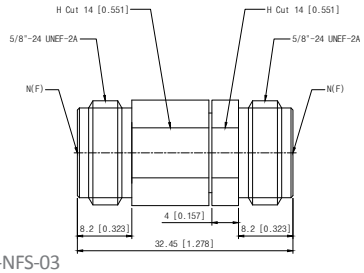
- **Part No.** NMS-ADP-NMS-03
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

N (M) - N (F)



- **Part No.** NMS-ADP-NFS-03
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

N (F) - N (F)



- **Part No.** NFS-ADP-NFS-03
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

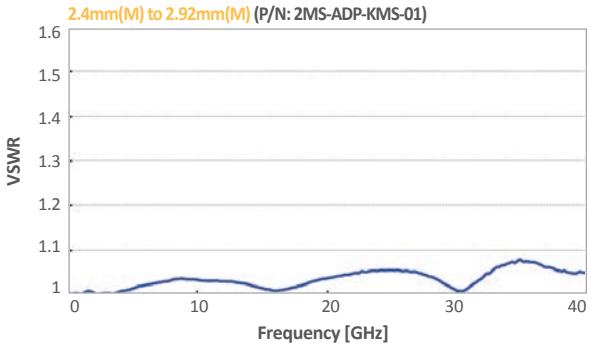
▶ 2.4 mm to 2.92 mm

Electrical

Frequency	DC to 40 GHz
Insertion Loss	IL[dB] = max 0.06 x √F
VSWR	DC ~ 4 GHz 1.05 : 1 max 4 ~ 40 GHz 1.2 : 1 max
Temperature	-55˚C to + 135˚C

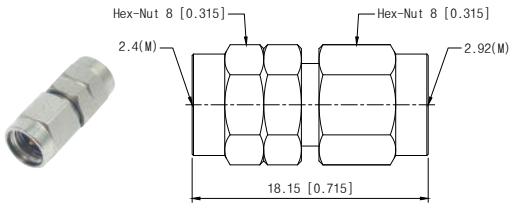
Materials

Body	Stainless steel	Passivated
Center Contact	Beryllium Copper(BeCu) Brass	Gold Plated Gold Plated
Insulator	Engineering Plastic	-



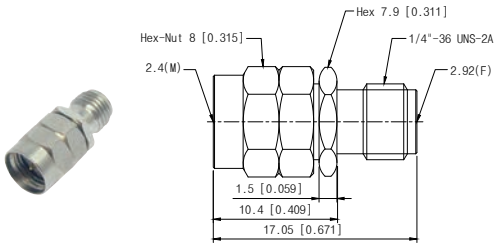
Unit : mm [Inch]

2.4 mm (M) - 2.92 mm (M)



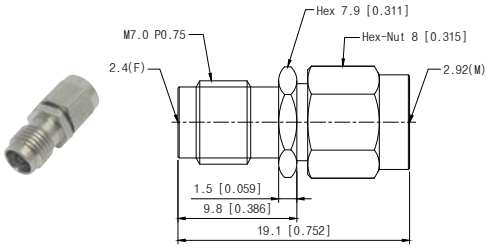
- **Part No.** 2MS-ADP-KMS-01
- **Freq.** 40 GHz
- **VSWR** Max. 1.2

2.4 mm (M) - 2.92 mm (F)



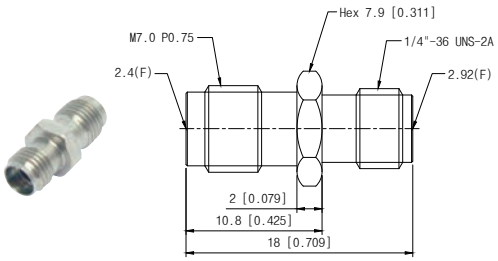
- **Part No.** 2MS-ADP-KFS-01
- **Freq.** 40 GHz
- **VSWR** Max. 1.2

2.4 mm (F) - 2.92 mm (M)



- **Part No.** 2FS-ADP-KMS-01
- **Freq.** 40 GHz
- **VSWR** Max. 1.2

2.4 mm (F) - 2.92 mm (F)



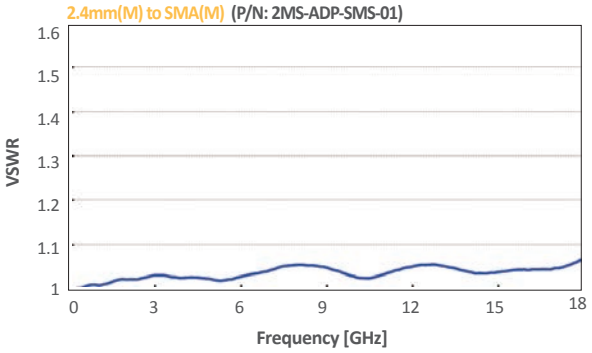
- **Part No.** 2FS-ADP-KFS-01
- **Freq.** 40 GHz
- **VSWR** Max. 1.2

▶ 2.4 mm to SMA

Electrical

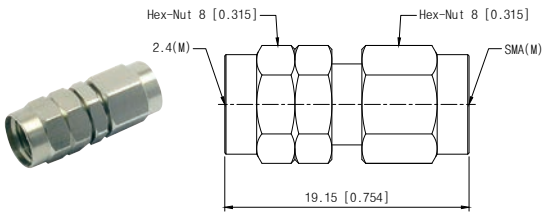
Frequency	DC to 18 GHz
Insertion Loss	IL[dB] = max 0.06 x √F
VSWR	1.2 : 1 max
Temperature	-40˚C to + 125˚C

Material data	Material	Plating
Body	Stainless Steel	Passivated
Center Contact	Beryllium Copper(BeCu) Brass	Gold Plated Gold Plated
Insulator	PTFE	



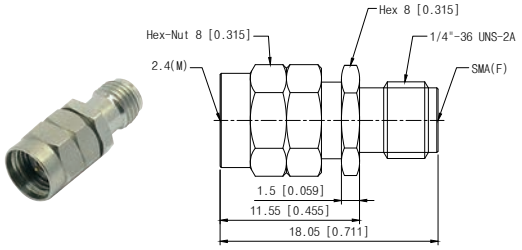
Unit : mm [Inch]

2.4 mm (M) – SMA (M)



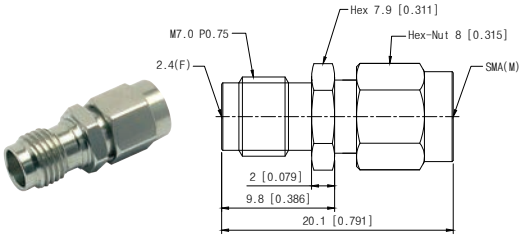
- **Part No.** 2MS-ADP-SMS-01
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

2.4 mm (M) – SMA (F)



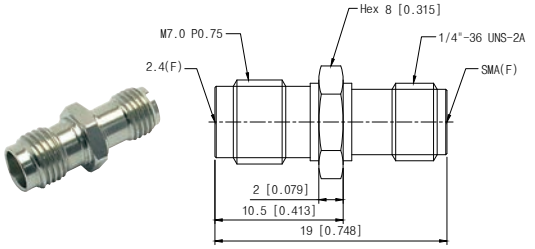
- **Part No.** 2MS-ADP-SFS-01
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

2.4 mm (F) – SMA (M)



- **Part No.** 2FS-ADP-SMS-01
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

2.4 mm (F) - SMA (F)



- **Part No.** 2FS-ADP-SFS-01
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

▶ N to SMA

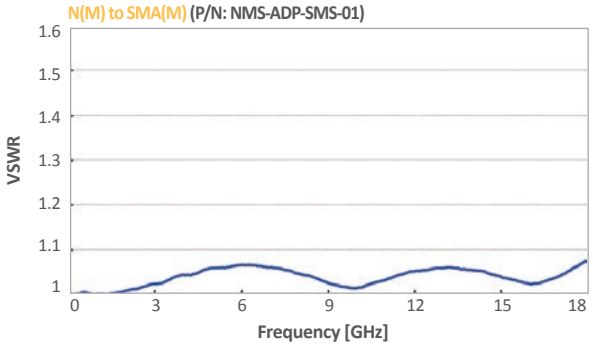
Electrical data

Frequency	DC to 18 GHz
Insertion Loss	IL[dB] = max 0.06 x √F
VSWR	DC ~ 4 GHz 1.1 : 1 max 4 ~ 18 GHz 1.2 : 1 max
Temperature	-40˚C to + 125˚C

Materials

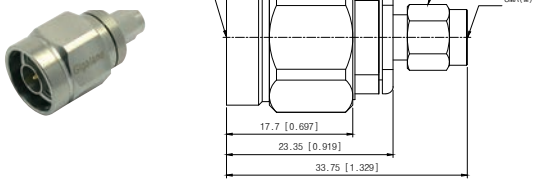
Body	Stainless steel	Passivated
Center Contact	Beryllium Copper(BeCu) Brass	Gold Plated Gold Plated
Insulator	PTFE	-

N(M) to SMA(M) **(P/N: NMS-ADP-SMS-01)**



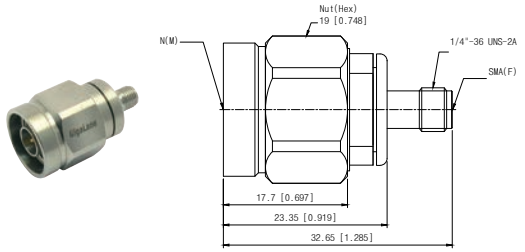
Unit : mm [Inch]

N (M) - SMA (M)



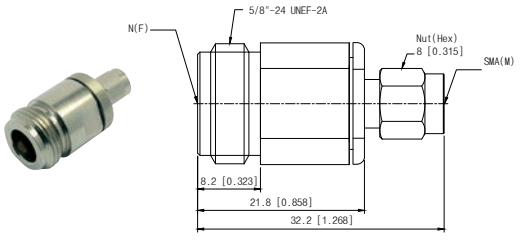
- **Part No.** NMS-ADP-SMS-01
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

N (M) - SMA (F)



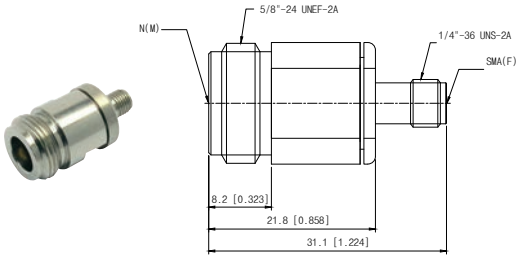
- **Part No.** NMS-ADP-SFS-01
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

N (F) - SMA (M)



- **Part No.** NFS-ADP-SMS-01
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

N (F) - SMA (F)



- **Part No.** NFS-ADP-SFS-01
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

▶ SMP to SMA

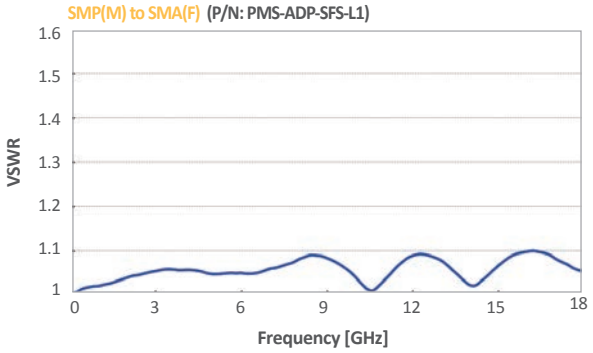
Electrical

Frequency	DC to 18 GHz
Insertion Loss	IL[dB] = max 0.06 x √F
VSWR	DC ~ 4 GHz 1.15 : 1 max 4 ~ 18 GHz 1.2 : 1 max
Temperature	-40˚C to + 125˚C

Material data

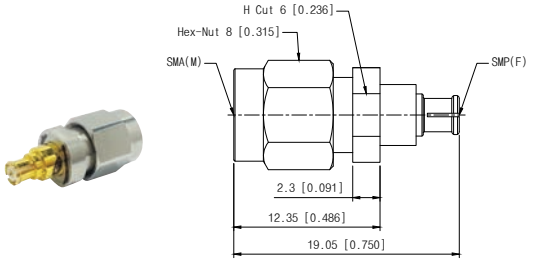
Body	Stainless Steel	Passivated
Center Contact	Brass	Gold Plated
Insulator	PTFE	

SMP(M) to SMA(F) **(P/N: PMS-ADP-SFS-L1)**



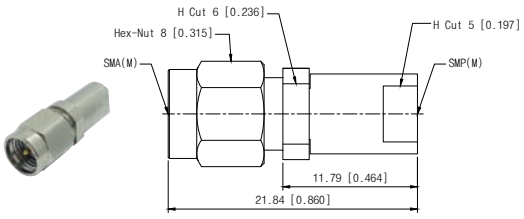
Unit : mm [Inch]

SMP (F) to SMA (M)



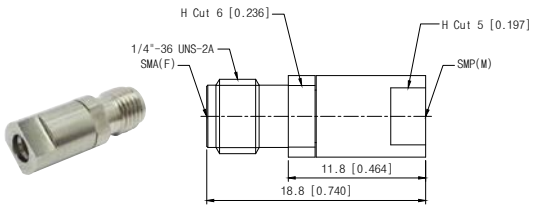
- **Part No.** PFS-ADP-SMS-01
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

SMP(M) to SMA (M)



- **Part No.** PMS-ADP-SMS-L1
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

SMP(M) to SMA (F)



- **Part No.** PMS-ADP-SFS-L1
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

▶ SMP to 2.92mm / SMP

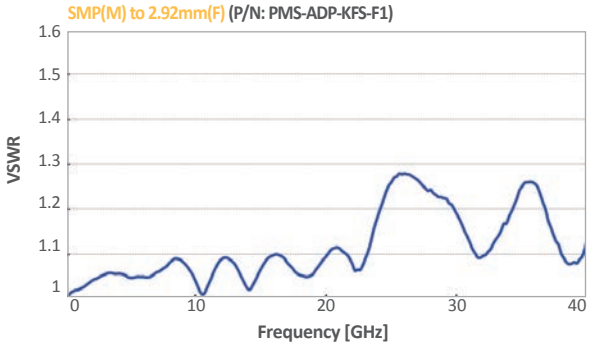
Electrical

Frequency	DC to 40 GHz
VSWR	DC ~ 18 GHz 1.2 : 1 typical 18 ~ 40 GHz 1.3 : 1 max
Temperature	-40˚C to + 125˚C

Materials

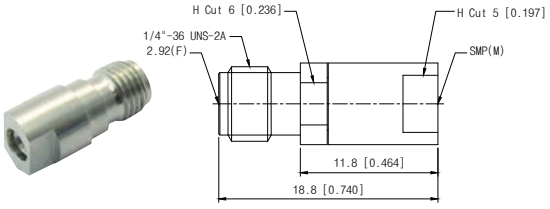
Body	Stainless steel	Passivated
Center Contact	Brass	Gold Plated
Insulator	PTFE	-

SMP(M) to 2.92mm(F) (P/N: PMS-ADP-KFS-F1)



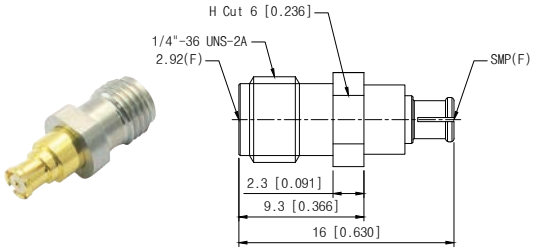
Unit : mm [Inch]

SMP(M) - 2.92 mm (F)



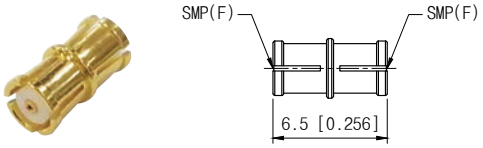
- **Part No.** PMS-ADP-KFS-F1 / PMS-ADP-KFS-F2 / PMS-ADP-KFS-F3
- **Freq.** 40 GHz
- **VSWR** Max. 1.3

SMP (F) - 2.92 mm (F)



- **Part No.** PFS-ADP-KFS-01
- **Freq.** 40 GHz
- **VSWR** Max. 1.3

SMP (F) - SMP(F) (BULLET)



- **Part No.** .PFS-ADP-PFS-01
- **Freq.** 18 GHz
- **VSWR** Max. 1.3

BMA Adapters

▶ BMA to SMA

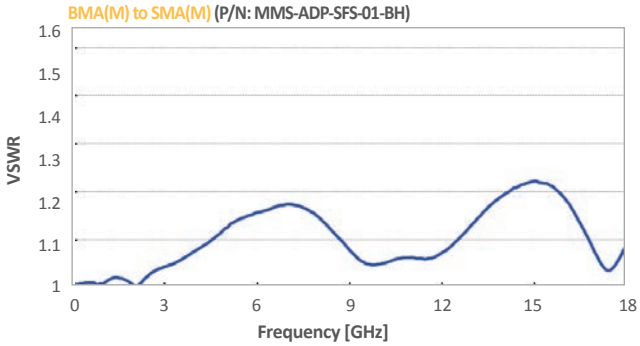
Electrical

Frequency	DC to 18 GHz
Insertion Loss	IL[dB] = max 0.06 x √F
VSWR	DC ~ 4 GHz 1.1 : 1 max 4 ~ 18 GHz 1.2 : 1 max
Temperature	-40˚C to + 125˚C

Materials

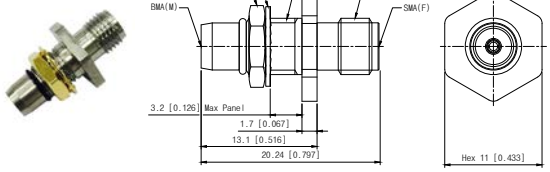
Body	Stainless steel	Passivated
Center Contact	Brass	Gold Plated
Insulator	PTFE	-

BMA(M) to SMA(M) **(P/N: MMS-ADP-SFS-01-BH)**



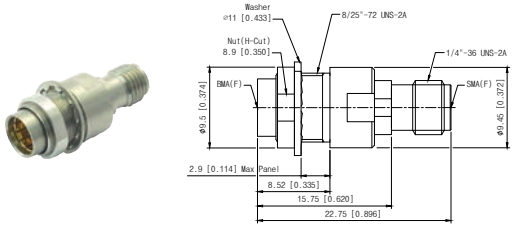
Unit : mm [Inch]

BMA (M) - SMA (F) - Bulkhead



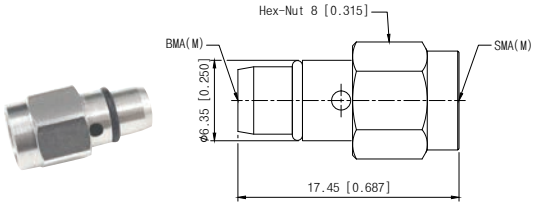
- **Part No.** MMS-ADP-SFS-01-BH
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

BMA (F) - SMA (F) - Bulkhead



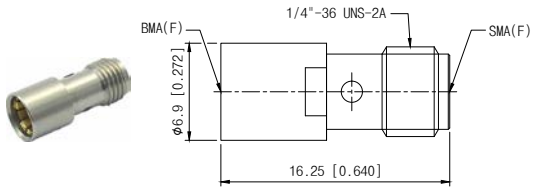
- **Part No.** MFS-ADP-SFS-01-BH
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

BMA (M) - SMA (M)



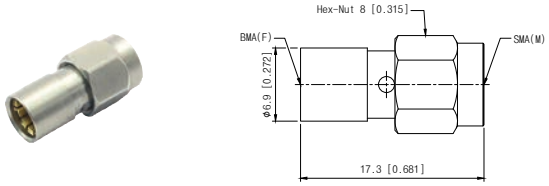
- **Part No.** MMS-ADP-SMS-01
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

BMA (F) - SMA (F)



- **Part No.** MFS-ADP-SFS-02
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

BMA (F) - SMA (M)

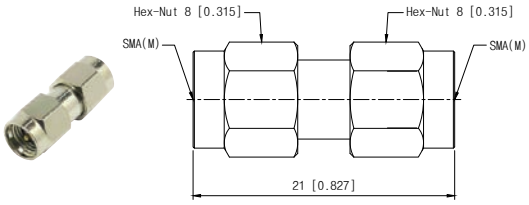


- **Part No.** MFS-ADP-SMS-01
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

▶ SMA to SMA / MCX

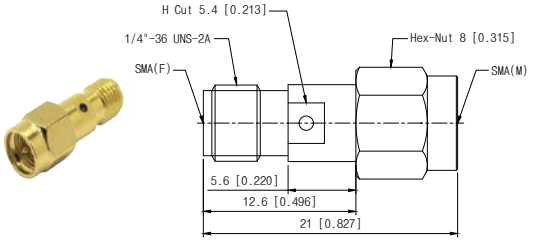
Unit : mm [Inch]

SMA (M) – SMA (M)



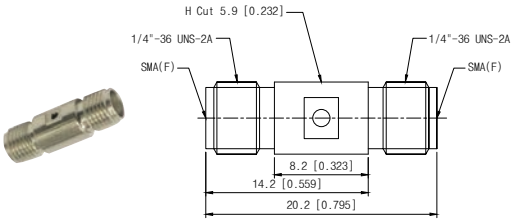
- **Part No.** AMS-ADP-AMS-01 (Ni Plated)
  AMS-ADP-AMS-02 (Alloy Plated)
  AMS-ADP-AMS-03 (Gold Plated)
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

SMA (M) – SMA (F)



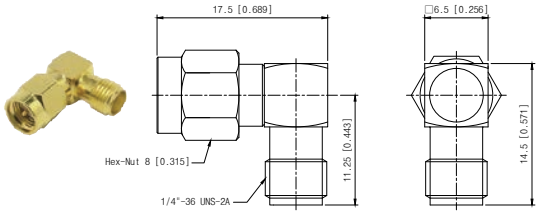
- **Part No.** AMS-ADP-AFS-03
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

SMA (F) – SMA (F)



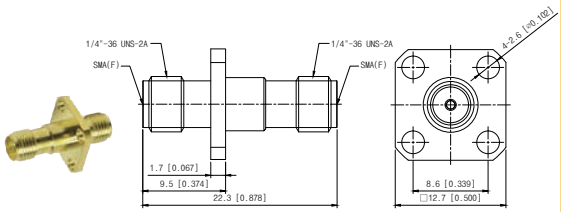
- **Part No.** AFS-ADP-AFS-02 (Ni Plated)
  AFS-ADP-AFS-05 (Alloy Plated)
  AFS-ADP-AFS-04 (Au Plated)
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

SMA (M) R/A – SMA (F)



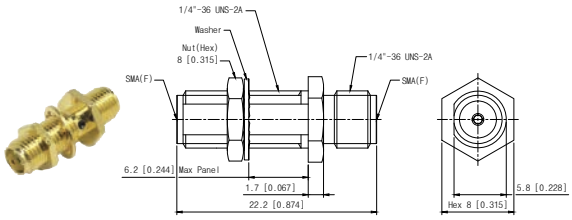
- **Part No.** AMR-ADP-AFS-02
- **Freq.** 6 GHz
- **VSWR** Max. 1.2

SMA (F) – SMA (F) (4 HOLE, 12.7mm SQUARE)



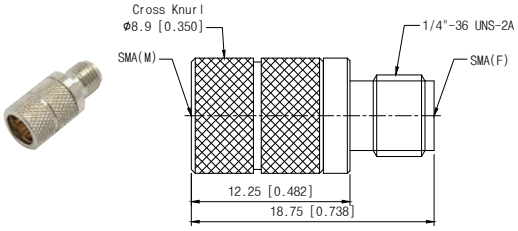
- **Part No.** AFS-ADP-AFS-01-4H
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

SMA (F) – SMA (F) Bulkhead



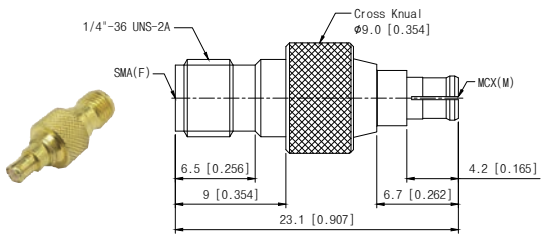
- **Part No.** AFS-ADP-AFS-03-BH
- **Freq.** 18 GHz
- **VSWR** Max. 1.2

SMA (M) – SMA (F) Push Type



- **Part No.** PUS-ADP-AFS-01 (Ni Plated)
  PUS-ADP-AFS-02 (Gold Plated)
- **Freq.** 12 GHz
- **VSWR** Max. 1.2

SMA (F) – MCX (M)



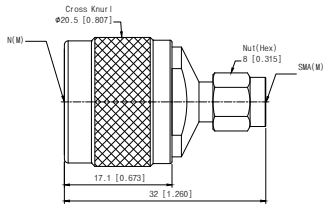
- **Part No.** AFS-ADP-DMS-01
- **Freq.** 6 GHz
- **VSWR** Max. 1.2

Standard Adapters

▶ N to SMA

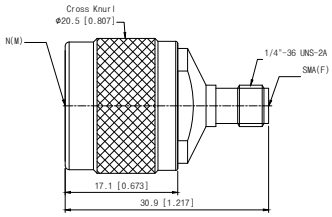
Unit : mm [Inch]

N (M) – SMA (M)



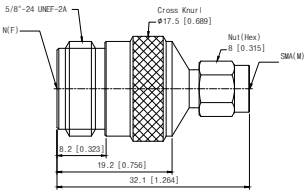
- **Part No.** NMS-ADP-AMS-01 (Ni Plated)
  NMS-ADP-AMS-02 (Alloy Plated)
- **Freq.** 12 GHz
- **VSWR** Max. 1.2

N (M) – SMA (F)



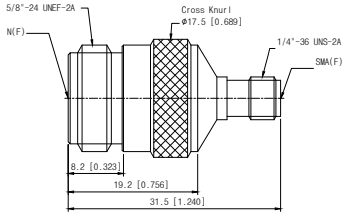
- **Part No.** NMS-ADP-AFS-01 (Ni Plated)
  NMS-ADP-AFS-02 (Alloy Plated)
- **Freq.** 12 GHz
- **VSWR** Max. 1.2

N (F) – SMA (M)



- **Part No.** NFS-ADP-AMS-01 (Ni Plated)
  NFS-ADP-AMS-02 (Alloy Plated)
- **Freq.** 12 GHz
- **VSWR** Max. 1.2

N (F) – SMA (F)

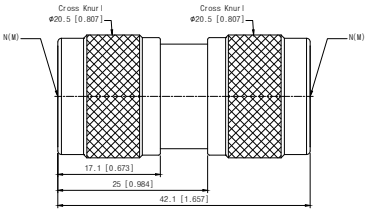


- **Part No.** NFS-ADP-AFS-01 (Ni Plated)
  NFS-ADP-AFS-02 (Alloy Plated)
- **Freq.** 12 GHz
- **VSWR** Max. 1.2

▶ N to SMA

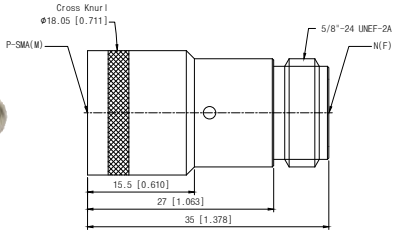
Unit : mm [Inch]

N (M) – N (M)



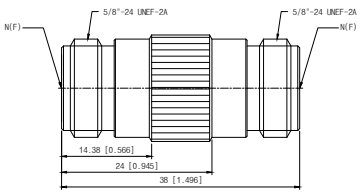
- **Part No.** NMS-ADP-NMS-01 (Ni Plated)
  NMS-ADP-NMS-02 (Alloy Plated)
- **Freq.** 8 GHz
- **VSWR** Max. 1.2

N (M) – N (F) Push Type



- **Part No.** PUS-ADP-NFS-01
- **Freq.** 8 GHz
- **VSWR** Max. 1.2

N (F) – N (F)



- **Part No.** NFS-ADP-NFS-01 (Ni Plated)
  NFS-ADP-NFS-02 (Alloy Plated)
- **Freq.** 8 GHz
- **VSWR** Max. 1.2

Test & Measurement

- 3.5mm & N-Type & Din Type Calibration Kits
- TDR Probe
- Attenuators
- Termination

3.5mm & N-Type & DIN Type Calibration Kits

GigaLane Calibration kits are designed for correcting inappropriate measurements of devices under test using a VNA up to 9 GHz. Calibration kit enables precise and repeatable measurement based on high-quality matching technology and precise processing technology. This components can be applied to all common VNAs. GigaLane has developed of 3.5mm Male & Female set (9 GHz), N-type Male & Female set (4 GHz), DIN type male (4 GHz) products.

- **3.5mm Male & Female set (9 GHz):** 3.5mm vector network analyzer calibration kits contain both male/plug and female/jack connector interfaces to perform a full two port error corrections. VNA calibration kits are designed for equipment that utilizes the open-short-load calibration method.
- **N-type Male & Female set (4 GHz)**: N-type Calibration kit is designed to calibrate a wide range of VNA models. VNA calibrations kit are designed for equipment utilizes a short, open, load calibration technique.
- **DIN type male (4 GHz) products**: DIN type calibration kits are designed for test measurement.

*Each Calibration kit is housed in a durable, protective wood box and includes a present torque wrench.

General Information

- Applied to all common VNAs
- Development of 3.5mm Male & Female Set (9 GHz)
- N type Male & Female Set (6 GHz, 4 GHz)
- DIN Type Male (4 GHz)

3.5mm Full Set	3.5mm Economy Set
• **Part No.** GCS35M-9G	• **Part No.** GCS35M-9G-ES
- Male Set, Female Set - 3 Phase Matched Adapter - Torque wrench - Wood Case	- Male Set, Female Set - Wood Case

• **Part No.** GPA35M-9G-MS

• **Part No.** GPA35M-9G-FS

• **Part No.** GPA35M-MM
• **Freq.** DC to 26.5 GHz
• **VSWR** Max 1.2

• **Part No.** GPA35M-MF
• **Freq.** DC to 26.5 GHz
• **VSWR** Max 1.2

• **Part No.** GTW8M (0.9N.m)
• **Torque** 0.9 N.m ± 3% (8lbs. Inch)
• **Head Opening** 8.1 mm (0.319 inch) for 8mm (0.315 inch) nut
• **Length** 163mm (6.42 inch)
• **Weight** 140 g (4.94 oz)

• **Part No.** GPA35M-FF
• **Freq.** DC to 26.5 GHz
• **VSWR** Max 1.2

N-Type Male Set (6 GHz)

- **Part No.** GCSN-6G-MS

N-Type Male Set (4 GHz)

- **Part No.** GCSN-4G-MS

N-Type Female Set (4 GHz)

- **Part No.** GCSN-4G-FS

DIN-Type Male Set (4 GHz)

- **Part No.** GCSD-4G-MS

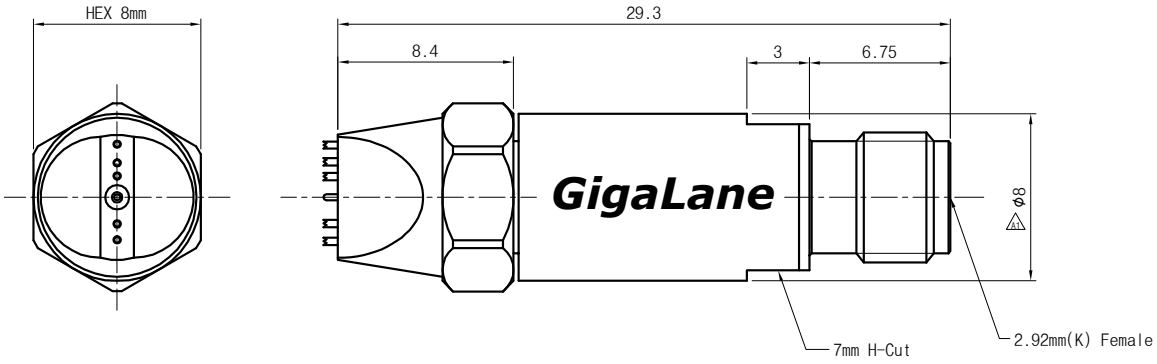
▶ Microstrip with Top Ground Test Result of G01SFB001

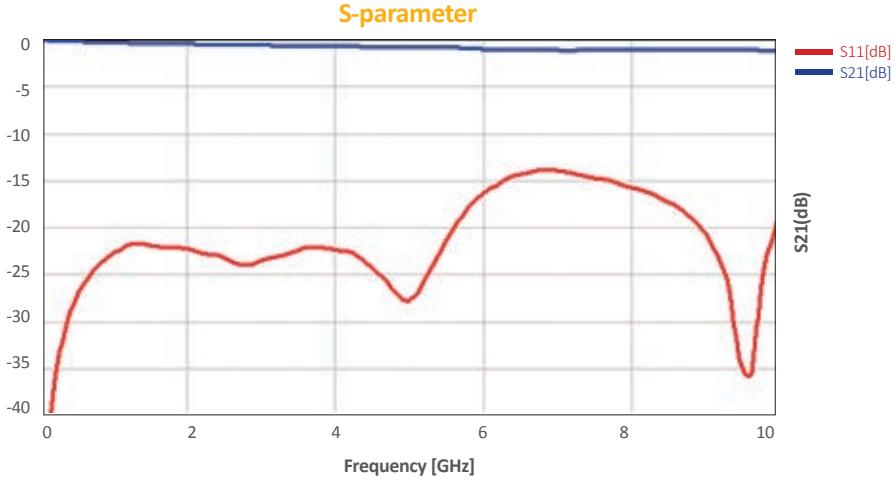
	GCS35M-9G	GCSN-6G-MS	GCSN-4G-MS GCSN-4G-FS	GCSD-4G-MS
Connector	3.5mm	N	N	DIN
Max Frequency	9 GHz	6 GHz	4 GHz	4 GHz
Max Frequency	< -38 dB	< -40 dB	< -40 dB	< -40 dB
Phase Deviation of Open, Shot	< ±1.5°	< ±1.5°	< ±1.5°	< ±1.5°
Material	Stainless Steel with Gold Plating	Stainless Steel	Stainless Steel	Stainless Steel

TDR Probe

GigaLane TDR Probe is most useful when performing the Time Domain Reflectometry (TDR) measurement on the board. It is designed to provide optimized solution for difficult installation and measurement of connectors. The embedded spring structure enables a stable contact between ground and signal. The pitches between signal and ground pins can be designed and adjustable to 5 different specifications; 1.0 1.27 1.65 2.0 2.5mm

- **Part No.** GLT-TDRP-K-01
- **Frequency range** DC to 10 GHz
- **Insertion Loss** < 1.2 dB
- **Return Loss** > 10 dB
- **Connector** 2.92mm K-type
- **Probe Pitch** 1.0 ~ 2.5mm





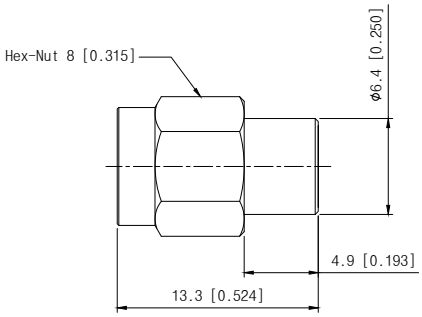
Attenuators

GigaLane SMA type Fixed Attenuators show excellent electrical performance from DC to 3GHz. Users can choose the value that they want among various attenuation values.

- **Part No.** GLAT-C Series
- **Frequency range** DC to 3 GHz
- **VSWR** 1.2
- **RF Power** 2 W average
- **Impedance** 50 Ω
- **Body Material** Brass with Gold Plated
- **Pin Material** BeCu with Gold Plated
- **Weight** 7g
- **Temp. range** -55℃ to + 125℃
- **Attenuation Value** 1 ~ 10, 15, 20, 30 dB
- **Attenuation accuracy** +/- 0.5 dB
- **Part No.** GLAT-C-XX dB (XX : Attenuation Value
  Ex) 3 dB Hexa Attenuator : GLAT-C-3dB

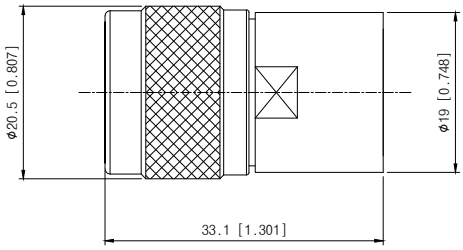
Termination

SMA (M) Type



- **Part No.** GLTT-001
- **Frequency range** Max 3 GHz
- **VSWR** < 1.2
- **Power** 1W avg @ 25℃
- **Impedance** 50 Ω
- **Temp. range** -55℃ to + 125℃
- **Body Material** Brass with Gold Plated

N (M) Type



- **Part No.** GLTT-005
- **Frequency range** Max 3 GHz
- **VSWR** < 1.2
- **Power** 1W avg @ 25℃
- **Impedance** 50 Ω
- **Temp. range** -55℃ to + 125℃
- **Body Material** Brass with Alloy Plated

Cable Assemblies

- GL Series
- GUL Series
- Airborne Series
- MF Series
- SR Series
- SF Series
- Suitable Connectors for Cable
- Specifying Assembly Length

▶ GL Series

Flexible Low Loss Microwave cable assembly

- GL140s
- GL200
- GL200s
- GL200sC01

▶ GUL Series

Flexible Ultra Low Loss Microwave cable assembly

- GUL180
- GUL310

▶ Airborne Series

Airborne Microwave cable assembly

- GLA210
- GULA320

▶ MF Series

Multiflex Microwave Cable Assembly

- MF085
- MF141

▶ SR Series

Semi-Rigid Microwave Cable Assembly

- SR085
- SR141

▶ SF Series

Semi-Flexible(handformable) Microwave Cable Assembly

- SF085
- SF141

Product Groups

GL Series

Flexible Low Loss
Microwave Cable Assembly

GUL Series

Flexible Ultra Low Loss
Microwave Cable Assembly

Airborne Series

Airborne
Microwave Cable Assembly

MF Series

Multiflex
Microwave Cable Assembly

SR Series

Semi-Rigid
Microwave Cable Assembly

SF Series

Semi-Flexible(Handformable)
Microwave Cable Assembly

GL Series

Flexible Low Loss
Microwave Cable Assembly

GigaLane GL Series cable assemblies perform in the range of frequency usage that is applicable up to 40 GHz . Center conductor consists of Stranded and Solid center conductor. By using Low density PTFE(extruded) dielectric, a value of the lowest insertion loss is extracted. These are specialized in providing excellent shielding effectiveness, flexibility and durability and supplied in fields of Commercial, Military RF & microwave airborne systems, Test & Measurement applications (Lab & Production line, Anechoic Chamber).

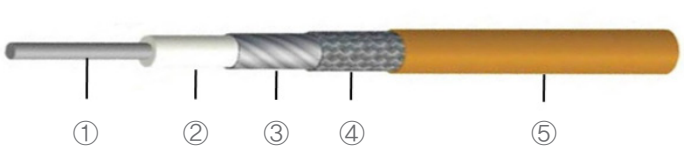
GigaLane provides two types of Neck type for GL cable assembly. One is sleeve type to strengthen the neck area of connector and gives a comfort grip which provides easiness in assembling connectors. Another is shrink tube type which is suitable for applying to small space.

GL140s Cable

▶ Features and benefits

- Frequency ranges from DC to 40 GHz
- Low Loss and Flexibility
- Durability
- Low density PTFE(extruded) dielectric
- Excellent shielding effectiveness and return loss
- Cost-efficient

▶ Cable Design



Description		Diameter (mm)
① Center conductor	Silver-plated copper wire, stranded	19/0.2
② Dielectric	Low density PTFE (extruded)	-
③ Inner shield	Silver-plated copper tape	-
④ Outer shield	Silver-plated copper braid	-
⑤ Jacket	Extruded FEP	4.20

Electrical

Impedance	50 Ω
Operating frequency	40 GHz
Capacitance	86 pF/m
Velocity of propagation	77 % nom.
Time delay	4.35 ns/m
RF leakage (dB)	-100
Dielectric constant	1.7
Phase stability vs. flexure (@18 GHz max.)	4°
IL stability vs. flexure (dB @minimum BR)	± 0.3
Phase stability vs. temp. (deg/GHz/m) (-40 ~ 80°)	< 2°

Mechanical & Environmental

Minimum bend radius (mm)	19.05
Weight (g/m)	42
Temperature	-55℃ to + 135℃

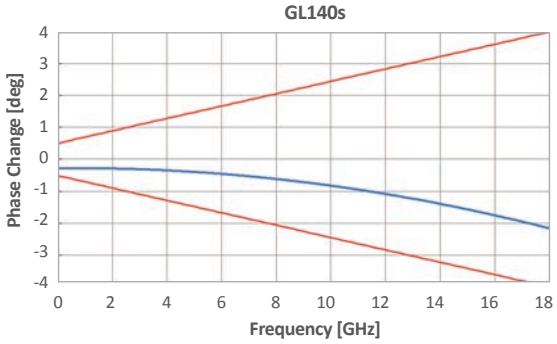
Suitable Connectors

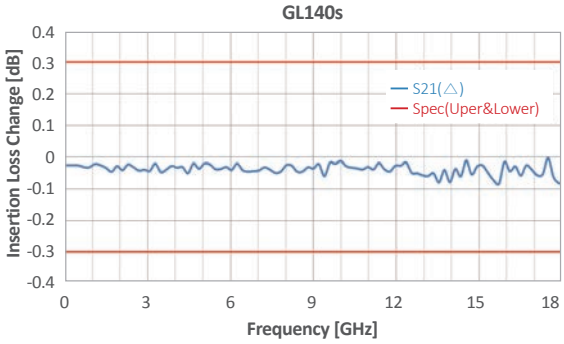
Cable selection			Standard Connector selection					
			SMA type		N type		2.9mm type	Drawing Page
P/N	Frequency	Attenuation (dB/m)	Straight	R/A	Straight	R/A	Straight	
GL140sB02	6 GHz	0.88	SMS114 SMS114B*	SMR114	NMS114	NMR114B	-	82p
GL140sC	18 GHz	1.62	SMS122 SMS122B*	-	-		-	82p
GL140sD	26.5 GHz	1.98	SMS115 SMS115B*	-	-		-	82p
GL140sE	40 GHz	2.52	-	-	-		KMS116	82p

* XXXXXXB : Shrink Tube Type ex) SMS114B

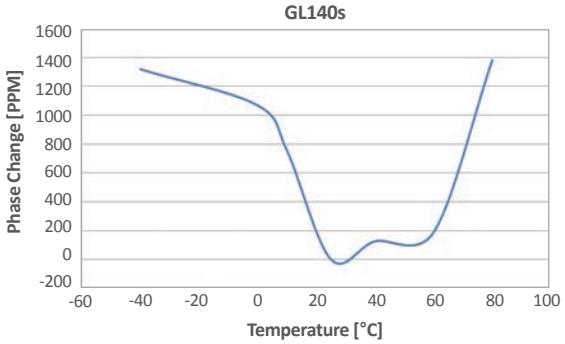
GL140s Cable

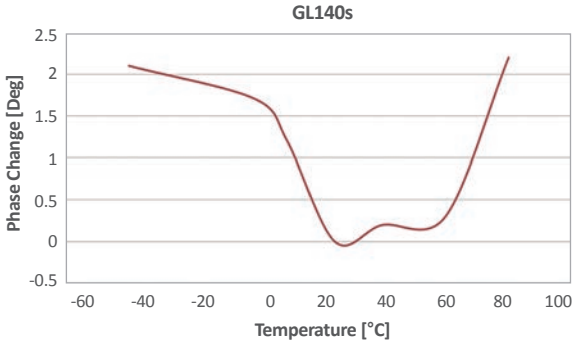
▶ Cable Insertion & Stability with Flexure



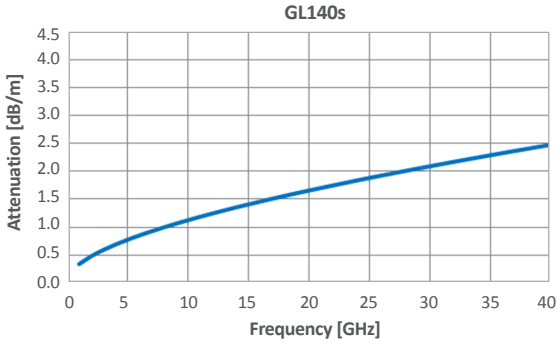


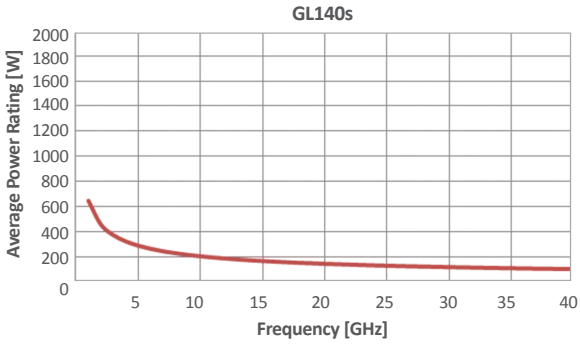
▶ Cable Phase Stability with Temperature



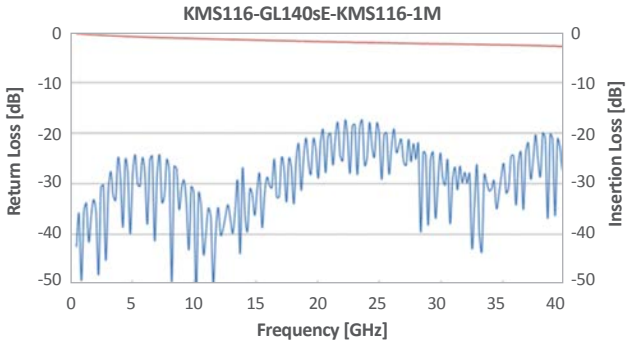


▶ Cable Attenuation & Power





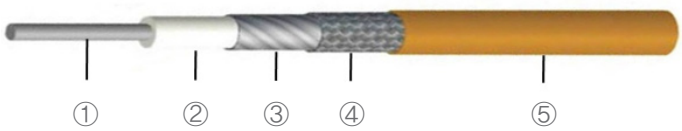
▶ Test Result



▶ Features and benefits

- Frequency ranges from DC to 26.5 GHz
- Low Loss and Flexibility
- Durability
- Low density PTFE(extruded) dielectric
- Excellent shielding effectiveness and return loss
- Cost-efficient

▶ Cable Design



Description		Diameter (mm)	
		GL200	GL200s
① Center conductor	GL200: Silver-plated copper wire, solid GL200s: Silver-plated copper wire, stranded	1.39	19/0.3
② Dielectric	Low density PTFE (extruded)	-	-
③ Inner shield	Silver-plated copper tape	-	-
④ Outer shield	Silver-plated copper braid	-	-
⑤ Jacket	Extruded FEP	5.70	5.70

Electrical

Impedance	50 Ω
Operating frequency	18 GHz
Capacitance	85 pF/m
Velocity of propagation	77 % nom.
Time delay	4.35 ns/m
RF leakage (dB)	-100
Dielectric constant	1.7
Phase stability vs. flexure (@18 GHz max.)	5°
IL stability vs. flexure (dB @minimum BR)	± 0.3
Phase stability vs. temp. (deg/GHz/m) (-40 ~ 80°)	< 2 °

Mechanical & Environmental

Minimum bend radius (mm)	29.2
Weight (g/m)	70
Temperature	-55℃ to + 135℃

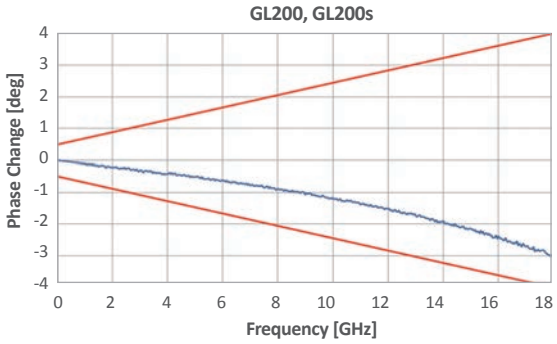
Suitable Connectors

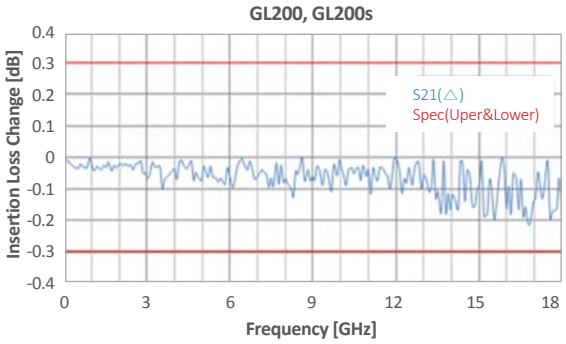
Cable selection			Standard Connector selection				
			SMA type		N type		Drawing Page
P/N	Frequency	Attenuation (dB/m)	Straight	R/A	Straight	R/A	
GL200C	18 GHz	1.15	SMS111 SMS111B*	SMR111	NMS111 NFS111(Jack)	NMR111	83p
GL200D	26.5 GHz	1.43	SMS112 SMS112B*	-	-	-	83p
GL200sC	18 GHz	1.19	SMS111 SMS111B*	SMR111	NMS111 NFS111(Jack)	NMR111	83p
GL200sD	26.5 GHz	1.45	SMS112 SMS112B*	-	-	-	83p

* XXXXXXB : Shrink Tube Type ex) SMS111B

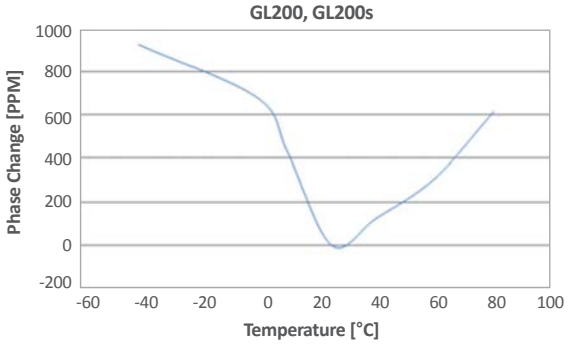
GL200 & GL200s Cable

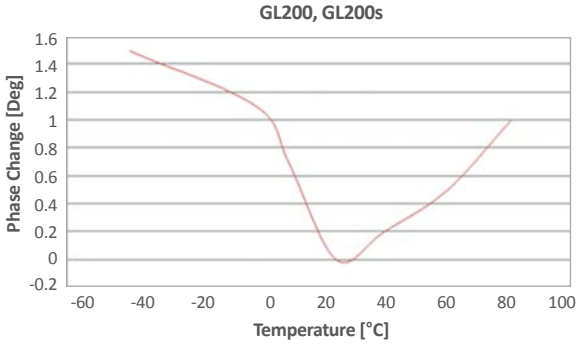
▶ Cable Insertion & Stability with Flexure



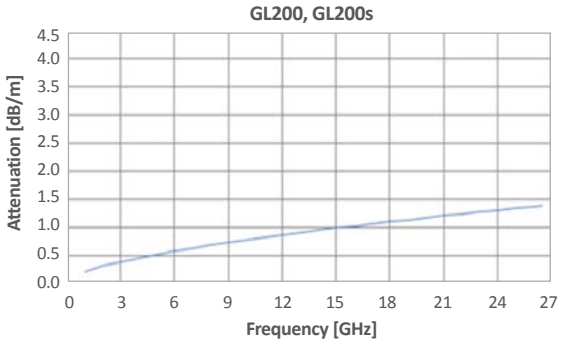


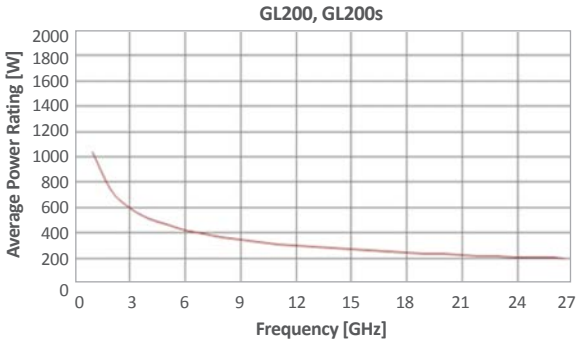
▶ Cable Phase Stability with Temperature



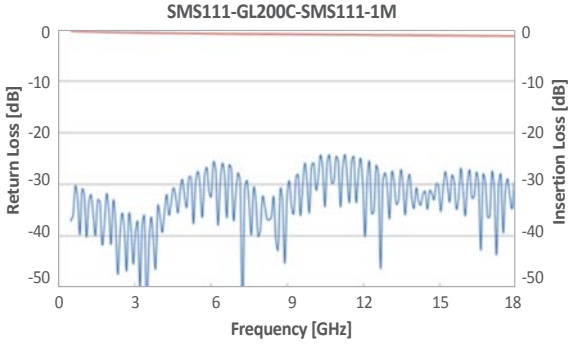


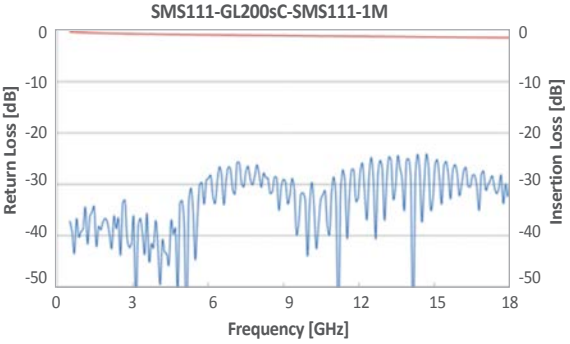
▶ Cable Attenuation & Power





▶ Test Result



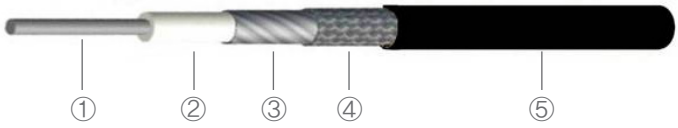


GL200sC01 Cable

▶ Features and benefits

- Frequency ranges from DC to 26.5 GHz
- Low Loss and Highest Flexibility
- Durability
- Low density PTFE(extruded) dielectric
- Excellent shielding effectiveness and return loss
- Cost-efficient

▶ Cable Design



Description		Diameter (mm)
① Center conductor	Silver-plated copper wire, stranded	19/0.3
② Dielectric	Low density PTFE (extruded)	-
③ Inner shield	Silver-plated copper tape	-
④ Outer shield	Silver-plated copper braid	-
⑤ Jacket	PUR, Black	6.10

Electrical

Impedance	50 Ω
Operating frequency	18 GHz
Capacitance	85 pF/m
Velocity of propagation	77 % nom.
Time delay	4.35 ns/m
RF leakage (dB)	-100
Dielectric constant	1.7
Phase stability vs. flexure (@18 GHz max.)	5°
IL stability vs. flexure (dB @minimum BR)	± 0.3
Phase stability vs. temp. (deg/GHz/m) (-40 ~ 80°)	< 2 °

Mechanical & Environmental

Minimum bend radius (mm)	29.2
Weight (g/m)	70
Temperature	-40℃ to + 100℃

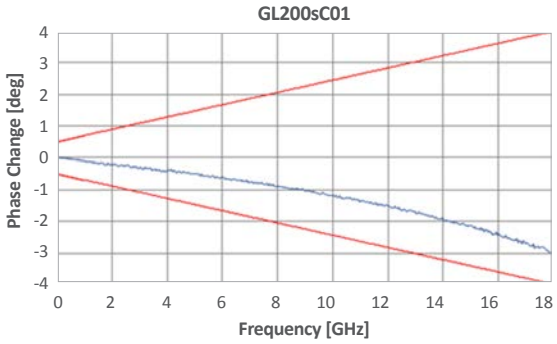
Suitable Connectors

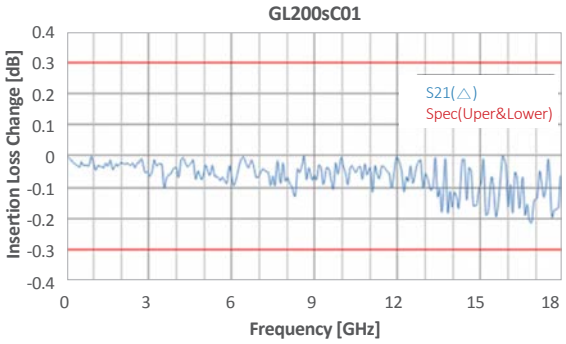
Cable selection			Standard Connector selection				
			SMA type		N type		Drawing Page
P/N	Frequency	Attenuation (dB/m)	Straight	R/A	Straight	R/A	
GL200sC01	18 GHz	1.19	SMS111 SMS111B*	SMR111	NMS111 NFS111(Jack)	NMR111	83p
GL200sD01	26.5 GHz	1.45	SMS112 SMS112B*	-	-		83p

* XXXXXXB : Shrink Tube Type ex) SMS111B

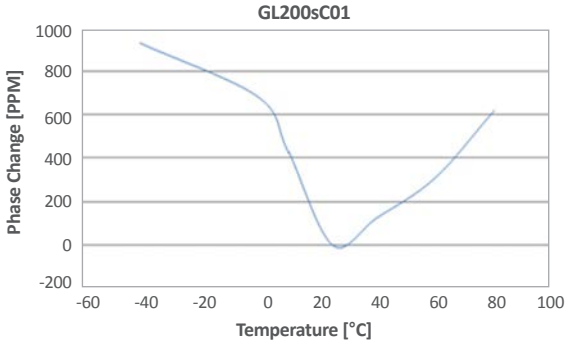
GL200sC01 Cable

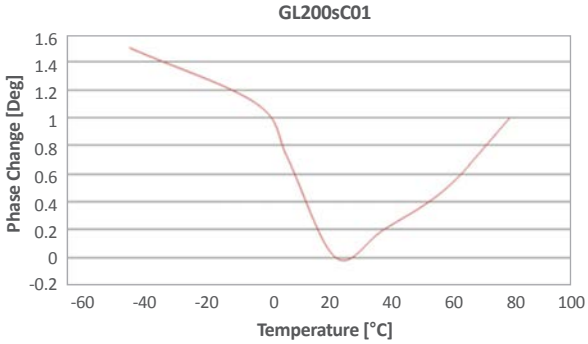
▶ Cable Insertion & Stability with Flexure



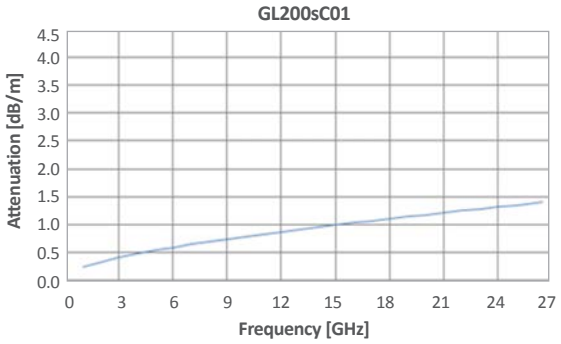


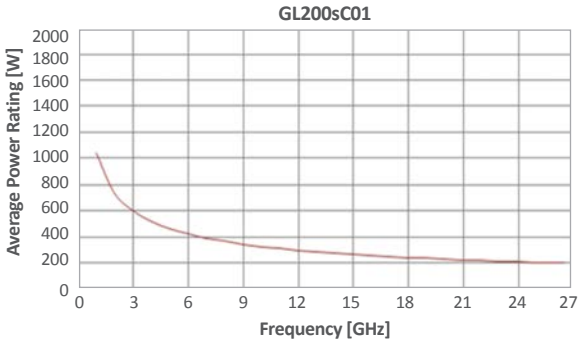
▶ Cable Phase Stability with Temperature



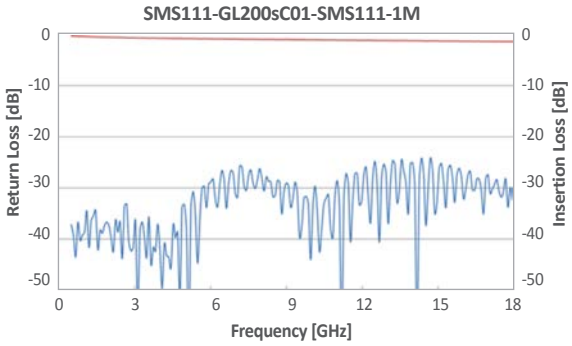


▶ Cable Attenuation & Power





▶ Test Result



GUL Series

Flexible Ultra Low Loss
Microwave Cable Assembly

GigaLane GUL Series cable assemblies perform range of frequency usage is applicable up to 18 GHz. Center conductor consists of Solid center conductor, By using Ultra low density PTFE(taped) dielectric, it maintains its excellent phase stability and a value of the lowest insertion loss is extracted. These are specialized in providing excellent shielding effectiveness, flexibility and durability and supplied in fields of Commercial, Military RF & microwave airborne systems, Test & Measurement applications (Lab & Production line, Anechoic Chamber).

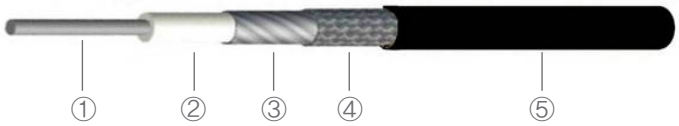
GigaLane provides two types of Neck type for GL cable assembly. One is sleeve type to strengthen the neck area of connector and gives a comfort which provides easiness in assembling connectors. Another is shrink tube type which is suitable for applying to small space.

GUL180 & GUL310 Cable

▶ Features and benefits

- Frequency ranges from DC to 18 GHz
- Low Loss and Flexibility
- Excellent shielding effectiveness
- Cost-efficient
- Ultra low density PTFE(taped) dielectric
- Excellent phase stability and lowest insertion loss
- Durability

▶ Cable Design



Description		Diameter (mm)	
		GUL180C	GUL310C
① Center conductor	Silver-plated copper wire, solid	1.29	2.35
② Dielectric	Ultra low density PTFE(taped)	-	-
③ Inner shield	Silver-plated copper tape	-	-
④ Outer shield	Silver-plated copper braid	-	-
⑤ Jacket	Extruded FEP	5.00	7.90

Electrical

Impedance	50 Ω
Operating frequency	18 GHz
Capacitance	78 pF/m
Velocity of propagation	84 % nom.
Time delay	3.95 ns/m
RF leakage (dB)	-100
Dielectric constant	1.4
Phase stability vs. flexure (@18 GHz max.)	3°
IL stability vs. flexure (dB @minimum BR)	± 0.1
Phase stability vs. temp. (deg/GHz/m) (-40 ~ 80°)	< 2 °

Mechanical & Environmental

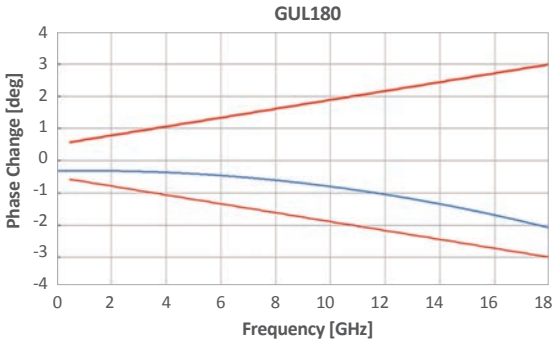
	GUL180C	
Minimum bend radius (mm)	25.4	48.5
Weight (g/m)	51	115
Temperature	-55℃ to + 165℃	-55℃ to + 165℃

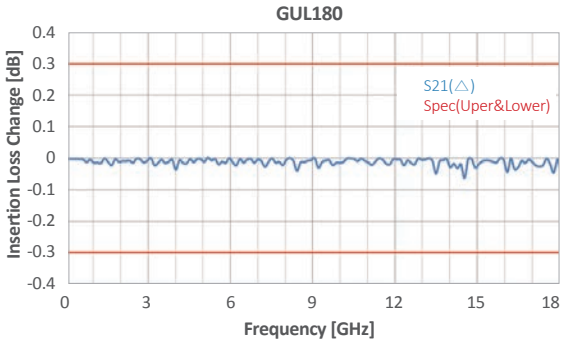
Suitable Connectors

Cable selection			Standard Connector selection				
			SMA type		N type		Drawing Page
P/N	Frequency	Attenuation (dB/m)	Straight	R/A	Straight	R/A	
GUL180C	18 GHz	1.22	SMS119	SMR119	NMS119	NMR119	-
GUL310C	18 GHz	0.78	SMS120	SMR120B*	NMS120	NMR120B*	83p

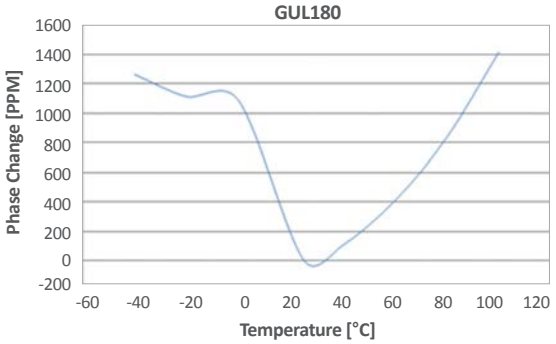
* XXXXXXB : Shrink Tube Type ex) SMR120B

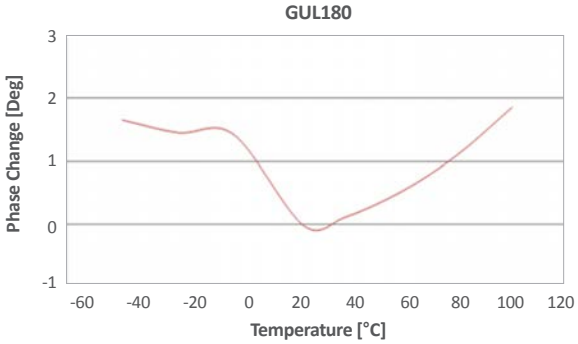
▶ Cable Insertion & Stability with Flexure



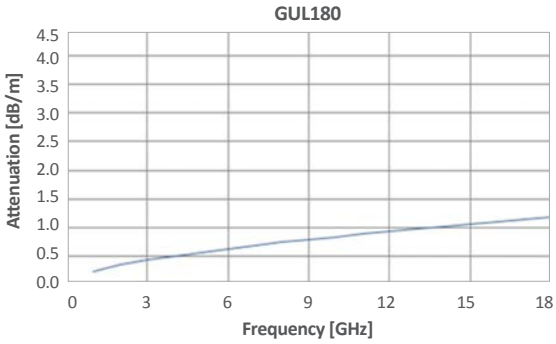


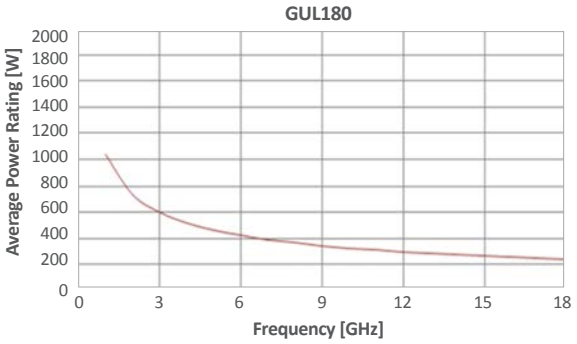
▶ Cable Phase Stability with Temperature



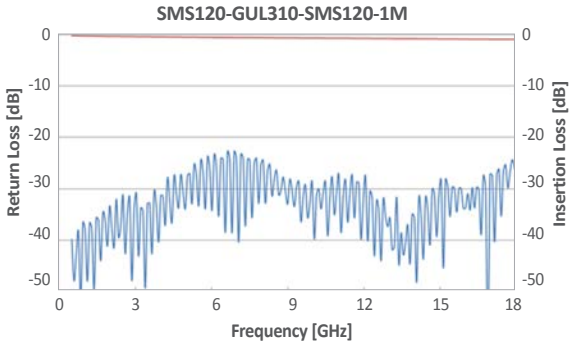


▶ Cable Attenuation & Power



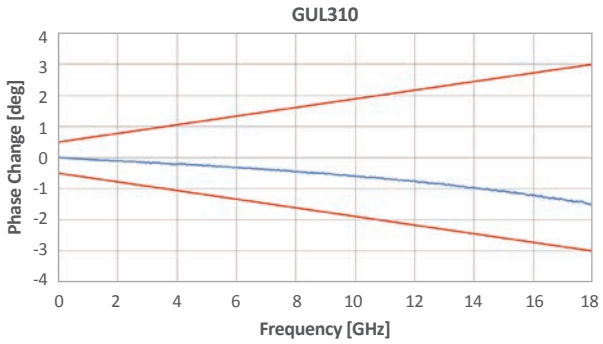


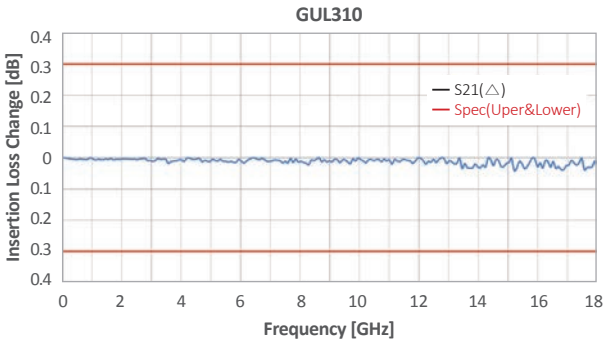
▶ Test Result



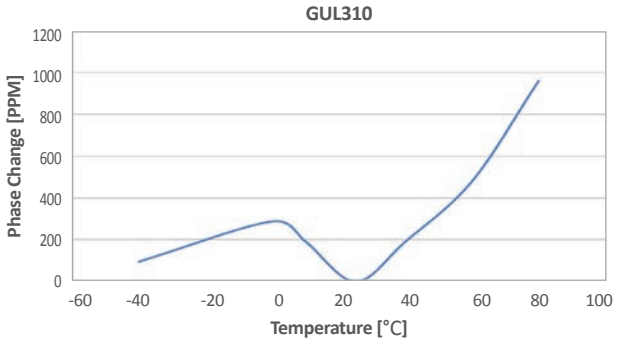
GUL310 Cable

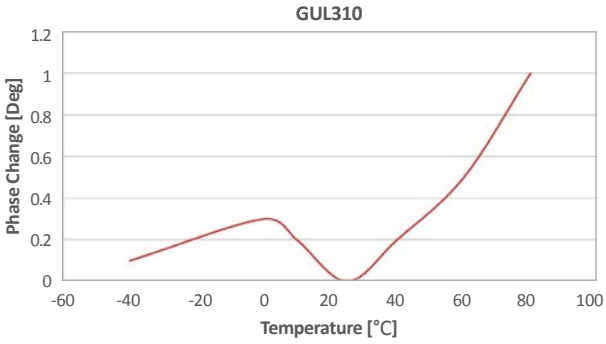
▶ Cable Insertion & Stability with Flexure



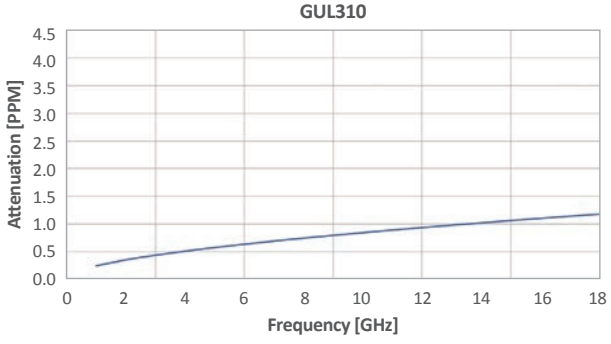


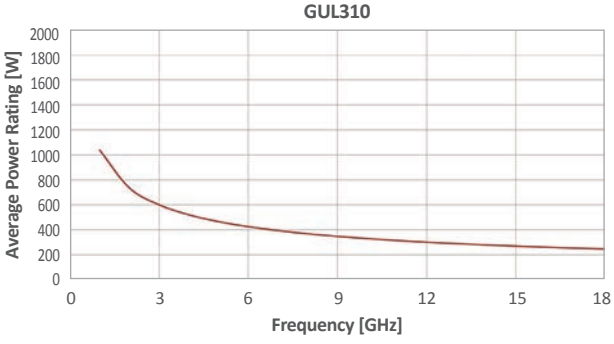
▶ Cable Phase Stability with Temperature





▶ Cable Attenuation & Power





Airborne Series

Airborne
Microwave Cable
Assembly

GigaLane GLA & GULA cable assemblies have been developed and produced for aircraft and cover broad frequency ranges from DC to 18 GHz. These high qualities, low loss cable assemblies deliver a low VSWR of 1.35:1, feature a self-locking connector and are protected by a Nomex and Kevlar jacket, which offers abrasion resistance.

As required by the aircraft sector, the GLA & GULA cable assemblies must be lightweight, small in size and not sacrifice performance. All cables are designed to meet statutory aircraft requirements and are in compliance with MIL-T-81490, which enables the cable to withstand harsh environments over a long period of time.

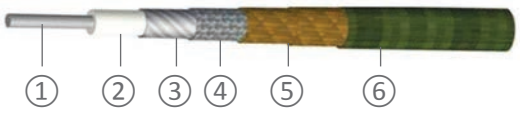
The GLA & GULA cable assemblies have been developed to meet stringent communication standards with a cable design that is crushproof and hermetically sealed. Another advantage is that the cable assemblies also enable the connection of an ant rotation connector which is used in high vibration environment applications.GLA & GULA cable assemblies are also applicable to Helicopter, Trainer, UAV, Military, communication, aircraft antenna systems, Radar Systems, and satellite communications systems.

GLA210 & GULA320 Cable

► Features and benefits

- Frequency ranges from DC to 18 GHz
- Hermetically sealed (vapor sealed)
- Compliance with MIL-T-81490
- Lightweight
- Anti rotation connector

► Cable Design



Description		Diameter (mm)	
		GLA210	GULA320
① Center conductor	GLA210 : Silver-plated copper wire, Sold GULA320 : Silver-plated copper clad Aluminum	-	-
② Dielectric	GLA210 : Low density PTFE GULA320 : Ultra low density PTFE	-	-
③ Inner shield	Silver-plated copper tape	-	-
④ Outer shield	Silver-plated copper braid	-	-
⑤ Vapor layer	High temperature tape	-	-
⑤ Jacket	Nomex & Kevlar	5.90	8.00

Electrical

	GLA210	GULA320
Impedance	50 Ω	50 Ω
Operating frequency	18 GHz	18 GHz
Capacitance	86 pF/m	78 pF/m
Velocity of propagation	77% nom.	84% nom.
Time delay	4.35 ns/m	3.95 ns/m
RF leakage (dB)	-100	-100
Dielectric constant	1.7	1.4

Mechanical & Environmental

	GUL180C	
Minimum bend radius (mm)	29.2	44
Weight (g/m)	60	95
Temperature	-55°C to + 200 °C	-55°C to + 200°C

Suitable Connectors

Cable selection		Standard Connector selection								Drawing Page
		SMA type		TNCA type		N type		TNC type		
P/N	Frequency	Straight	R/A	Straight	R/A	Straight	R/A	Straight	R/A	
GLA210	3 GHz	-	-	-	-	-	-	TMS401M	TMR401M	84p
	18 GHz	-	-	TAMS420M	-	-	-	-	-	84p
GULA320	3 GHz	-	-	TAMS403M TAFS401M (Jack, Bulkead)	TAFRA401M(45°)(Jack, Bulkead) TAFRA402M(90°)(Jack, Bulkead) TMR402M(45°) TAMRA401M(90°) TAMRA402M(90°) TAMRA403M(45°)	-	NAMRA401M	-	-	84p
	18 GHz	SMS401M	-	TAMS401M	-	-	-	-	-	84p

MF Series

Multiflex
Microwave Cable Assembly

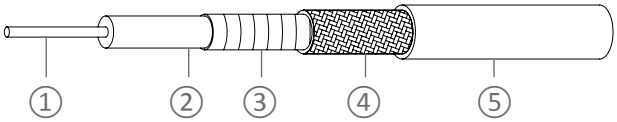
GigaLane MF cable assemblies are complete products of flexible up to 40 GHz. MF cable is more flexible than SF cable and its cost effectiveness provides amicableness to Test Labs as well as test equipments where demand lots of replaceable cables.

MF085 & MF141 Cable

▶ Features and benefits

- Frequency ranges from DC to 40 GHz
- High Flexibility
- Cost-efficient

▶ Cable Design



Description		Diameter (mm)	
		MF085	MF141
① Center conductor	Silver-plated copper wire	0.51	0.92
② Dielectric	Solid PTFE	-	-
③ 1st outer conductor	Silver-plated copper tape	-	-
④ 2nd outer conductor	Silver-plated copper braid	-	-
⑤ Jacket	Fluorinated Ethylene Propylene, blue	2.68	4.14

Electrical

	MF085	MF141
Impedance	50 Ω	50 Ω
Operating frequency	40 GHz	30 GHz
Capacitance	95 pF/m	95 pF/m
Velocity of propagation	70.6% nom.	70.6% nom.
Time delay	4.7 ns/m	4.7 ns/m
RF leakage (dB)	-100	-100

Mechanical & Environmental

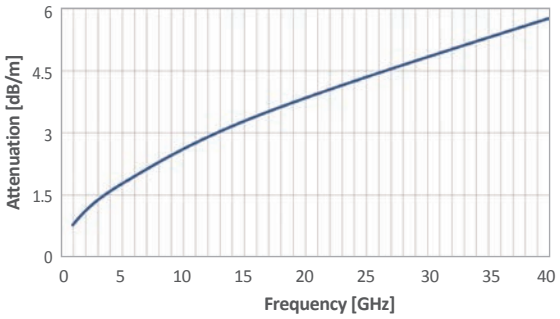
	MF085	MF141
Minimum bend radius (mm)	6	10
Weight (g/m)	21	45
Temperature	-55˚C to + 135˚C	-55˚C to + 135˚C

Suitable Connectors

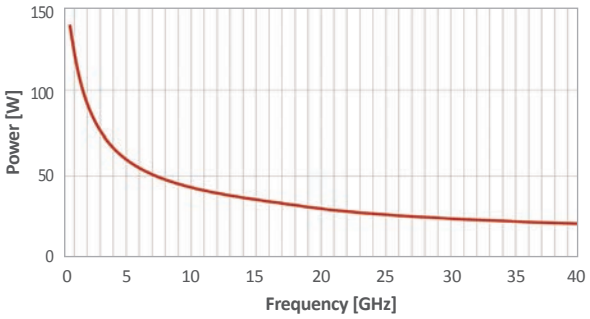
Cable selection		Standard Connector selection						
		SMA type		N type		29.2mm type		Drawing Page
P/N	Frequency (GHz)	Straight	R/A	Straight	R/A	Straight	R/A	
MF085	18 GHz	SMS101 SFS101 (Jack) SBS101(Jack, Bulkhead)	-	-	-	-	-	85p
	40 GHz	-	-	-	-	KMS101 KFS101(Jack) KBS101(Jack, Bulkhead)	-	85p
MF141	18 GHz	SMS102 SFS102 (Jack) SBS102(Jack, Bulkhead)	-	NMS101	-	-	-	85p
	30 GHz	-	-	-	-	KMS103 KFS103 (Jack) KBS103 (Jack, Bulkhead)	-	85p

▶ Attenuation & Power

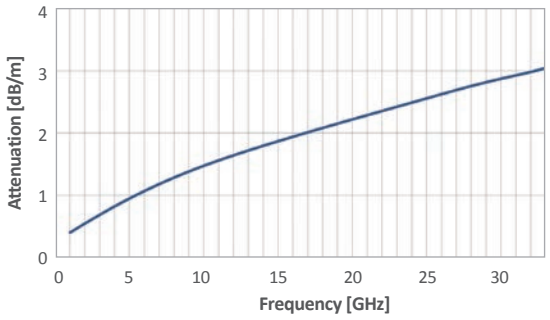
• MF085 Attenuation



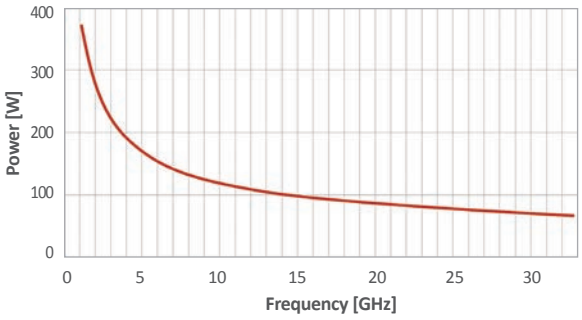
• MF085 Power



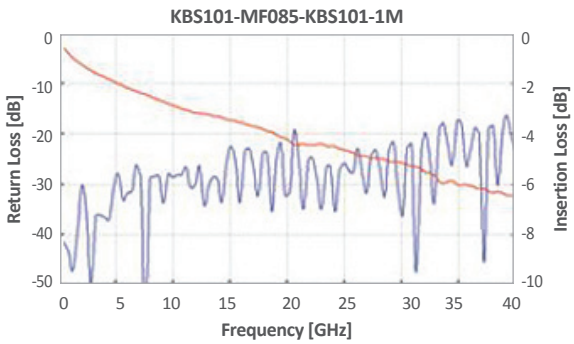
• MF141 Attenuation

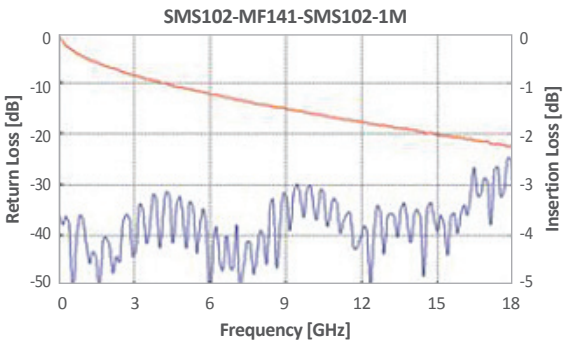


• MF141 Power



▶ Test Result





SR Series

Semi-Rigid
Microwave Cable Assembly

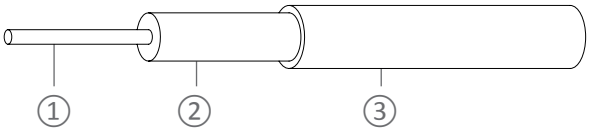
GigaLane Semi-Rigid cable assemblies lead to an excellent electrical performance up to 40 GHz. SR cable is easily bendable so that can be fitted into requested shapes while maintaining its set after bending. It is ideal for use with automated bending equipment as well as Hands of man power using bending tools.

SR085 & SR141 Cable

▶ Features and benefits

- Frequency ranges from DC to 40 GHz
- Fits into the small systems
- Cost-efficient

▶ Cable Design



Description		Diameter (mm)	
		SR085	SR141
① Center conductor	Silver-plated copper wire	0.51	0.92
② Dielectric	Solid PTFE	-	-
③ 1st outer conductor	Seamless copper tubing, tin-plated	2.2	3.58

Electrical

	SR085	SR141
Impedance	50 Ω	50 Ω
Operating frequency	40 GHz	30 GHz
Capacitance	95 pF/m	95 pF/m
Velocity of propagation	69% nom.	69.5% nom.
Time delay	4.82 ns/m	4.82 ns/m
RF leakage (dB)	-100	-100

Mechanical & Environmental

	SR085	SR141
Minimum bend radius (mm)	3.18	6.35
Weight (g/m)	21	45
Temperature	-40˚C to + 125˚C	-40˚C to 125˚C

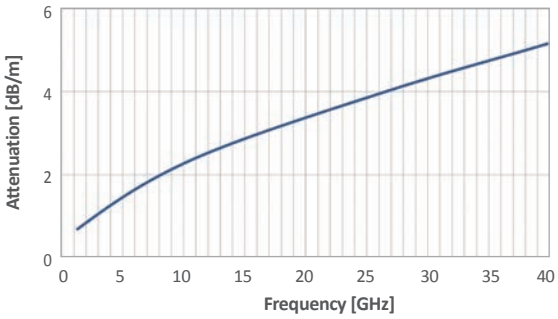
Suitable Connectors

Cable selection		Standard Connector selection						Drawing Page
		SMA type		N type		2.92mm type		
P/N	Frequency (GHz)	Straight	R/A	Straight	R/A	Straight	R/A	
SR085	18 GHz	SMS302 SFS302(Jack) SBS302(Jack, Bulkhead)	-	-	-	-	-	86p
	40 GHz	-	-	-	-	KMS301 KFS301(Jack) KBS301(Jack, Bulkhead)	-	86p
SR141	18 GHz	SMS303 SFS303(Jack) SBS303(Jack, Bulkhead)	-	-	-	-	-	86p
	30 GHz	-	-	-	-	KMS303 KFS303(Jack) KBS303(Jack, Bulkhead)	-	86p

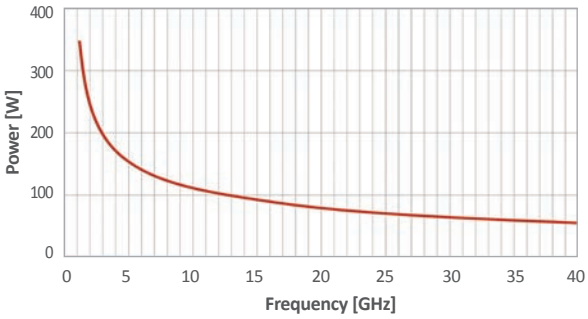
SR085 & SR141 Cable

▶ Attenuation & Power

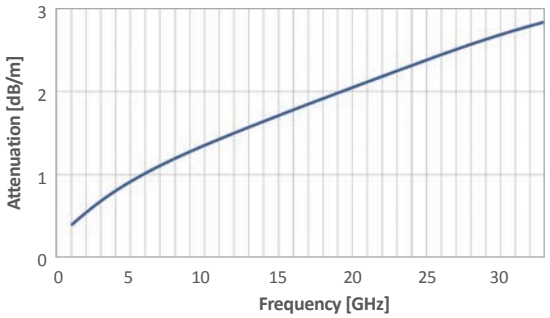
• SR085 Attenuation



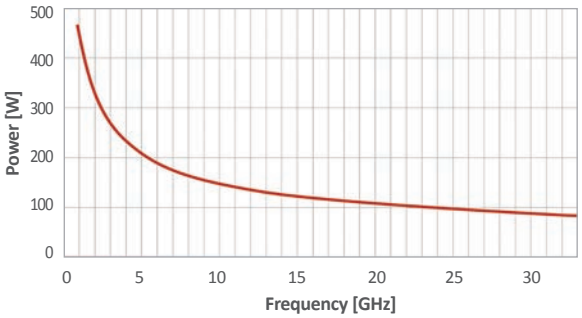
• SR085 Power



• SR141 Attenuation

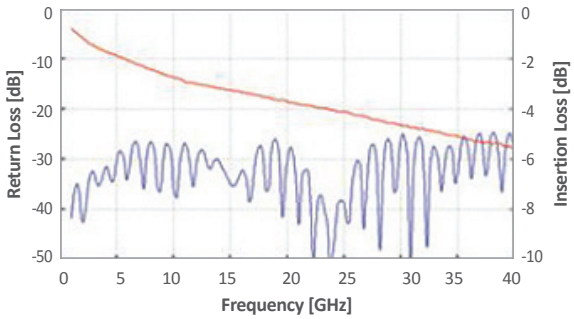


• SR141 Power

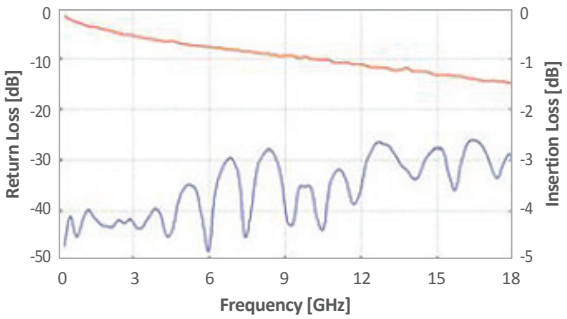


▶ Test Result

KMS301-SR085-KMS301-0.5M



KFS303-SR141-KFS303-0.5M



SF Series

Semi-Flexible(handformable)
Microwave Cable Assembly

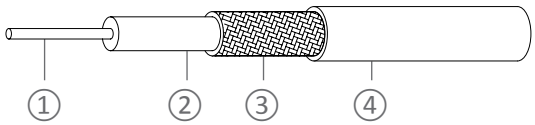
GigaLane Semi-Flexible cable assemblies provide a complete high performance up to 40 GHz. The cable design is the same with SR Cable but have a tin-soaked copper braid for the outer conductor. it gives hand-formability and suitable where the coaxial cable fit into a tight space without performance loss.

SF085 & SF141 Cable

► Features and benefits

- Frequency ranges from DC to 40 GHz
- Hand-formability
- Good flexibility
- Cost-efficient

► Cable Design



Description		Diameter (mm)	
		SF085	SF141
① Center conductor	Silver-plated copper wire, Solid	0.52	0.94
② Dielectric	Solid PTFE	-	-
③ Outer Shield	Tinned Copper	-	-
④ Jacket	Fluorinated Ethylene Propylene	2.78	4.58

Electrical

	SF085	SF141
Impedance	50 Ω	50 Ω
Operating frequency	40 GHz	30 GHz
Capacitance	95 pF/m	95 pF/m
Velocity of propagation	71% nom.	71% nom.
Time delay	4.7 ns/m	4.7 ns/m
RF leakage (dB)	-100	-100

Mechanical & Environmental

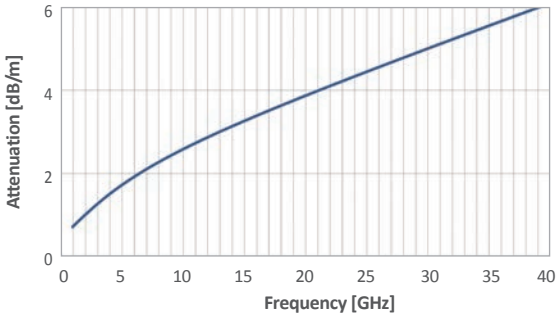
	SF085	SF141
Minimum bend radius (mm)	6	10
Weight (g/m)	21	45
Temperature	-40˚C to + 125˚C	-40˚C to + 125˚C

Suitable Connectors

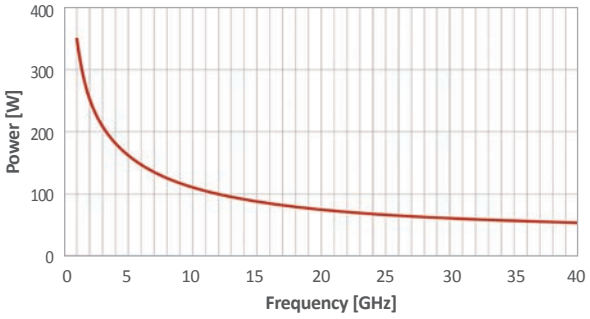
Cable selection		Standard Connector selection						
		SMA type		N type		2.92mm type		Drawing Page
P/N	Frequency (GHz)	Straight	R/A	Straight	R/A	Straight	R/A	
SF085	18 GHz	SMS302 SFS302(Jack)	SBS302	-	-	-	-	87p
	40 GHz	-	-	-	-	KMS301 KFS301(Jack) KBS301(Jack, Bulkhead)	-	87p
SF141	18 GHz	SMS303 SFS303(Jack)	SBS303	-	-	-	-	87p
	30 GHz	-	-	-	-	KMS303 KFS303(Jack) KBS303(Jack, Bulkhead)	-	87p

▶ Attenuation & Power

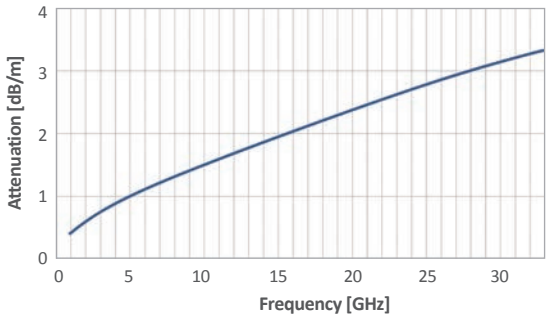
• SF085 Attenuation



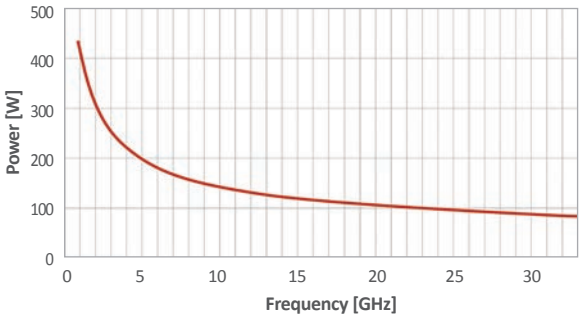
• SF085 Power



• SF141 Attenuation

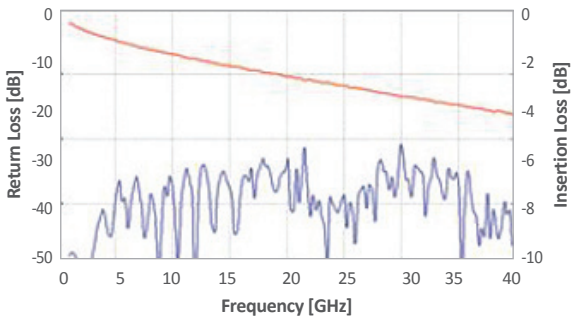


• SF141 Power

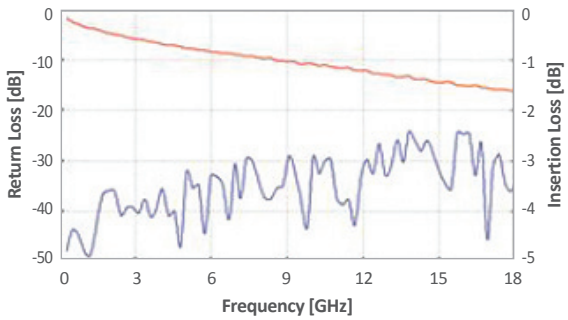


▶ Test Result

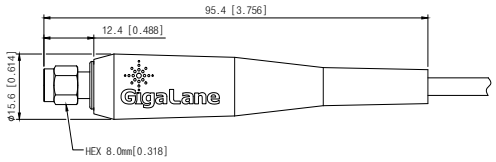
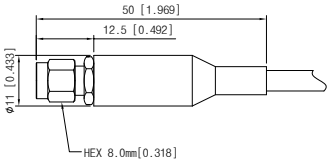
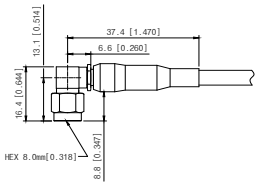
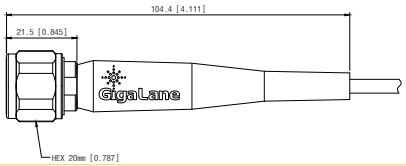
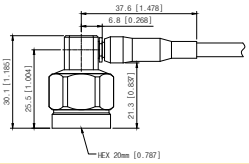
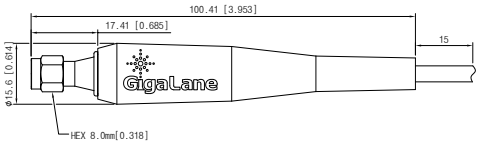
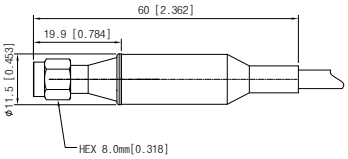
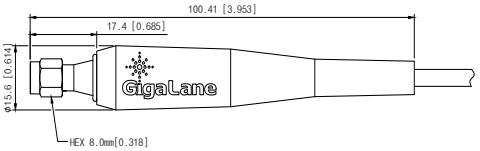
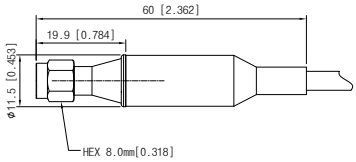
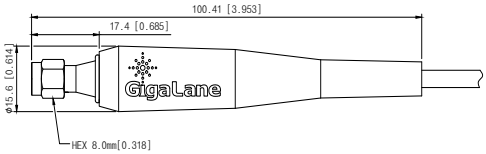
KMS301-SF085-KMS301-0.5M



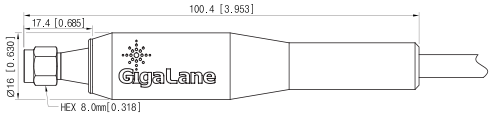
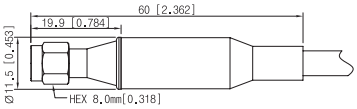
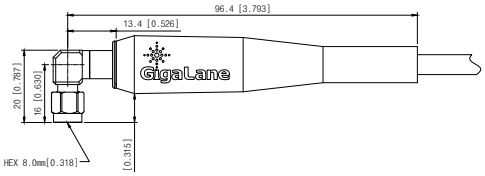
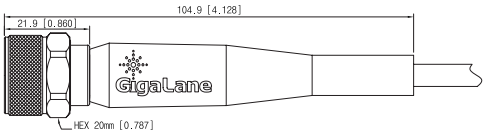
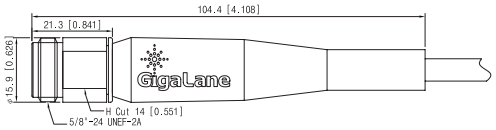
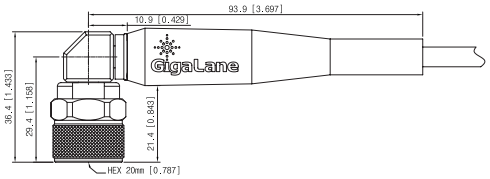
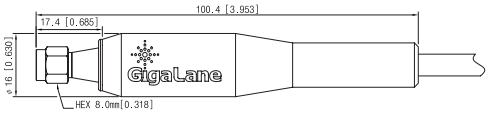
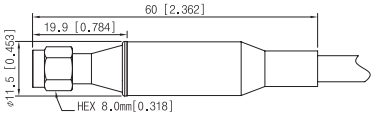
KMS303-SF141-KFS303-0.5M



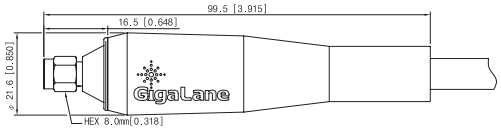
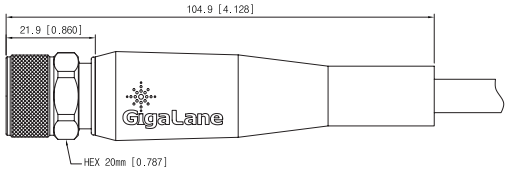
Suitable Connectors for GL Series

Cable			Connector		Connector Drawings
Groups	P/N	Frequency	Description	P/N	
Flexible Low Loss	GL140sB02	6 GHz	Straight SMA PLUG (Sleeve type)	SMS114	
			Straight SMA PLUG (Shrink tube type)	SMS114B	
			Right Angle SMA PLUG (Shrink tube type)	SMR114B	
			Straight N PLUG (Sleeve type)	NMS114	
			Right Angle N PLUG (Shrink tube type)	NMR114B	
	GL140sC	18 GHz	Straight SMA PLUG (Sleeve type)	SMS122	
			Straight SMA PLUG (Shrink tube type)	SMS122B	
	GL140sD	26.5 GHz	Straight SMA PLUG (Sleeve type)	SMS115	
			Straight SMA PLUG (Shrink tube type)	SMS115B	
	GL140sE	40 GHz	Straight 2.92mm PLUG (Sleeve type)	KMS116	

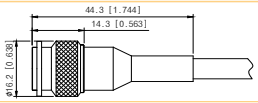
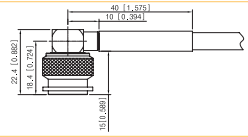
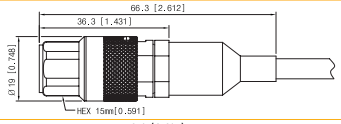
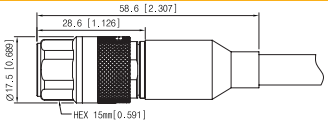
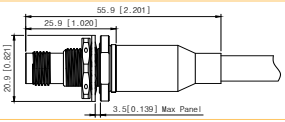
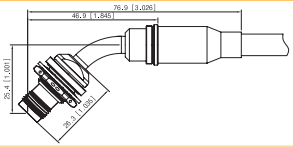
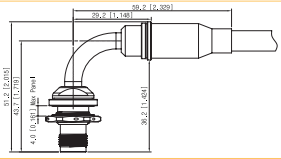
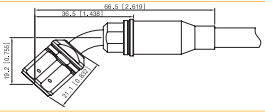
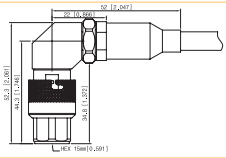
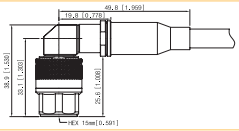
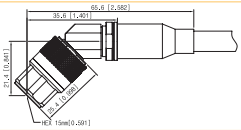
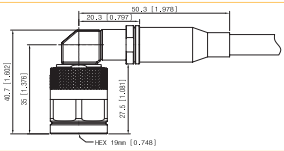
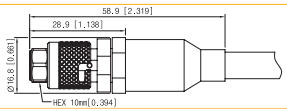
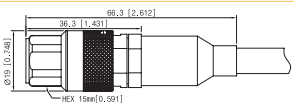
Suitable Connectors for GL Series

Cable			Connector		Connector Drawings
Groups	P/N	Frequency	Description	P/N	
Flexible Low Loss	GL200C GL200sC GL200sC01	18 GHz	Straight SMA PLUG (Sleeve type)	SMS111	
			Straight SMA PLUG (Shrink tube type)	SMS111B	
			Right Angle SMA PLUG (Sleeve type)	SMR111	
			Straight N PLUG (Sleeve type)	NMS111	
			Straight N JACK (Sleeve type)	NFS111	
			Right Angle N PLUG (Sleeve type)	NMR111	
	GL200D GL200sD GL200sD01	26.5 GHz	Straight SMA PLUG (Sleeve type)	SMS112	
			Straight SMA PLUG (Shrink tube type)	SMS112B	

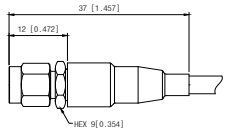
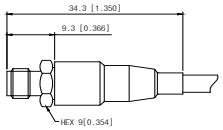
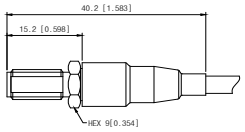
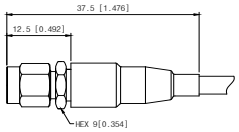
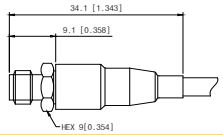
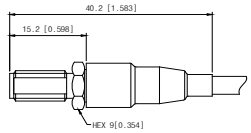
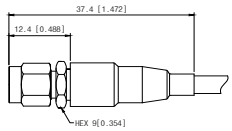
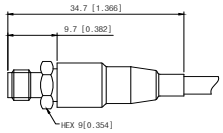
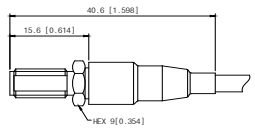
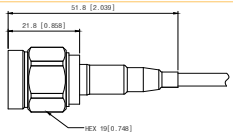
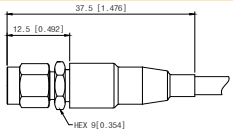
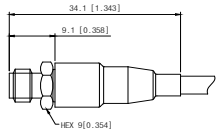
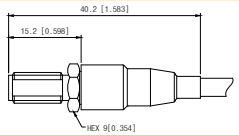
▶ Suitable Connectors for GUL Series

Cable			Connector		Connector Drawings
Groups	P/N	Frequency	Description	P/N	
Flexible Ultra Low Loss	GUL310C	18 GHz	Straight SMA PLUG (Sleeve type)	SMS120	
			Straight SMA PLUG (Sleeve type)	NMS120	

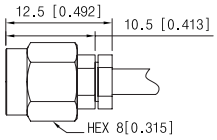
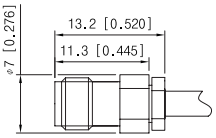
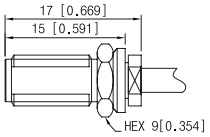
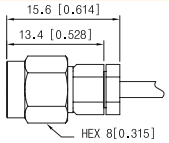
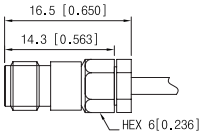
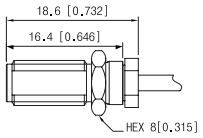
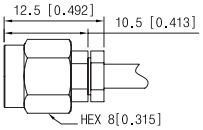
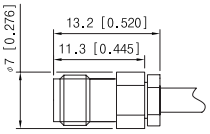
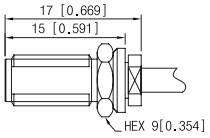
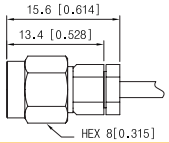
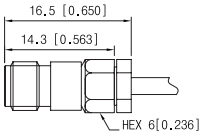
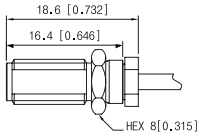
Suitable Connectors for Airborne Series

Cable			Connector		Connector Drawings
Groups	P/N	Frequency	Description	P/N	
Airborne	GLA210	3 GHz	Straight TNC PLUG	TMS401M	
			Right Angle TNC PLUG	TMR401M	
		18 GHz	Anti-Rotation Straight Self-locking TNCA PLUG (Hermetically Sealed)	TAMS402M	
	GULA320	3 GHz	Anti-Rotation Straight Self-locking TNCA PLUG (Hermetically Sealed)	TAMS403M	
			Bulkhead Straight TNCA JACK (Hermetically Sealed)	TAFS401M	
			Bulkhead Right Angle 45˚C TNCA JACK (Hermetically Sealed)	TAFAR401M	
			Bulkhead Right Angle 90˚C TNCA JACK (Hermetically Sealed)	TAFRA402M	
			Right Angle 45˚C TNCA PLUG (Hermetically Sealed)	TMR402M	
			Anti-Rotation Right Angle 90˚C TNCA PLUG (Hermetically Sealed)	TAMRA401M	
			Anti-Rotation Right Angle 90˚C TNCA PLUG (Hermetically Sealed)	TAMRA402M	
			Right Angle 45˚C TNCA PLUG (Hermetically Sealed)	TAMRA403M	
			Right Angle 90˚C N PLUG (Hermetically Sealed)	NAMRA401M	
		18 GHz	Anti-Rotation Straight Self-locking SMA PLUG (Hermetically Sealed)	SMS401M	
			Anti-Rotation Straight Self-locking TNCA PLUG (Hermetically Sealed)	TAMS401M	

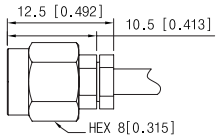
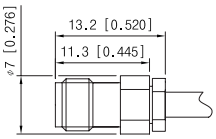
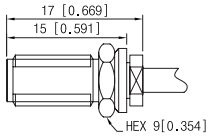
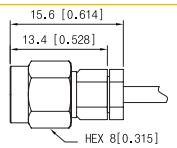
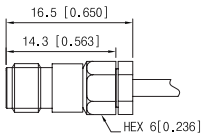
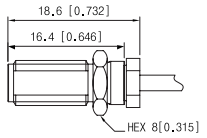
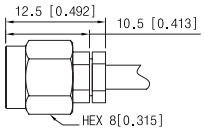
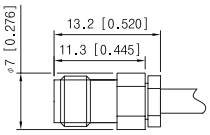
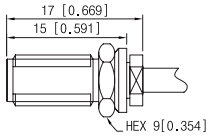
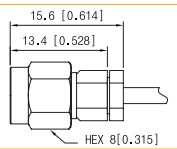
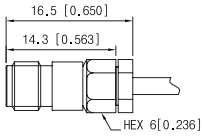
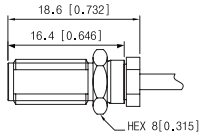
Suitable Connectors for MF Series

Cable			Connector		Connector Drawings
Groups	P/N	Frequency	Description	P/N	
Multiflex	MF085	18 GHz	Straight SMA PLUG	SMS101	
			Straight SMA JACK	SFS101	
			Bulkhead Straight SMA JACK	SBS101	
		40 GHz	Straight 2.92mm PLUG	KMS101	
			Straight 2.92mm JACK	KFS101	
			Bulkhead Straight 2.92mm JACK	KBS101	
	MF141	18 GHz	Straight SMA PLUG	SMS102	
			Straight SMA JACK	SFS102	
			Bulkhead Straight SMA JACK	SBS102	
			Straight N PLUG	NMS101	
		40 GHz	Straight 2.92mm PLUG	KMS103	
			Straight 2.92mm JACK	KFS103	
			Bulkhead Straight 2.92mm JACK	KBS103	

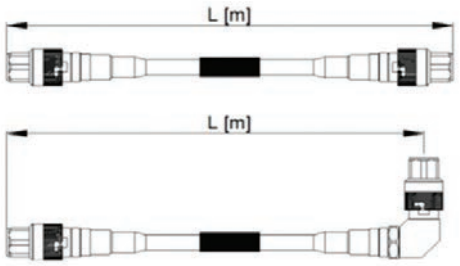
Suitable Connectors for SR Series

Cable			Connector		Connector Drawings
Groups	P/N	Frequency	Description	P/N	
Semi-Rigid	SR085	18 GHz	Straight SMA PLUG	SMS302	
			Straight SMA JACK	SFS302	
			Bulkhead Straight SMA JACK	SBS302	
		40 GHz	Straight 2.92mm PLUG	KMS301	
			Straight 2.92mm JACK	KFS301	
			Bulkhead Straight 2.92mm JACK	KBS301	
	SR141	18 GHz	Straight SMA PLUG	SMS303	
			Straight SMA JACK	SFS303	
			Bulkhead Straight SMA JACK	SBS303	
		40 GHz	Straight 2.92mm PLUG	KMS303	
			Straight 2.92mm JACK	KFS303	
			Bulkhead Straight 2.92mm JACK	KBS303	

Suitable Connectors for SF Series

Cable			Connector		Connector Drawings
Groups	P/N	Frequency	Description	P/N	
Semi-Flexible (Handformable)	SF085	18 GHz	Straight SMA PLUG	SMS302	
			Straight SMA JACK	SFS302	
			Bulkhead Straight SMA JACK	SBS302	
		40 GHz	Straight 2.92mm PLUG	KMS301	
			Straight 2.92mm JACK	KFS301	
			Bulkhead Straight 2.92mm JACK	KBS301	
	SF141	18 GHz	Straight SMA PLUG	SMS303	
			Straight SMA JACK	SFS303	
			Bulkhead Straight SMA JACK	SBS303	
		40 GHz	Straight 2.92mm PLUG	KMS303	
			Straight 2.92mm JACK	KFS303	
			Bulkhead Straight 2.92mm JACK	KBS303	

Specifying Assembly Length



Guranteed Length Tolerance	
0.3M ~ 2M (1ft ~ 6ft)	±5mm (±0.2 in.)
2.5M (6ft ~ 16ft)	±10mm (±0.2 in.)
5M ~ 10M (16ft ~ 33ft)	±20mm (±0.8 in.)
> 10M (33ft)	Consult

▶ Part Number Designation of GL / GUL Cable Series

G L 200 s C 01 A
① ② ③ ④ ⑤ ⑥ ⑦

1st		2nd		3rd		4th		5th		6th		7th	
Company Name	Code	Dielctric	Code	Cable Diameter (inch x 1000)	Code	Center Conductor	Code	Frequency (GHz)	Code	Option 1	Code	Option 2	Code
Gigalane	G	Extruded	L	100	100	Solid	-	3	A	Jacket-Orange-FEP	-	Unarmor	-
		Wrapping	UL	140	140	Standed	s	6	B	Jacket-Black,PUR	01	Armor	A
				200	200			18	C	Jacket-Gray,HFPE	02		
				300	300			26.5	D	Jacket-Black,FEP	03		
				180	180			40	E	Jacket-Gray,FEP	04		
				310	310			50	F				
								67	G				
								110	H				
										← Standard		← Option	

SM111	GL200C	SMS111	1M
Connector	Cable	Connector	Legth
①	②	①	③

① Select connector : SMS111 (18 GHz SMA Male Straight)
② Select cable : GL200C (18 GHz Low Loss cable)
③ Select cable length : 1M(1 meter)

▶ Part Number Designation of MF / SR / SF Cable Series

SMS302	SF085	SMS302	1M
Connector	Cable	Connector	Legth
①	②	①	③

① Select connector : SMS302 (18 GHz SMA Male Straight)
② Select cable : SF085 (Semi-Flexble Cable)
③ Select cable length : 1M(1 meter)

Appendix

- PCB Pattern
- VSWR & Return Loss Table

PCB Pattern

Fig1

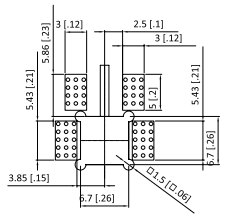


Fig2

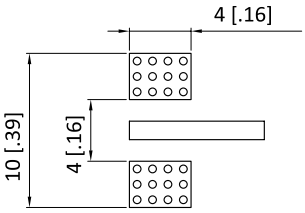


Fig3

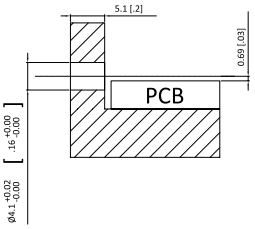


Fig4

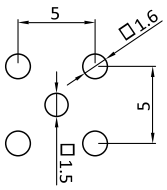


Fig5

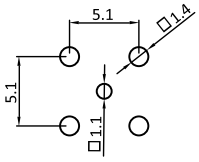


Fig6

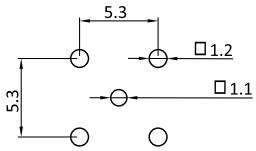


Fig7

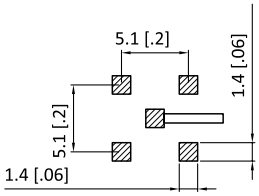


Fig8

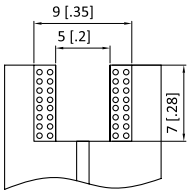


Fig9

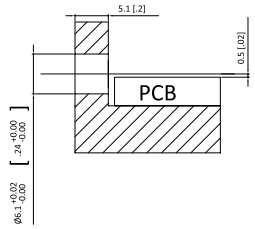


Fig10

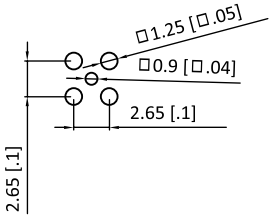


Fig11

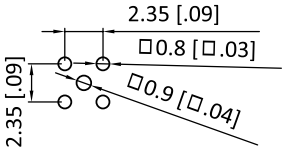


Fig12

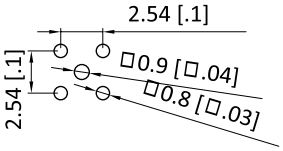


Fig13

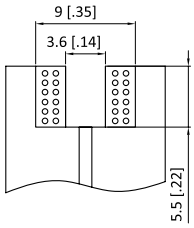


Fig14

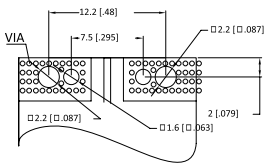


Fig15

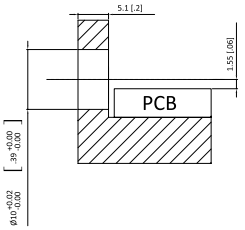


Fig16

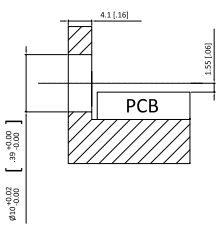


Fig17

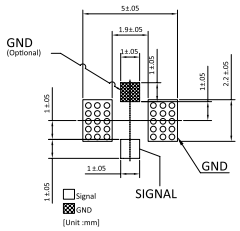
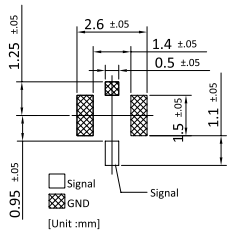


Fig18



VSWR & Return Loss Table

GigaLane

VSWR, Return Loss, Trans. Loss, E Refl. Coeff., Transmitted/Reflected Power													
VSWR	VSWR [dB]	RETURN LOSS	TRANS. LOSS	VOLT. REFL.	POWER TRANS.	POWER REFL.	VSWR	VSWR [dB]	RETURN LOSS	TRANS. LOSS	VOLT. REFL.	POWER TRANS.	POWER REFL.
1.00	0.00	∞	0.000	0.000	100.000	0.000	1.84	5.30	10.58	0.398	0.296	91.3	8.7
1. 01	0.09	46.06	0.000	0.005	99.998	0.002	1.86	5.39	10.44	0.412	0.301	91.0	9.0
1.02	0.17	40.09	0.000	0.010	99.990	0.010	1.88	5.48	10.30	0.426	0.306	90.7	9.3
1.03	0.26	36.61	0.001	0.015	99.978	0.022	1.90	5.58	10.16	0.440	0.310	90.4	9.6
1.04	0.34	34.15	0.002	0.020	99.962	0.038	1.92	5.67	10.03	0.454	0.315	90.1	9.9
1.05	0.42	32.26	0.003	0.024	99.941	0.059	1.94	5.76	9.90	0.468	0.320	89.8	10.2
1.06	0.51	30.71	0.004	0.029	99.915	0.085	1.96	5.85	9.78	0.483	0.324	89.5	10.5
1.07	0.59	29.42	0.005	0.034	99.886	0.114	1.98	5.93	9.66	0.497	0.329	89.2	10.8
1.08	0.67	28.30	0.006	0.038	99.852	0.148	2.00	6.02	9.54	0.512	0.333	88.9	11.1
1.09	0.75	27.32	0.008	0.043	99.815	0.185	2.10	6.44	9.00	0.584	0.355	87.4	12.6
1.10	0.83	26.44	0.010	0.048	99.773	0.227	2.20	6.85	8.52	0.658	0.375	85.9	14.1
1.11	0.91	25.66	0.012	0.052	99.728	0.272	2.30	7.23	8.09	0.732	0.394	84.5	15.5
1.12	0.98	24.94	0.014	0.057	99.680	0.320	2.40	7.60	7.71	0.807	0.412	83.0	17.0
1.13	1.06	24.29	0.016	0.061	99.627	0.373	2.50	7.96	7.36	0.881	0.429	81.6	18.4
1.14	1.14	23.69	0.019	0.065	99.572	0.428	2.60	8.30	7.04	0.956	0.444	80.2	19.8
1.15	1.21	23.13	0.021	0.070	99.513	0.487	2.70	8.63	6.76	1.03	0.459	78.9	21.1
1.16	1.29	22.61	0.024	0.074	99.451	0.549	2.80	8.94	6.49	1.10	0.474	77.6	22.4
1.17	1.36	22.12	0.027	0.078	99.386	0.614	2.90	9.25	6.25	1.18	0.487	76.3	23.7
1.18	1.44	21.66	0.030	0.083	99.318	0.682	3.00	9.54	6.02	1.25	0.500	75.0	25.0
1.19	1.51	21.23	0.033	0.087	99.247	0.753	3.2	10.1	5.62	1.39	0.524	72.6	27.4
1.20	1.58	20.83	0.036	0.091	99.174	0.826	3.4	10.6	5.26	1.53	0.545	70.2	29.8
1.21	1.66	20.44	0.039	0.095	99.097	0.903	3.6	11.1	4.96	1.67	0.565	68.1	31.9
1.22	1.73	20.08	0.043	0.099	99.018	0.982	3.8	11.6	4.68	1.81	0.583	66.0	34.0
1.23	1.80	19.73	0.046	0.103	98.94	1.06	4.0	12.0	4.44	1.94	0.600	64.0	36.0
1.24	1.87	19.40	0.050	0.107	98.85	1.15	4.2	12.5	4.22	2.07	0.615	62.1	37.9
1.25	1.94	19.08	0.054	0.111	98.77	1.23	4.4	12.9	4.02	2.19	0.630	60.4	39.6
1.26	2.01	18.78	0.058	0.115	98.68	1.32	4.6	13.3	3.84	2.32	0.643	58.7	41.3
1.27	2.08	18.49	0.062	0.119	98.59	1.41	4.8	13.6	3.67	2.44	0.655	57.1	42.9
1.28	2.14	18.22	0.066	0.123	98.49	1.51	5.0	14.0	3.52	2.55	0.667	55.6	44.4
1.29	2.21	17.95	0.070	0.127	98.40	1.60	5.5	14.8	3.19	2.83	0.692	52.1	47.9
1.30	2.28	17.69	0.075	0.130	98.30	1.70	6.0	15.6	2.92	3.10	0.714	49.0	51.0
1.32	2.41	17.21	0.083	0.138	98.10	1.90	6.5	16.3	2.69	3.35	0.733	46.2	53.8
1.34	2.54	16.75	0.093	0.145	97.89	2.11	7.0	16.9	2.50	3.59	0.750	43.8	56.3
1.36	2.67	16.33	0.102	0.153	97.67	2.33	7.5	17.5	2.33	3.82	0.765	41.5	58.5
1.38	2.80	15.94	0.112	0.160	97.45	2.55	8.0	18.1	2.18	4.03	0.778	39.5	60.5
1.40	2.92	15.56	0.122	0.167	97.22	2.78	8.5	18.6	2.05	4.24	0.789	37.7	62.3
1.42	3.05	15.21	0.133	0.174	96.99	3.01	9.0	19.1	1.94	4.44	0.800	36.0	64.0
1.44	3.17	14.88	0.144	0.180	96.75	3.25	9.5	19.6	1.84	4.63	0.810	34.5	65.5
1.46	3.29	14.56	0.155	0.187	96.50	3.50	10.0	20.0	1.74	4.81	0.818	33.1	66.9
1.48	3.41	14.26	0.166	0.194	96.25	3.75	11.0	20.8	1.58	5.15	0.833	30.6	69.4
1.50	3.52	13.98	0.177	0.200	96.00	4.00	12.0	21.6	1.45	5.47	0.846	28.4	71.6
1.52	3.64	13.71	0.189	0.206	95.74	4.26	13.0	22.3	1.34	5.76	0.857	26.5	73.5
1.54	3.75	13.45	0.201	0.213	95.48	4.52	14.0	22.9	1.24	6.04	0.867	24.9	75.1
1.56	3.86	13.20	0.213	0.219	95.21	4.79	15.0	23.5	1.16	6.30	0.875	23.4	76.6
1.58	3.97	12.96	0.225	0.225	94.95	5.05	16.0	24.1	1.09	6.55	0.882	22.1	77.9
1.60	4.08	12.74	0.238	0.231	94.67	5.33	17.0	24.6	1.02	6.78	0.889	21.0	79.0
1.62	4.19	12.52	0.250	0.237	64.40	5.60	18.0	25.1	0.97	7.00	0.895	19.9	80.1
1.64	4.30	12.31	0.263	0.242	94.12	5.88	19.0	25.6	0.92	7.21	0.900	19.0	81.0
1.66	4.40	12.11	0.276	0.248	93.84	6.16	20.0	26.0	0.87	7.41	0.905	18.1	81.9
1.68	4.51	11.91	0.289	0.254	93.56	6.44	22.0	26.8	0.79	7.79	0.913	16.6	83.4
1.70	4.61	11.73	0.302	0.259	93.28	6.72	24.0	27.6	0.72	8.14	0.920	15.4	84.6
1.72	4.71	11.54	0.315	0.265	92.99	7.01	26.0	28.3	0.67	8.46	0.926	14.3	85.7
1.74	4.81	11.37	0.329	0.270	92.71	7.29	28.0	28.9	0.62	8.76	0.931	13.3	86.7
1.76	4.91	11.20	0.342	0.275	92.42	7.58	30.0	29.5	0.58	9.04	0.935	12.5	87.5
1.78	5.01	11.04	0.356	0.281	29.13	7.87	35.0	30.9	0.50	9.66	0.944	10.8	89.2
1.80	5.11	10.88	0.370	0.286	91.84	8.16	40.0	32.0	0.43	10.21	0.951	9.5	90.5
1.82	5.20	10.73	0.384	0.291	91.54	8.46	50.0	34.0	0.35	11.14	0.961	7.7	92.3

Where Signal & Connectivity is needed,
There is GigaLane.

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