

RF & MW Connectors

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



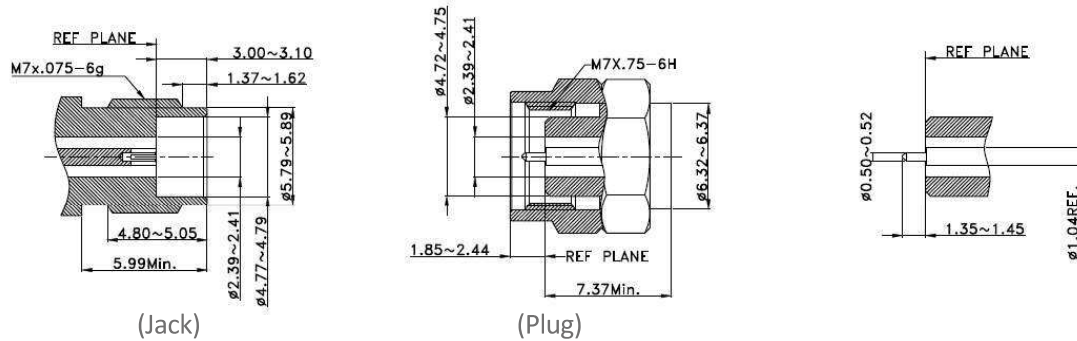
2.4mm Connectors

► 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



► Specification

Electrical

Frequency	DC ~ 50 GHz
Impedance	50 Ω
VSWR	1.3 : 1 to 50 GHz
Insulation Resistance	5000 M Ω
Dielectric Withstand Voltage	1200 Vrms max
Contact Resistance	
- Outer Conductor	2m Ω max
- Inner Conductor	3m Ω 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	0.9 ~ 1.13 Nm / 8 ~ 10 lbs
Proof Torque	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	-

2.4mm Connectors



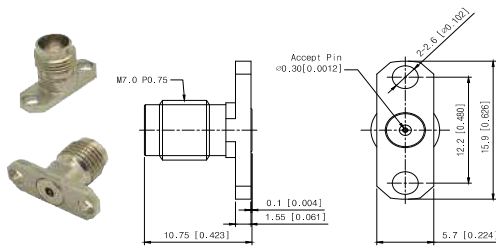
- DC to 50 GHz
- Mechanically Compatible with 1.85 mm Connectors

- Air Dielectric
- Captivated Center Contact

► JACK (Female)

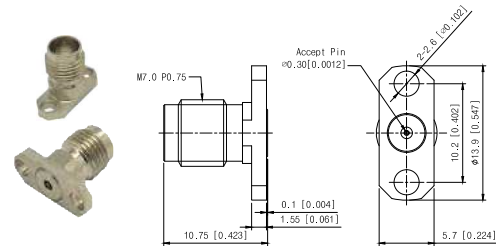
Unit : mm [Inch]

Panel Mount (2 HOLE, 15.9mm LONG)



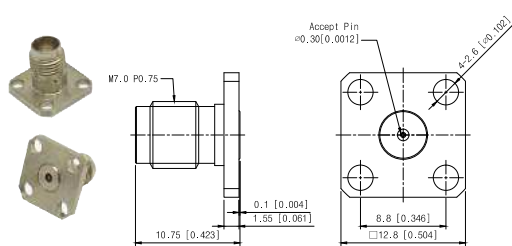
- Part No. P2F-S00-000
- Accept Pin DIA. 0.30 [0.012]

Panel Mount (2 HOLE, 13.9mm LONG)



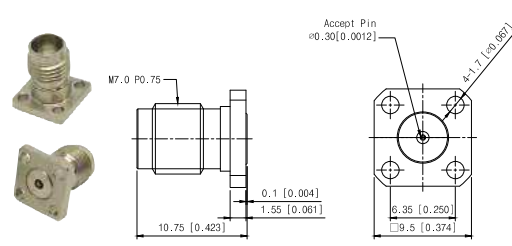
- Part No. P2F-S01-000
- Accept Pin DIA. 0.30 [0.012]

Panel Mount (4 HOLE, 12.8mm SQUARE)



- Part No. P2F-S02-000
- Accept Pin DIA. 0.30 [0.012]

Panel Mount (4 HOLE, 9.5mm SQUARE)

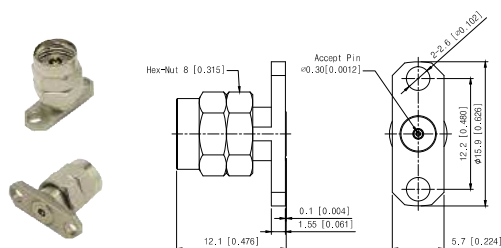


- Part No. P2F-S03-000
- Accept Pin DIA. 0.30 [0.012]

► PLUG (Male)

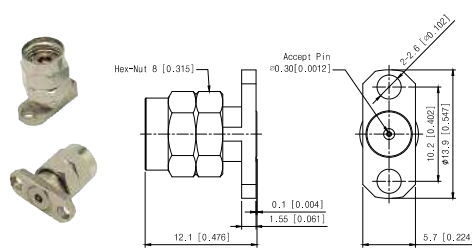
Unit : mm [Inch]

Panel Mount (2 HOLE, 15.9mm LONG)



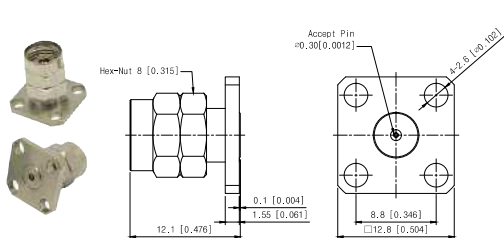
- Part No. P2M-S00-000
- Accept Pin DIA. 0.30 [0.012]

Panel Mount (2 HOLE, 13.9mm LONG)



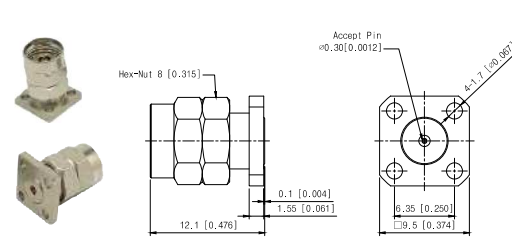
- Part No. P2M-S01-000
- Accept Pin DIA. 0.30 [0.012]

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]

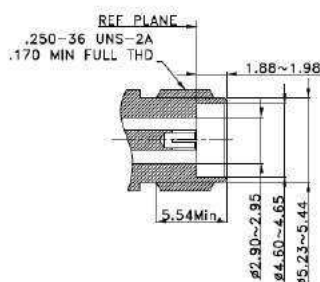
2.92mm Connectors

► Introduction

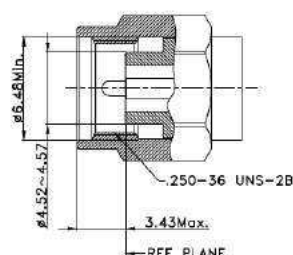
GigaLane **2.92mm Connectors** are precision connectors for optimum RF performance up to 40 GHz. 2.92mm connectors feature high mechanical stability and excellent repeatability. The connector is compatible with 3.5mm and SMA connectors. It is applicable to military and telecommunication application.

► Interface Standards (MIL-STD-348)

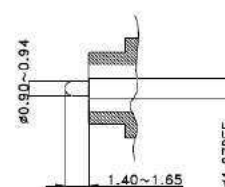
Unit : mm



(Jack)



(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	2mΩ max
- Inner Conductor	3mΩ 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	0.9 ~ 1.13 Nm / 8 ~ 10 lbs
Proof Torque	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	-

2.92mm Connectors



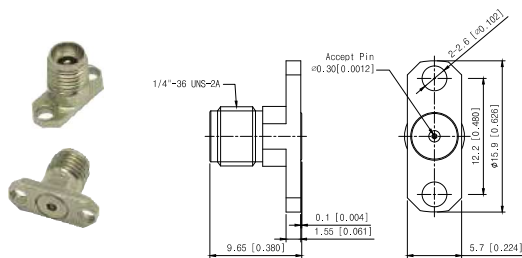
- DC to 40 GHz
- Mechanically Compatible with SMA, 3.5mm Connectors

- Air Dielectric
- Captivated Center Contact

► JACK (Female)

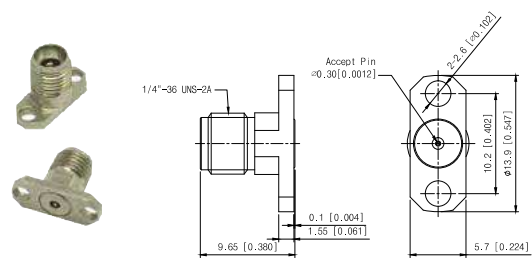
Unit : mm [Inch]

Panel Mount (2 HOLE, 15.9mm LONG)



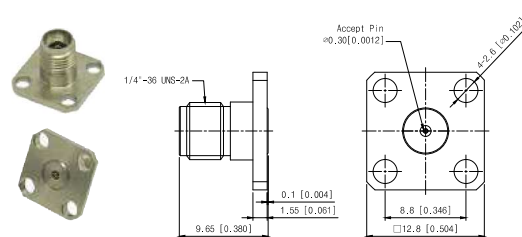
- Part No. PKF-S00-000
- Accept Pin DIA. 0.30 [0.012]

Panel Mount (2 HOLE, 13.9mm LONG)



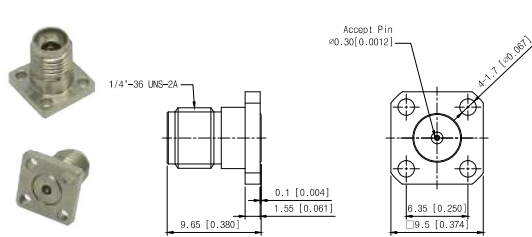
- Part No. PKF-S01-000
- Accept Pin DIA. 0.30 [0.012]

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)

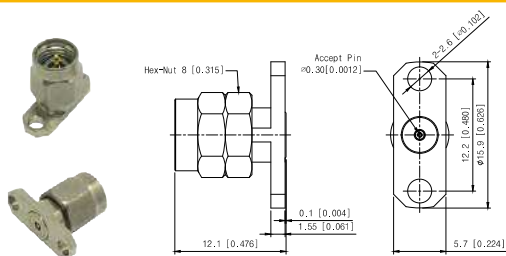


- Part No. PKF-S03-000
- Accept Pin DIA. 0.30 [0.012]

► PLUG (Male)

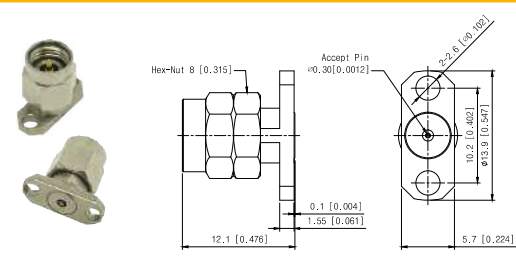
Unit : mm [Inch]

Panel Mount (2 HOLE, 15.9mm LONG)



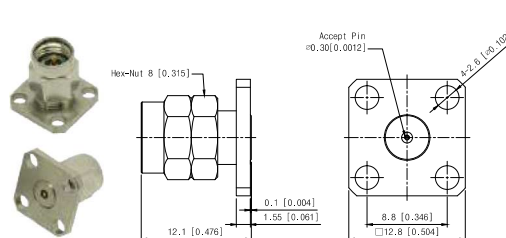
- Part No. PKM-S00-000
- Accept Pin DIA. 0.30 [0.012]

Panel Mount (2 HOLE, 13.9mm LONG)



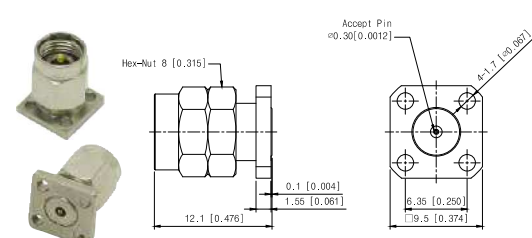
- Part No. PKM-S01-000
- Accept Pin DIA. 0.30 [0.012]

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)

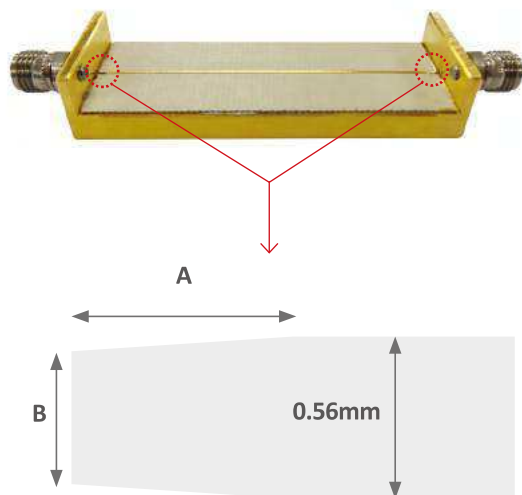


- Part No. PKM-S03-000
- Accept Pin DIA. 0.30 [0.012]

Test Result of 2.4mm & 2.92mm Connectors

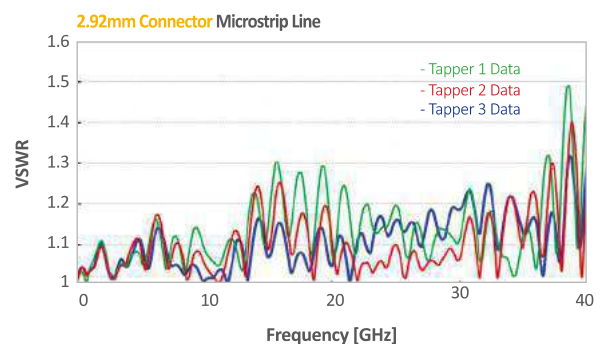
► Design Guide (Microstrip to coax)

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.

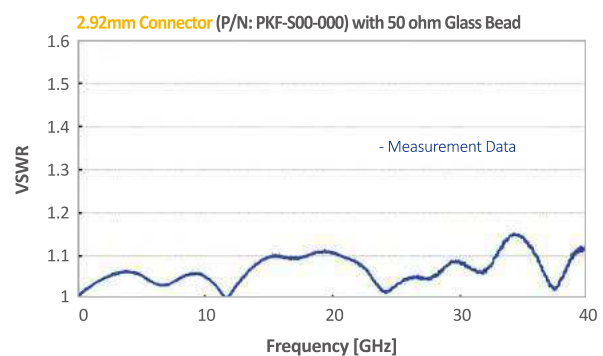
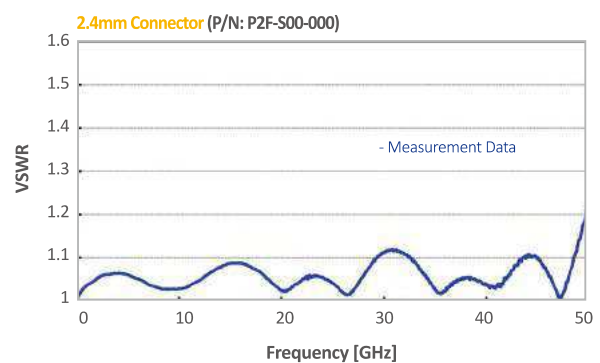


	t	w	g
Er 2.2	10 mil	0.56mm	0.1mm

	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



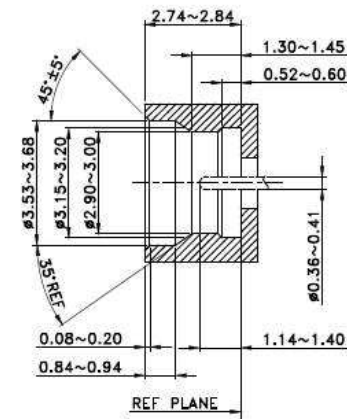
SMP Connectors

► Introduction

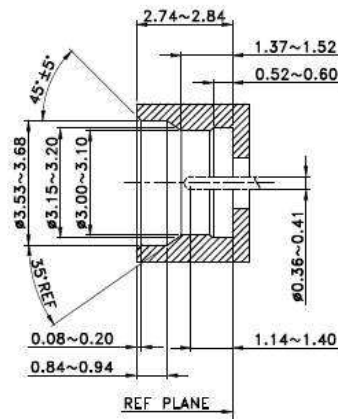
GigaLane **SMP Connectors** offer you precise mating and excellent VSWR performance through 40 GHz with competitive price. They have excellent vibration and shock performance based on MIL standard and suitable for application such as military, broadband, instrumentation and telecommunication application.

► Interface Standards (MIL-STD-348)

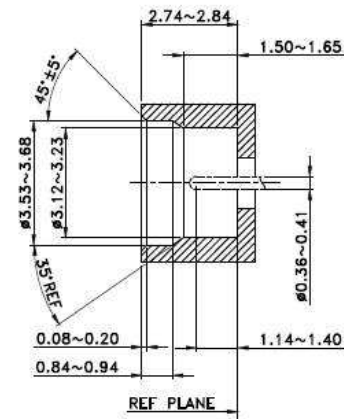
Unit : mm



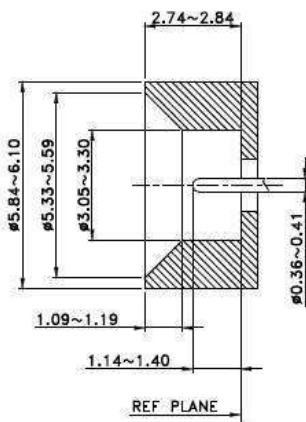
(Full Detent)



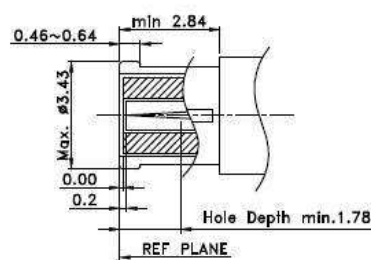
(Limited Detent)



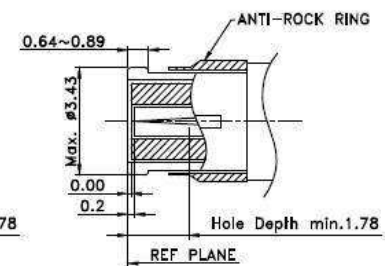
(Smooth Bore)



(Catechers Mit)



(Uncabled Connector)

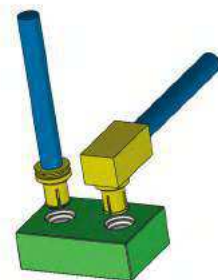


(Cabled Connector)

► Installation of SMP Connectors



(Installation of SMP Connectors)



(Installation of SMP Cable)

- ## RF & MW Connectors

RF & MW Adapters

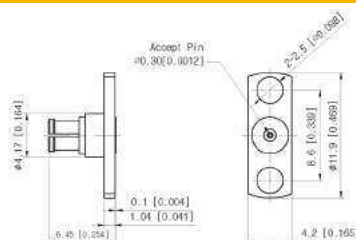
RF Connectivity
Test Solutions

Test & Measurement

Cable Assemblies

Appendix

Unit : mm [Inch]

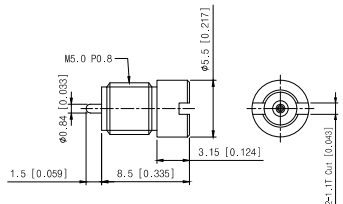
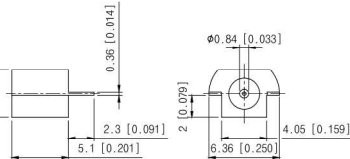
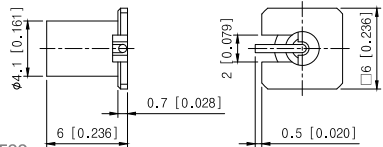
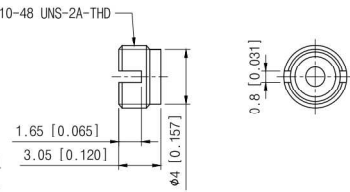
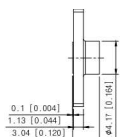
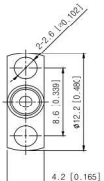


GigaLane Co., Ltd. sales@gigalane.com www.gigalane.com

SMP Connectors

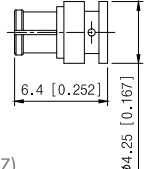
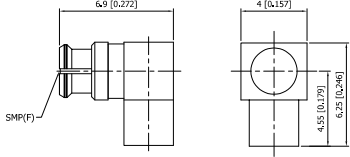
► PLUG (Male)

Unit : mm [Inch]

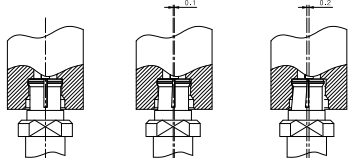
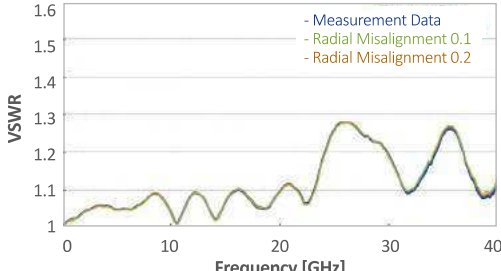
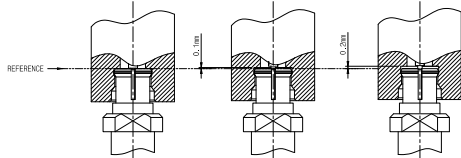
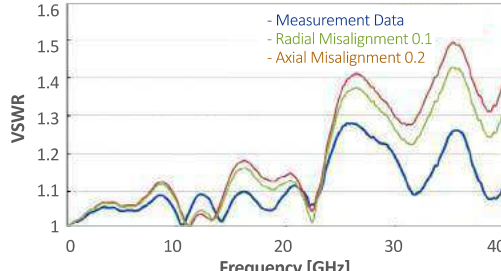
PCB Thread-in	PCB Edge Mount
 • Type. • Part No. Full PPM-S02-F00 Limited PPM-S02-L00 Smooth PPM-S02-S00 	 • Type. • Part No. Full PPM-S03-F00 Limited PPM-S03-L00 Smooth PPM-S03-S00 
PCB Right Angle Mount	Panel Shroud, Thread-in (No Center Contact)
 • Type. • Part No. Full PPM-R00-F00 Limited PPM-R00-L00 Smooth PPM-R00-S00 	 • 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)	Right Angle JACK (SR085, SF085)
 • Part No. PFS01, PFS02 (18GHZ, 40GHZ) 	 • Part No. PFR01 

► Test Result of SMP Connectors

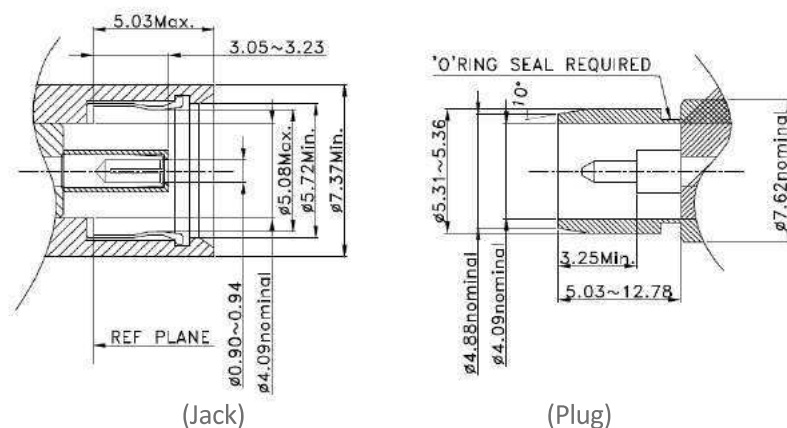
Radial Mis-Alignment Condition	Axial Mis-Alignment Condition
 SMP(M) to 2.92mm(F) Adapter  - Measurement Data - Radial Misalignment 0.1 - Radial Misalignment 0.2	 SMP(M) to 2.92mm(F) Adapter  - Measurement Data - Radial Misalignment 0.1 - Axial Misalignment 0.2

► 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



► Specification

Electrical

Frequency	DC to 18 GHz
Impedance	50 Ω
VSWR	1.3 : 1 typical
Insulation Resistance	5000 M Ω
Dielectric Withstand Voltage	1000 Vrms max
Contact resistance	
- Outer Conductor	2m Ω max
- Inner Conductor	3m Ω 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
Corrosion (Salt Spray)	MIL-STD-202, method 101
Shock	MIL-STD-202, method 213
Vibration	MIL-STD-202, method 204
Moisture resistance	MIL-STD-202, method 106

Materials

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

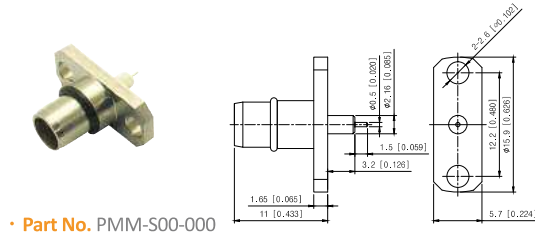
BMA Connectors

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

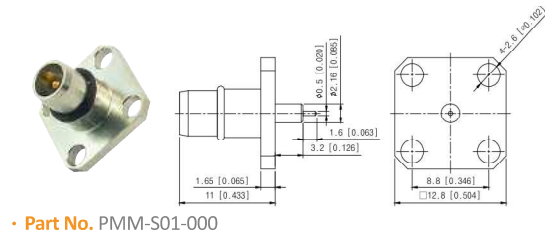
► PLUG (Male)

Unit : mm [Inch]

Panel Mount (2 HOLE, 15.9mm LONG)



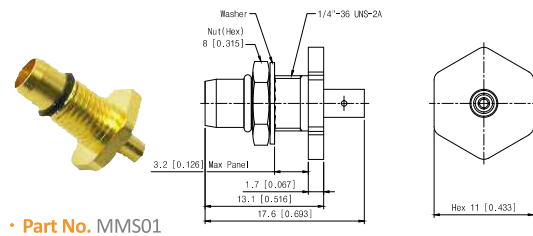
Panel Mount (4 HOLE, 12.8mm SQUARE)



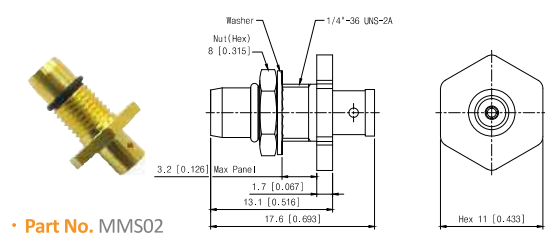
► BMA Connectors for Cable Assemblies

Unit : mm [Inch]

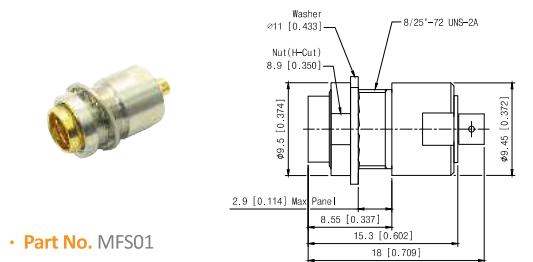
Straight PLUG Bulkhead (SR085, SF085)



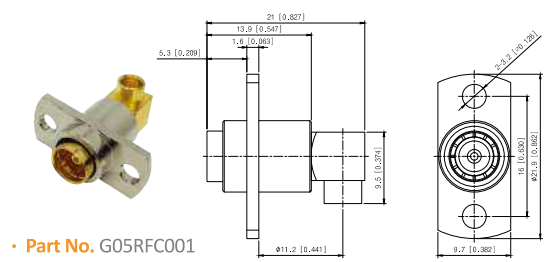
Straight PLUG Bulkhead (SR141, SF141)



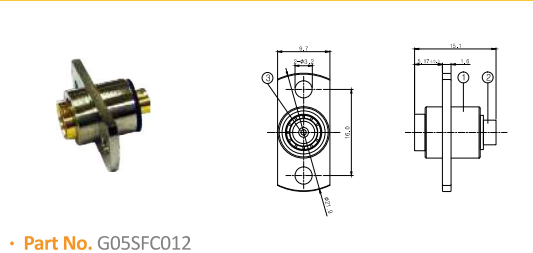
Straight Aligner JACK (SR085, SF085)



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

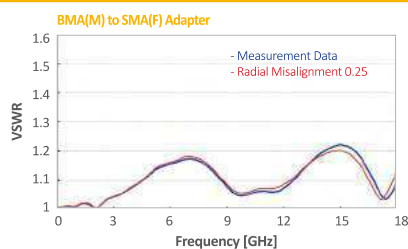


Straight Flange Jack (2HOLE, 15.1mm Long)(SR141,SF141)

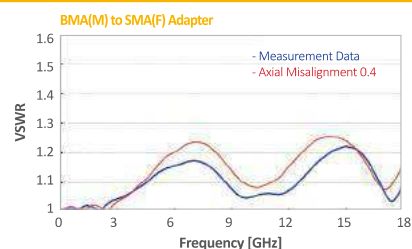


► Test Result of BMA Connectors

Radial Mis-Alignment Condition



Axial Mis-Alignment Condition



► 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 easily connected to GPCW transmission Line and Microstrip Line.



► Specification

Electrical

Frequency	2.4 mm	DC ~ 50 GHz
	2.92 mm	DC ~ 40 GHz
	SMA	DC ~ 27 GHz
Impedance	50 Ω	
VSWR	1.57:1 (-13dB)	
Insulation loss	Low Insertion Loss	

Environmental

Thermal Shock	MIL-STD-202, method 107
Corrosion (Salt Spray)	MIL-STD-202, method 101
Shock	MIL-STD-202, method 213
Vibration	MIL-STD-202, method 204
Moisture Resistance	MIL-STD-202, method 106

Materials

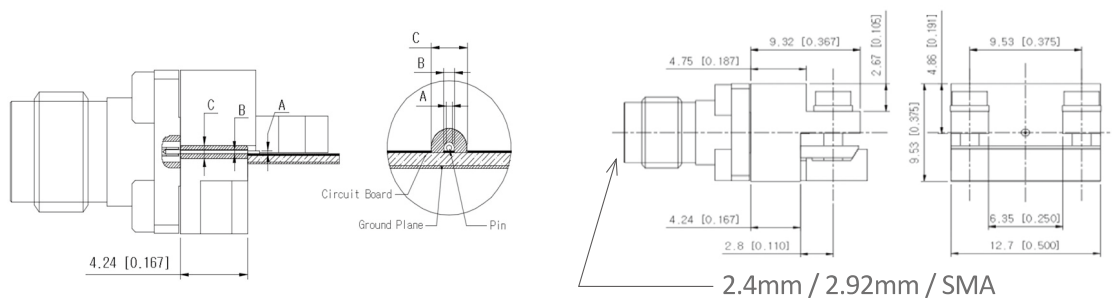
Connector	Body	Stainless Steel	Passivated
	Center Contact	Beryllium Copper(BeCu)	Gold Plated
	Insulator	Engineering Plastic	-
Launched Block	Launched Block	Brass	Ni plated
	Pin	Beryllium Copper(BeCu)	Gold Plated
	Insulator	PTFE	-

High Performance End Launch Connectors

Unit : mm [Inch]

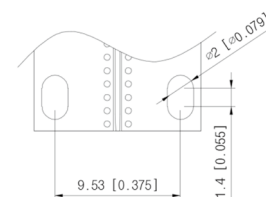
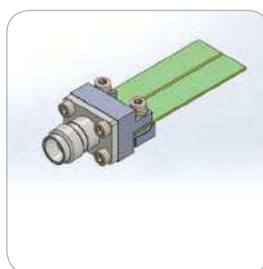
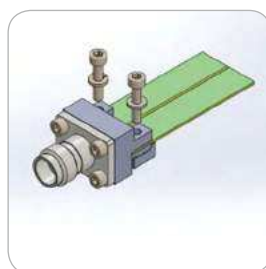
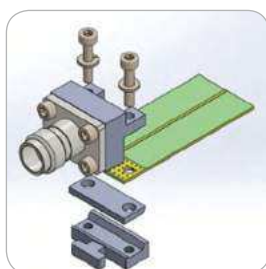
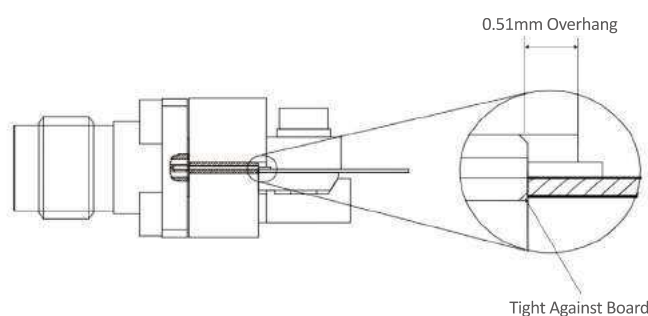
Part No.	Pin Diameter		Dielectric Diameter
	A	B	C
G01SFB001 (2.4 mm, 50 GHz)	0.13 [0.005]	0.23 [0.009]	0.73 [0.029]
G02SFB002 (2.92 mm, 40 GHz)	0.18 [0.007]	0.3 [0.011]	0.93 [0.036]
G06SFB102 (SMA, 27 GHz)	0.18 [0.007]	0.3 [0.011]	0.93 [0.036]

► Drawing

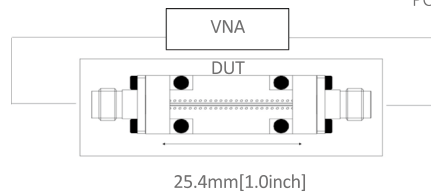
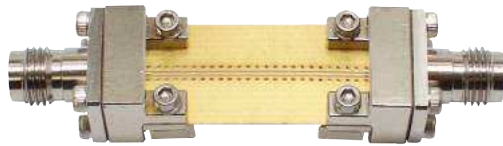


► Installation Procedure

- 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

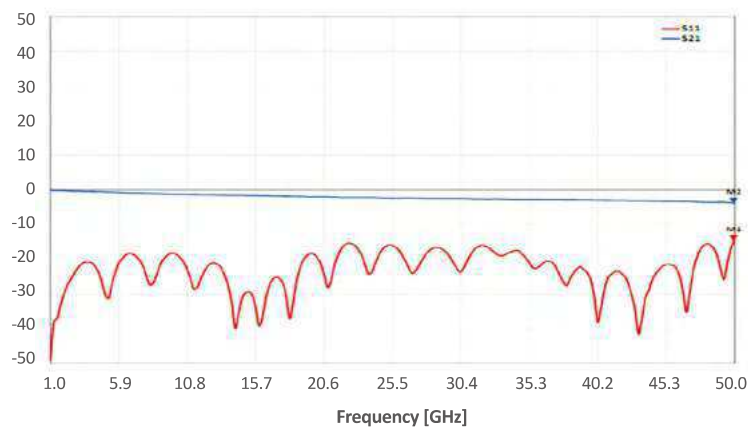


Specifacaton

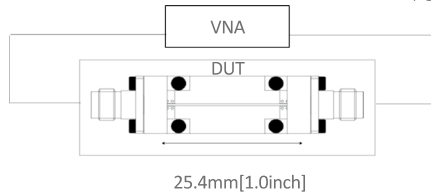
- Insertion Loss : Min. -4.2 dB @ 0.1~50 GHz
- Return Loss : Max. -13 dB @ 0.1~50 GHz

Test Result

- Insertion Loss : Min. -3.8 dB @ 0.1~50 GHz
- Return Loss : Max. -14.5 dB @ 0.1~50 GHz



► Microstrip with Top Ground Test Result of G01SFB001

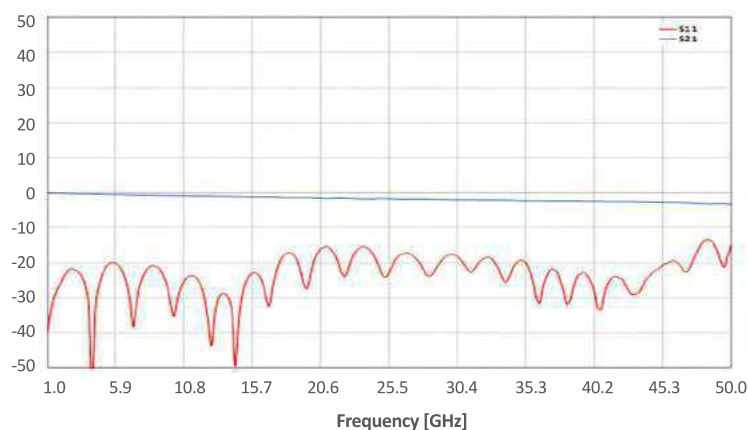


Specifacaton

- Insertion Loss : Min. -4.2 dB @ 0.1~50 GHz
- Return Loss : Max. -13 dB @ 0.1~50 GHz

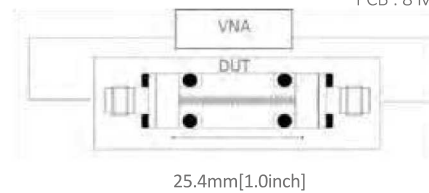
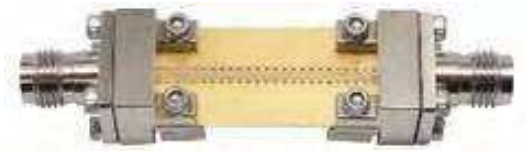
Test Result

- Insertion Loss : Min. -3.3 dB @ 0.1~50 GHz
- Return Loss : Max. -13.5 dB @ 0.1~50 GHz



High Performance End Launch Connectors

► GCPWG Test Result of G02SFB002



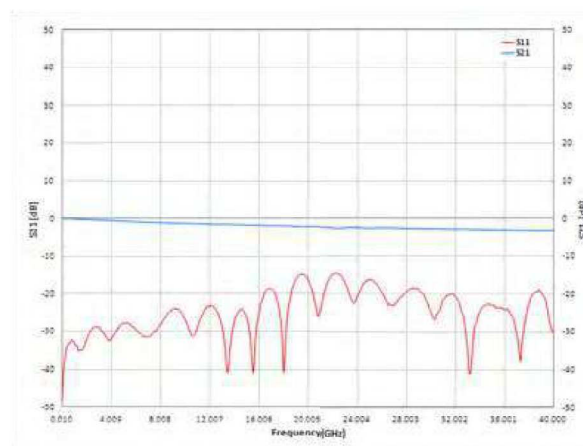
* PCB : 8 MIL R4003(0.5oz)

Specifacaton

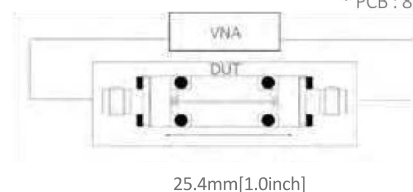
- Insertion Loss : Min -3.7dB @ 0.1~40GHz
- Return Loss : Max. -13dB @ 0.1~40GHz

Test Result

- Insertion Loss : Min -3.3dB @ 0.1~40GHz
- Return Loss : Max. -14.9dB @ 0.1~40GHz



► Microstrip with Top Ground Test Result of G02SFB002



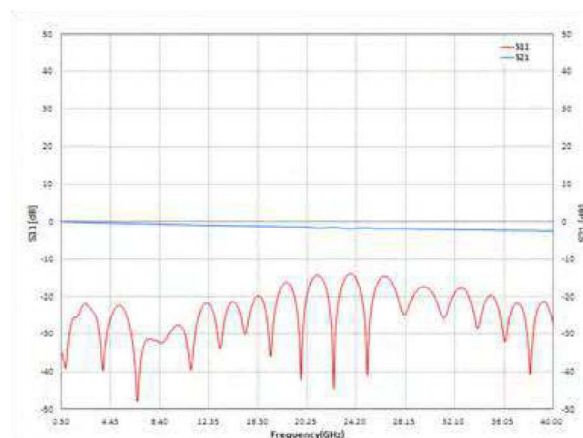
* PCB : 8 MIL R4003(0.5oz)

Specifacaton

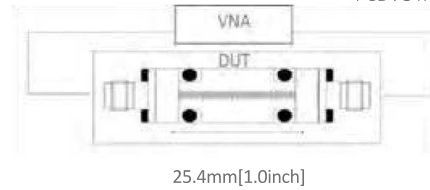
- Insertion Loss : Min -3.7dB @ 0.1~40GHz
- Return Loss : Max. -13dB @ 0.1~40GHz

Test Result

- Insertion Loss : Min -2.6dB @ 0.1~40GHz
- Return Loss : Max. -14.0dB @ 0.1~40GHz



► GCPWG Test Result of G06SFB102

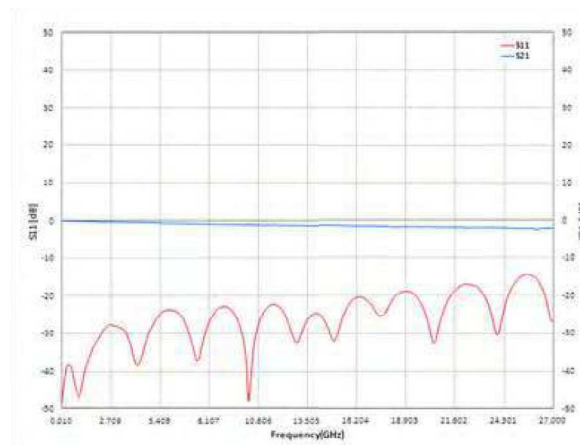


Specifcaton

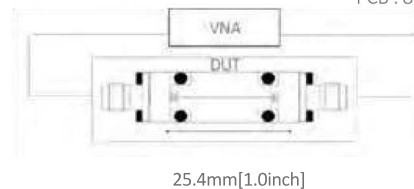
- Insertion Loss : Min -3.2dB @ 0.1~27GHz
- Return Loss : Max. -13dB @ 0.1~27GHz

Test Result

- Insertion Loss : Min -2.4dB @ 0.1~27GHz
- Return Loss : Max. -14.3dB @ 0.1~27GHz



► Microstrip with Top Ground Test Result of G06SFB102

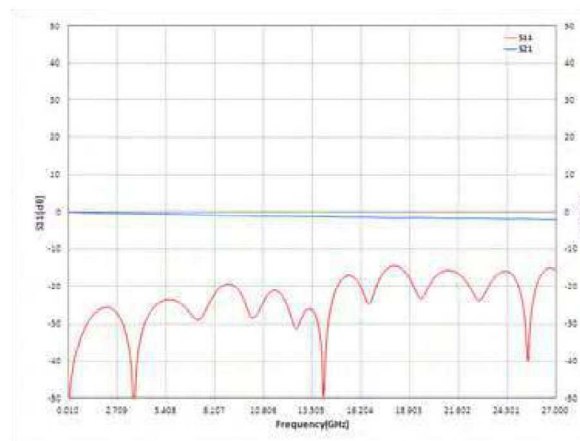


Specifcaton

- Insertion Loss : Min -3.2dB @ 0.1~27GHz
- Return Loss : Max. -13dB @ 0.1~27GHz

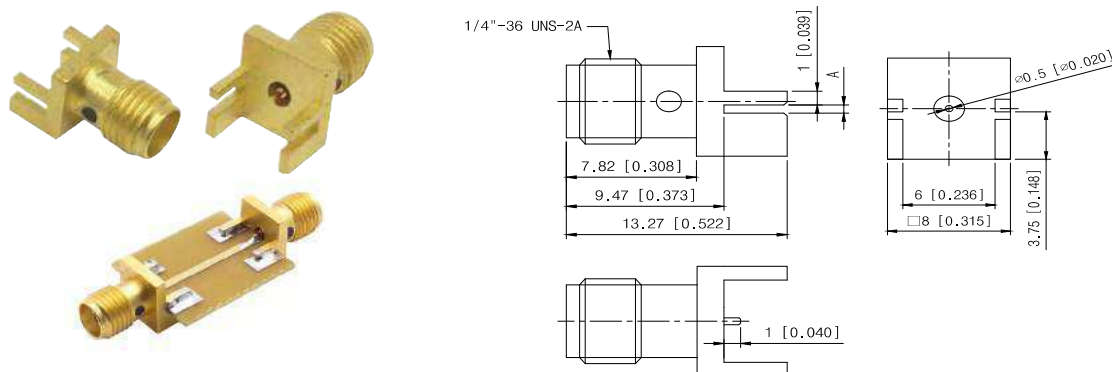
Test Result

- Insertion Loss : Min -2.1@ 0.1~27GHz
- Return Loss : Max. -14.4@0.1~27GHz

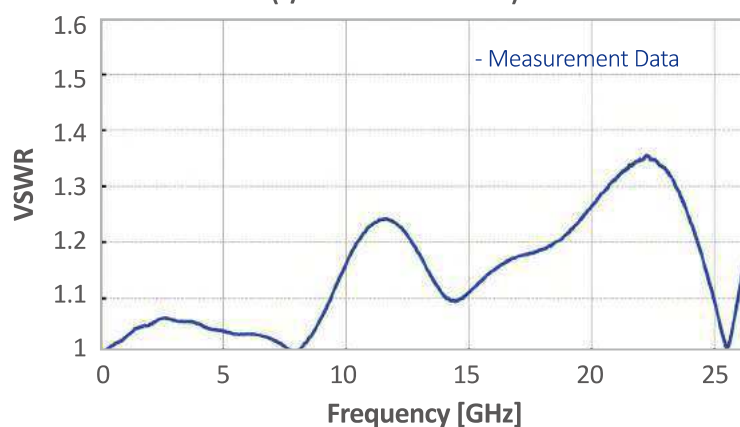


High Performance End Launch Connectors

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.



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



Unit : mm [Inch]

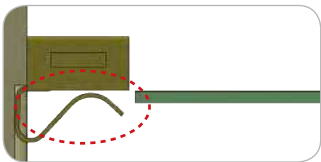
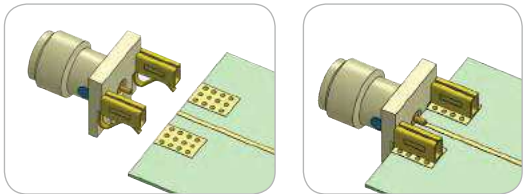
Part No.	Dia A.
PSF-S01-000	0.60 [0.024]
PSF-S01-001	0.80 [0.031]
PSF-S01-002	1.00 [0.039]
PSF-S01-003	1.10 [0.043]
PSF-S01-004	1.20 [0.047]
PSF-S01-005	1.30 [0.051]
PSF-S01-006	1.50 [0.059]
PSF-S01-007	1.60 [0.063]
PSF-S01-008	1.73 [0.068]
PSF-S01-009	2.10 [0.083]
PSF-S01-010	2.25 [0.089]
PSF-S01-011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

* PCB Pattern See Page 90p Fig 2

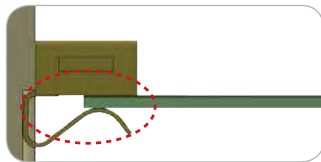
High Performance End Launch Connectors



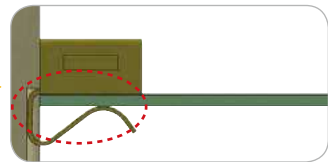
GigaLane **Quick End Launch (QEL™ SMA)** is designed for quick launch at the edge of PCB board up to 18 GHz. Specially designed leg immediately adjusts and firmly holds its attachment with the PCB. It is ideal solution for all active & speedy tests required in R&D. When compared with conventional end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



Easy & Speedy insertion



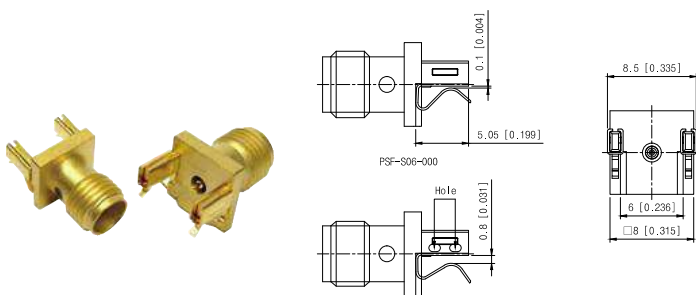
Uniquely designed legs maneuvers smoothly and evenly to fit the PCB thickness



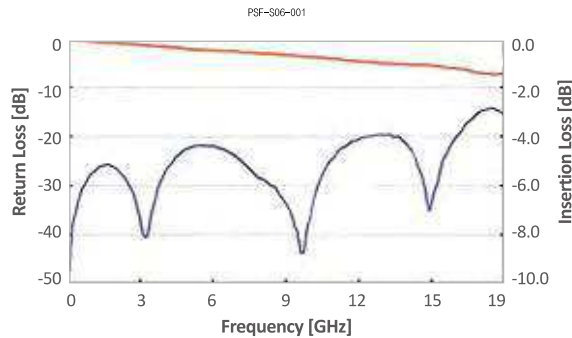
Built-in tension of legs enables even and firm attachment to the PCB

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



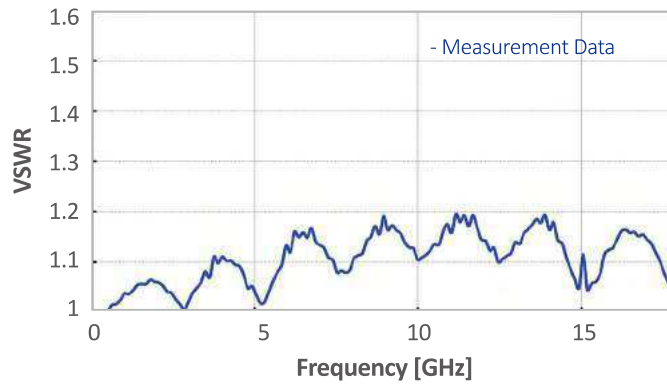
- <DUT>
- **Connector**
 - PSF-S06-000 : 2ea
 - **PCB**
 - FR4 Sub Thickness : 0.6mm
 - 50 Ω Line Width : 1.2mm
 - Line Length : 18mm

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

High Performance End Launch Connectors

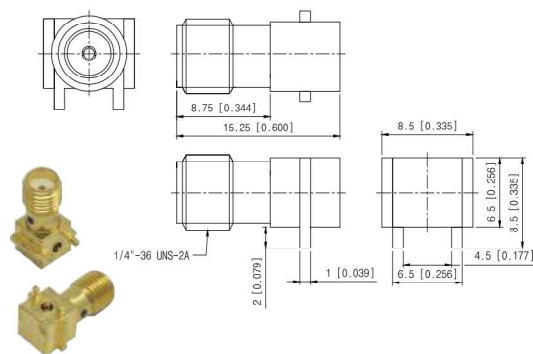
GigaLane VEREND™(Vertical-End launch) SMA Connector is designed for applications such as circuit boards for SMD(Surface Mounted Device) and for vertical mounting on RF test boards. It has excellent electrical transition on right angle section up to 18 GHz.

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

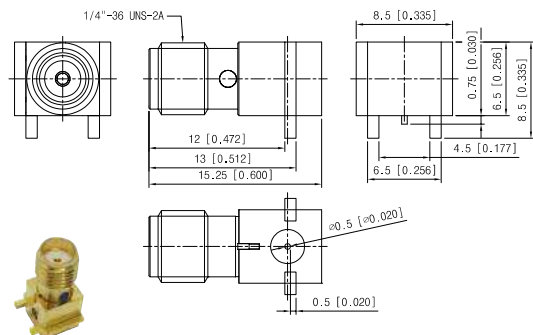


► JACK (Female)

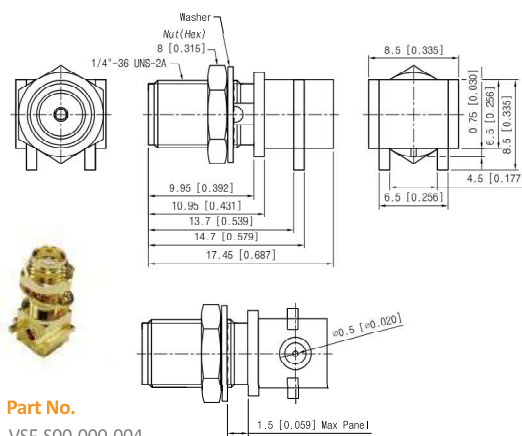
Unit : mm [Inch]



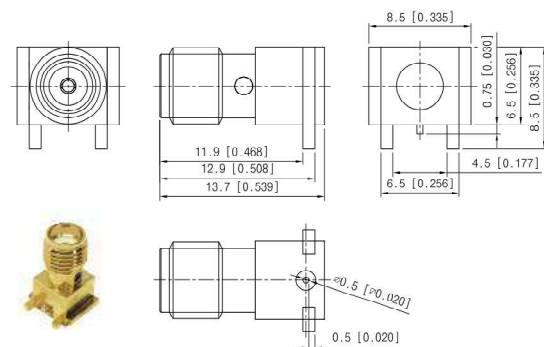
• Part No.
VSF-S00-000



• Part No.
VSF-S00-000-001



• Part No.
VSF-S00-000-004



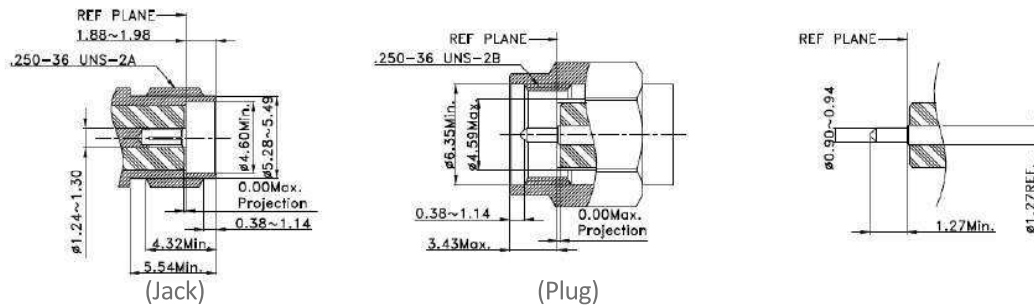
• Part No.
VSF-S00-000-005

► 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]



► 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	2mΩ max 3mΩ 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	0.9 ~ 1.13 Nm / 8 ~ 10 lbs
Proof Torque	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
Corrosion (Salt Spray)	MIL-STD-202, method 101
Shock	MIL-STD-202, method 213
Vibration	MIL-STD-202, method 204
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	-

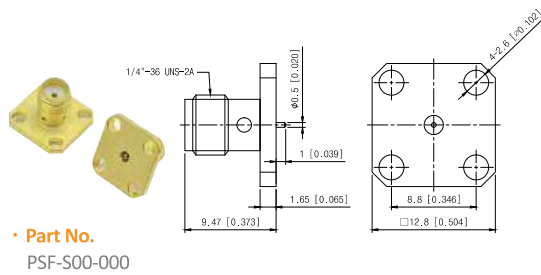
High Performance SMA Connectors

- DC to 26.5 GHz
- Mechanically Compatible with 2.92mm & 3.5mm Connectors
- Suitable for High-speed Wireless application

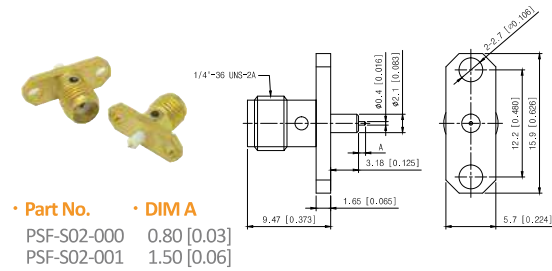
► JACK (Female)

Unit : mm [Inch]

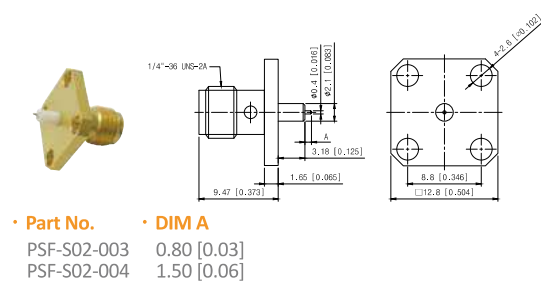
Panel Mount (4 HOLE, 12.8mm SQUARE)



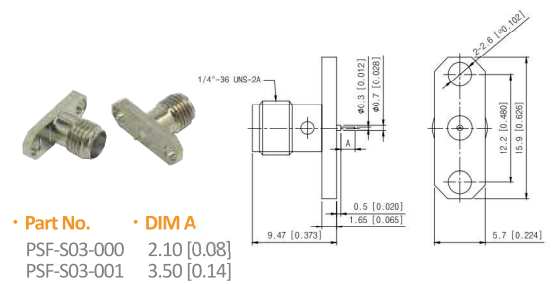
Panel Mount (2 HOLE, 15.9mm LONG)



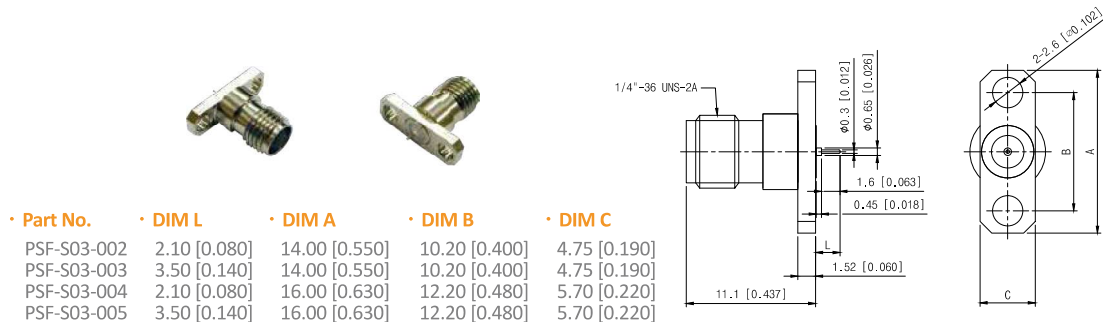
Panel Mount Jack (4 HOLE, 12.8mm SQUARE)



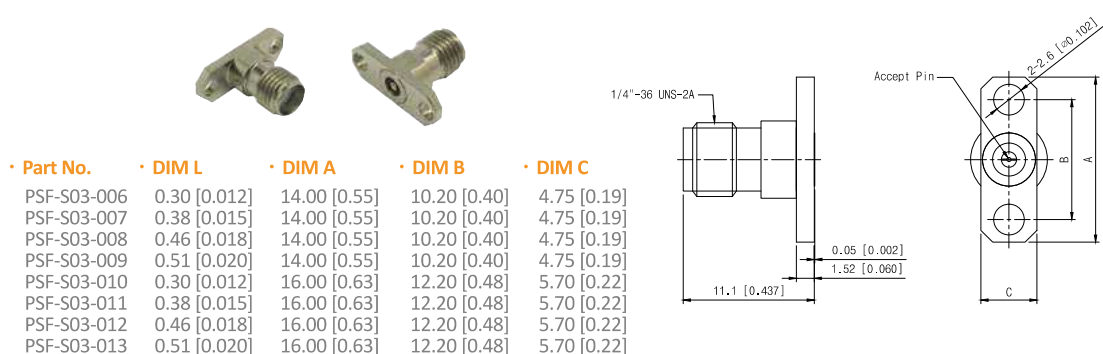
Panel Mount (2 HOLE, 15.9mm LONG)



Panel Mount Epoxy Captivated (EMI Shielding)



Panel Mount Field Replaceable (EMI Shielding)

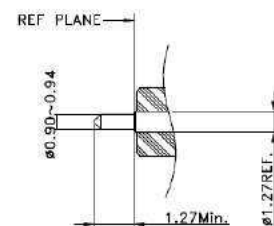
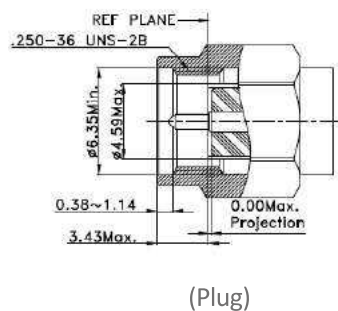
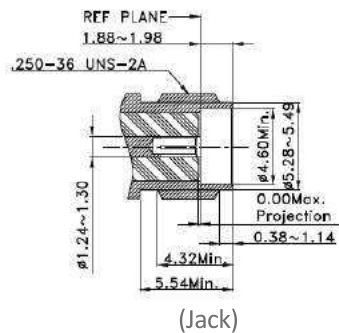


► Introduction

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]



► 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	2mΩ max	
- Inner Conductor	3mΩ max	
RF Leakage	-90 dB	
Power Handling	200 W @ 2 GHz	

Mechanical

Mating Cycle(Durability)	500
Recommended Mating Torque	0.9 ~ 1.13 Nm / 8 ~ 10 lbs
Proof Torque	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
Corrosion (Salt Spray)	MIL-STD-202, method 101
Shock	MIL-STD-202, method 213
Vibration	MIL-STD-202, method 204
Moisture Resistance	MIL-STD-202, method 106

Materials

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

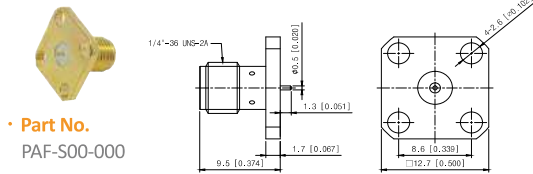
SMA Connectors

• DC to 18 GHz • Mechanically Compatible with 2.92mm & 3.5mm Connectors • High reliability, Durability and Mechanical stability

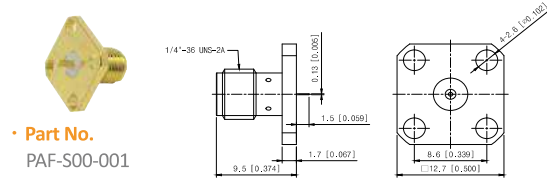
► JACK (Female)

Unit : mm [Inch]

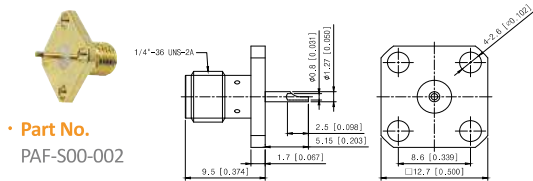
Panel Mount with Round Pin (4 HOLE, 12.7mm SQUARE)



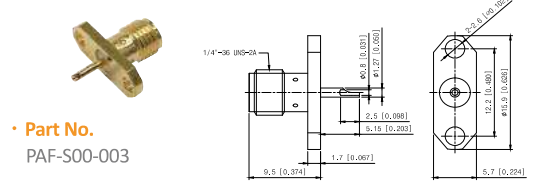
Panel Mount with Flat Pin (4 HOLE, 12.7mm SQUARE)



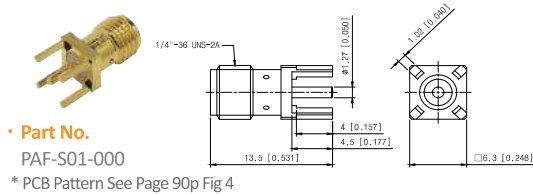
Panel Mount with Solder Pot Pin (4 HOLE, 12.7mm SQUARE)



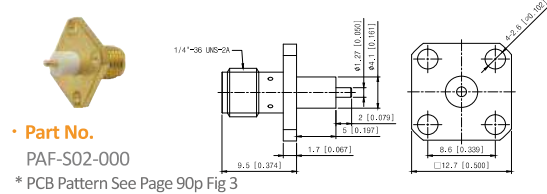
Panel Mount with Solder Pot Pin (2 HOLE, 15.9mm LONG)



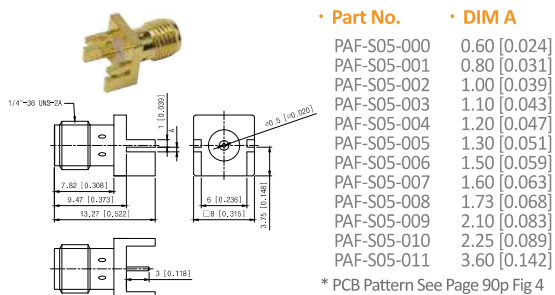
PCB Mount (13.5mm LONG)



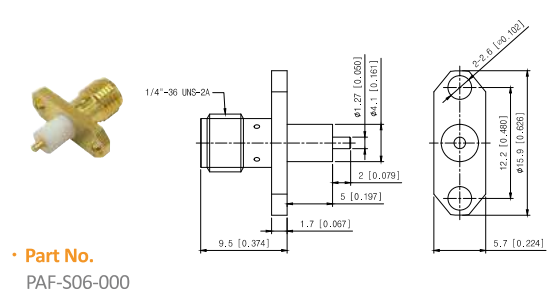
Panel Mount (4 HOLE, 12.7mm SQUARE)



End Launch (13.27mm LONG)



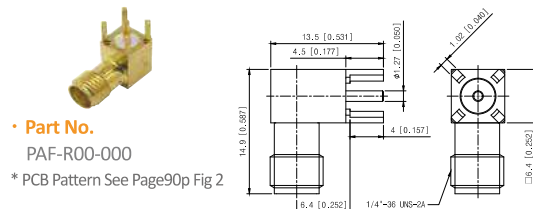
Panel Mount (2 HOLE, 15.9mm LONG)



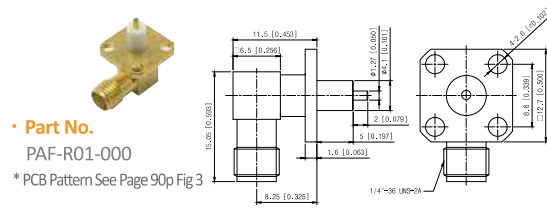
► JACK Right Angle(Female)

Unit : mm [Inch]

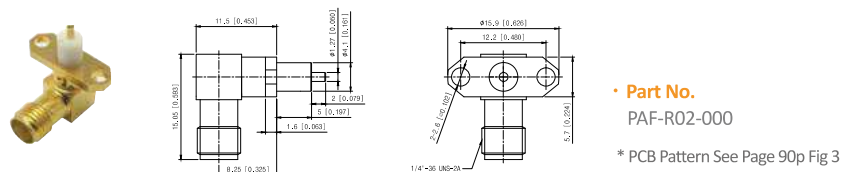
Right Angle PCB Mount



Right Angle Panel Mount (4 HOLE)

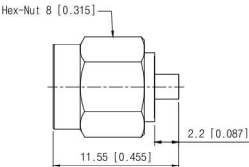
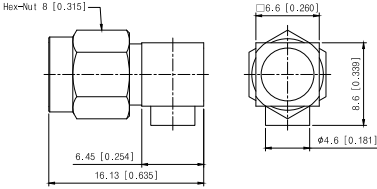
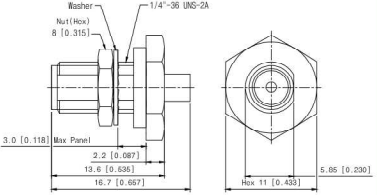
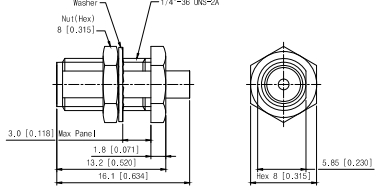
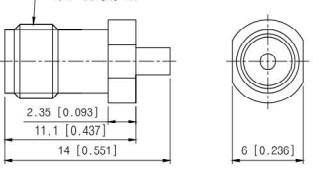
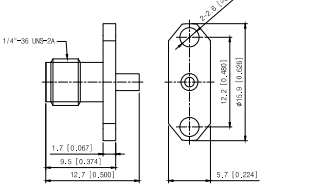
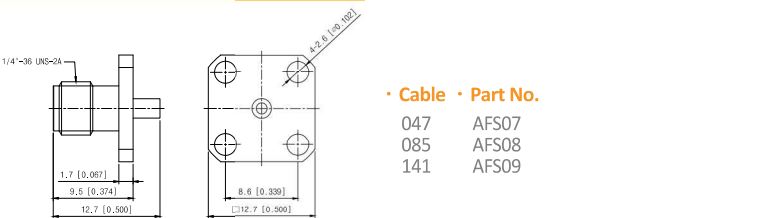


Right Angle Panel Mount (2 HOLE)



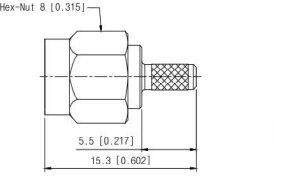
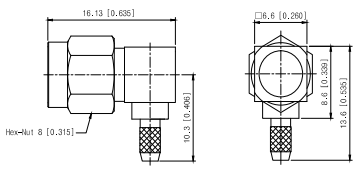
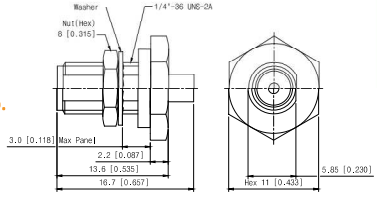
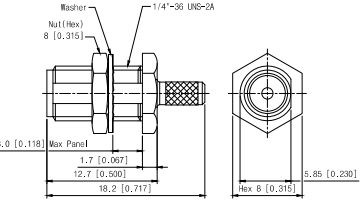
► For Semi-Rigid & Semi-Flexible Cable Assemblies

Unit : mm [Inch]

Straight PLUG(Male)	Right Angle PLUG(Male)
 • Cable • Part No. 047 AMS28 085 AMS19 141 AMS23 	 • Cable • Part No. 085 AMR01 141 AMR02 
Bulkhead JACK(Female), 11mm HEX	Bulkhead JACK(Female), 8.0mm HEX
 • Cable • Part No. 085 AFS01 141 AFS02 	 • Cable • Part No. 085 AFS34 141 AFS03 
Straight JACK(Female)	Panel Mount JACK (2 HOLE, 15.9mm LONG)
 • Cable • Part No. 034 AFS20 047 AFS21 085 AFS22 141 AFS36 	 • 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	Right Angle Panel Mount (4 HOLE)
 • Cable • Part No. RG316 AMS05 RG178 AMS06 RG400 AMS07 	 • Cable • Part No. RG316 AMR03 RG178 AMR04 RG400 AMR05 
Bulkhead JACK(Female), 11mm HEX	Bulkhead JACK(Female), 8.0mm HEX
 • Cable • Part No. RG316 AFS10 RG178 AFS11 RG400 AFS12 	 • Cable • Part No. RG316 AFS14 RG178 AFS15 RG400 AFS16 

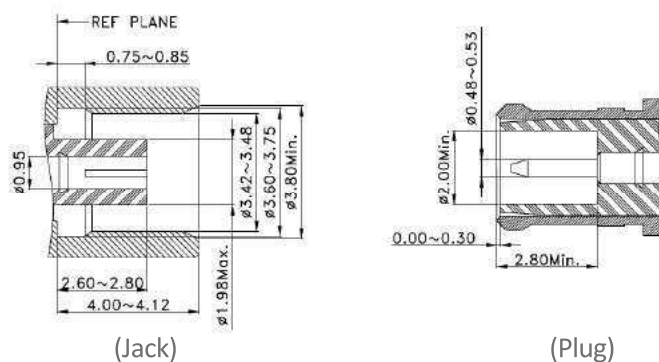
MCX Connectors

► 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



► Specification

Electrical

Frequency	DC to 6 GHz
Impedance	50 Ω
VSWR	1.2 : 1 to 6 GHz
Insulation Resistance	5000 M Ω
Dielectric Withstand Voltage	750 Vrms max
Contact Resistance	
- Outer Conductor	2mm Ω max
- Inner Conductor	6mm Ω 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
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.

Unit : mm [Inch]

RF & MW Connectors

Unit : mm [Inch]

RF & MW Adapters

RF Connectivity Test Solutions

Unit : mm [Inch]

Test & Measurement

Unit : mm [Inch]

Cable Assemblies

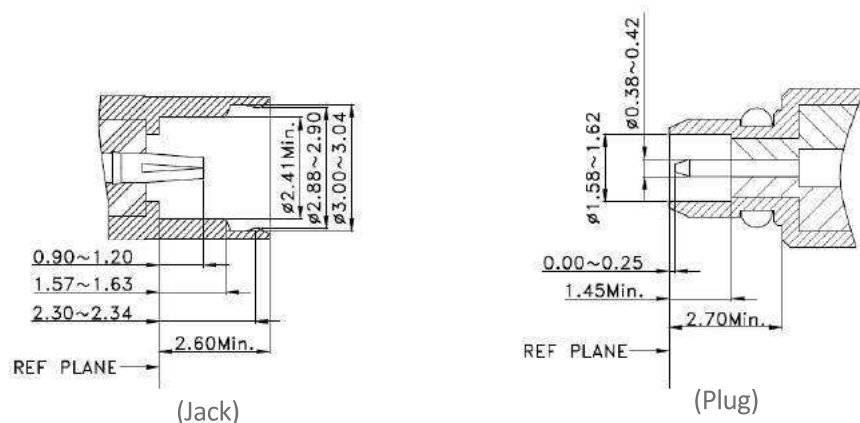
MMCX Connectors

► 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 contact.

► Interface Standards (MIL-STD-348)

Unit : mm



► Specification

Electrical

Frequency	DC to 6 GHz
Impedance	50 Ω
VSWR	1.3 : 1 to 6 GHz
Insulation Resistance	1000 M Ω
Dielectric Withstand Voltage	250 Vrms max
Contact Resistance	
- Outer Conductor	2m Ω max
- Inner Conductor	6m Ω 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

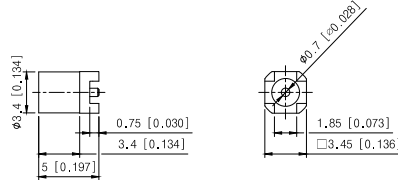
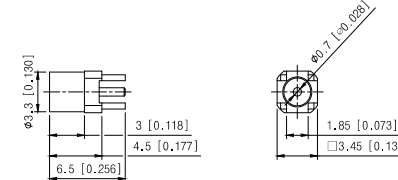
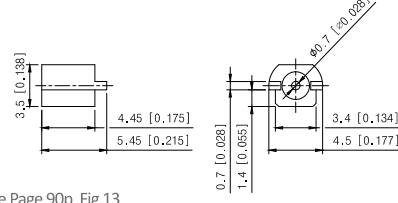
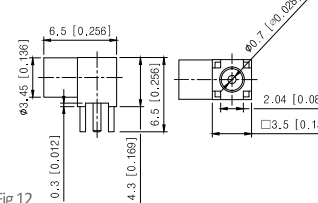
Temperature	-40°C to + 125°C
Thermal Shock	CECC22220 4.6.7
Corrosion (Salt Spray)	CECC22220 4.6.10
Vibration	CECC22220 4.6.3
Moisture Resistance	CECC22220 4.6.4

Materials

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

► JACK (Female)

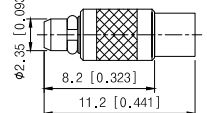
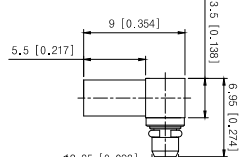
Unit : mm [Inch]

PCB Mount	PCB Mount
 • Part No. PEF-S00-000 * PCB Pattern See Page 90p Fig 10 	 • Part No. PEF-S01-000 * PCB Pattern See Page 90p Fig 11 
PCB Edge Mount	Right Angle PCB Mount
 • Part No. PEF-S02-000 * PCB Pattern See Page 90p Fig 13 	 • Part No. PEF-R00-000 * PCB Pattern See Page 90p Fig 12 

MMCX Connectors for Cable Assemblies

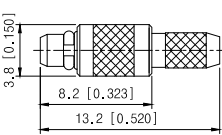
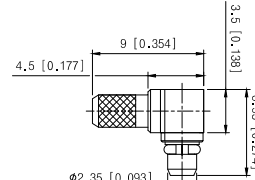
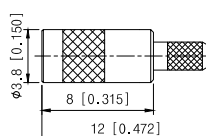
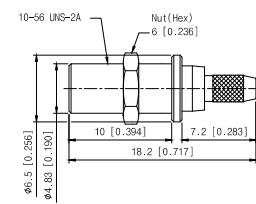
► For Semi-Rigid & Semi-Flexible Cable Assemblies

Unit : mm [Inch]

Straight PLUG	Right Angle PLUG
 • Cable • Part No. 047 EMS03 085 EMS02 	 • Cable • Part No. 047 EMR02 085 EMR03 

► For Flexible Cable Assemblies

Unit : mm [Inch]

Straight PLUG	Right Angle PLUG
 • Cable • Part No. RG178 EMS04 RG316 EMS01 	 • Cable • Part No. RG178 EMR04 RG316 EMR01 
Straight JACK	Bulkhead JACK
 • Cable • Part No. RG178 EFS01 RG316 EFS03 	 • Cable • Part No. RG178 EFS04 RG316 EFS02 

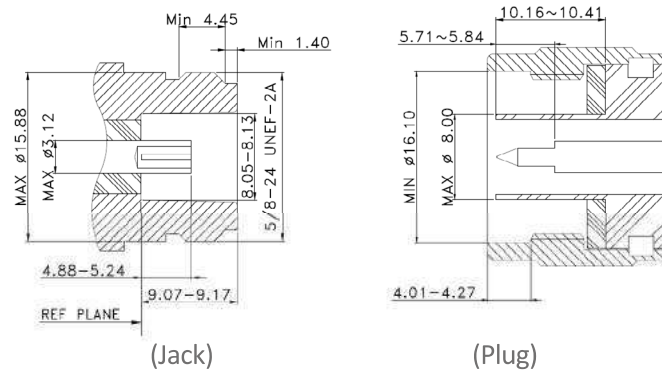
N-Type Connectors

► 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



► Specification

Electrical

Frequency	DC ~ 11 GHz
Impedance	50 Ω
VSWR	1.2 : 1 to 11 GHz
Insulation Resistance	5000 M Ω
Dielectric Withstand Voltage	1200 Vrms max
Contact Resistance	
- Outer Conductor	1m Ω max
- Inner Conductor	1m Ω max
Insertion Loss	0.2 dB max @ 11 GHz
RF Leakage	> 60 dB
Power Handling	500W (@ 2 GHz)

Mechanical

Mating Cycle(Durability)	500
Recommended Mating Torque	0.68 ~ 1.33 Nm / 5 ~ 12 lbs
Proof Torque	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 Gold Plated
Insulator	PTFE	-
Gaskets	Silicon	-

N-Type Connectors



► JACK (Female)

Unit : mm [Inch]

Panel Mount (4 HOLE, 25.4mm SQUARE)	Panel Mount (4 HOLE, 17.5mm SQUARE)
 Part No. PNF-S00-000 *PCB Pattern See Page 90p Fig 15	 Part No. PNF-S01-000 *PCB Pattern See Page 90p Fig 15
Bulkhead Mount	Bulkhead Mount (4 HOLE, 25.4mm SQUARE)
 Part No. PNF-S02-000 *PCB Pattern See Page 90p Fig 15	 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	Bulk head PLUG
 Cable 047 085 141 Part No. NMS01 NMS31 NMS17	 Cable 085 141 Part No. NFS01 NFS02
Panel Mount (4 HOLE, 25.4mm SQUARE)	
 Cable 085 141 Part No. NFS09 NFS03	

► For Flexible Cable Assemblies

Unit : mm [Inch]

Straight PLUG

Cable
RG316
RG400
Part No.
NMS22
NMS04

*Where Signal & Connectivity is needed,
There is GigaLane.*



www.gigalane.com