RF & MW Connectors

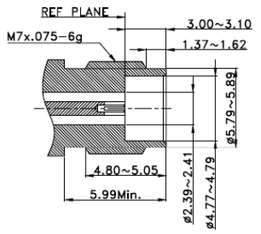
- 2.4 mm Connectors
- 2.92 mm(K) Connectors
- Hermetic Seal (0.012” Glass Bead)
- SMP Connectors
- BMA Connectors
- High Performance End Lanch Connectors
- High Performance SMA Connectors
- SMA Connectors
- MCX Connectors
- MMCX Connectors
- N-Type Connectors

► Introduction

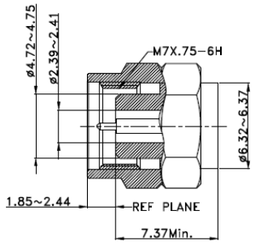
GigaLane 2.4mm Connectors are precision connectors for optimum RF performance up to 50 GHz. The connectors feature excellent mechanical stability, extreme reliability and it maintains highly cost-effective pricing, short lead-time. The connector is compatible with 1.85mm connectors. It is applicable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

► Interface Standards (MIL-STD-348)

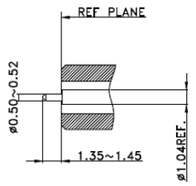
Unit : mm



(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	 2mΩ max 3mΩ 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

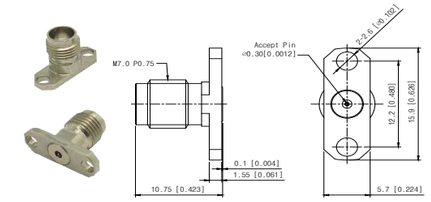
Body	Stainless Steel	Passivated
Center Contact	Beryllium Copper(BeCu)	Gold Plated
Insulator	Engineering Plastic	-

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

► JACK (Female)

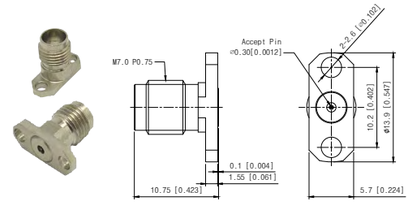
Unit : mm [Inch]

Panel Mount (2 HOLE, 15.9mm LONG)



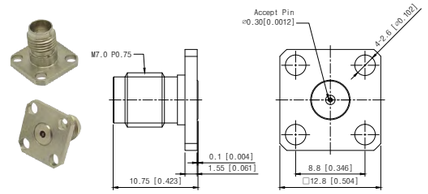
- **Part No.** P2F-S00-000
- **Accept Pin DIA.** 0.30 [0.012]

Panel Mount (2 HOLE, 13.9mm LONG)



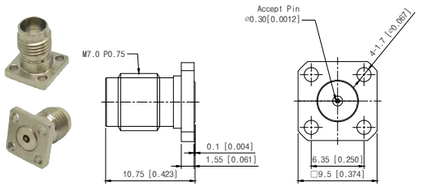
- **Part No.** P2F-S01-000
- **Accept Pin DIA.** 0.30 [0.012]

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)

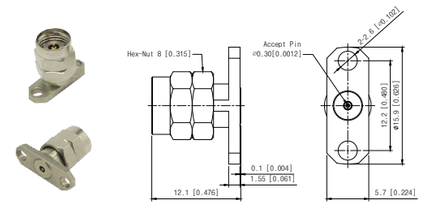


- **Part No.** P2F-S03-000
- **Accept Pin DIA.** 0.30 [0.012]

► PLUG (Male)

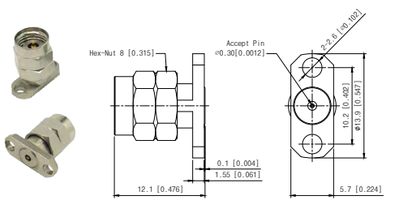
Unit : mm [Inch]

Panel Mount (2 HOLE, 15.9mm LONG)



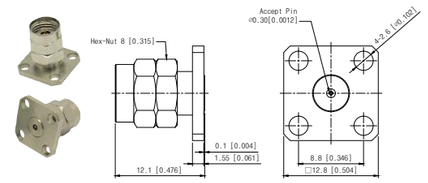
- **Part No.** P2M-S00-000
- **Accept Pin DIA.** 0.30 [0.012]

Panel Mount (2 HOLE, 13.9mm LONG)



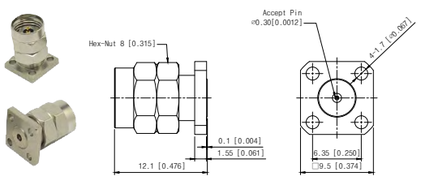
- **Part No.** P2M-S01-000
- **Accept Pin DIA.** 0.30 [0.012]

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)



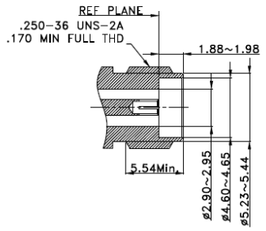
- **Part No.** P2M-S03-000
- **Accept Pin DIA.** 0.30 [0.012]

► Introduction

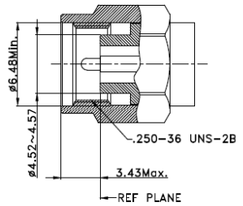
GigaLane 2.92mm Connectors are precision connectors for optimum RF performance up to 40 GHz. 2.92mm connectors feature high mechanical stability and excellent repeatability. The connector is compatible with 3.5mm and SMA connectors. It is applicable to military and telecommunication application.

► Interface Standards (MIL-STD-348)

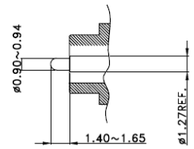
Unit : mm



(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 - Inner Conductor	 2mΩ max 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 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	-

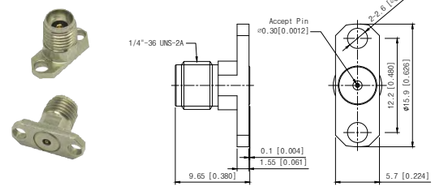
GigaLane

- DC to 40 GHz
- Mechanically Compatible with SMA, 3.5mm Connectors
- Air Dielectric
- Captivated Center Contact

► JACK (Female)

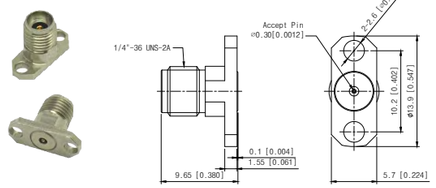
Unit : mm [Inch]

Panel Mount (2 HOLE, 15.9mm LONG)



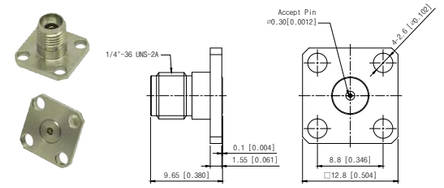
- **Part No.** PKF-S00-000
- **Accept Pin DIA.** 0.30 [0.012]

Panel Mount (2 HOLE, 13.9mm LONG)



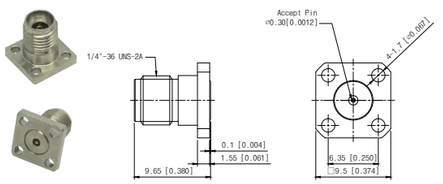
- **Part No.** PKF-S01-000
- **Accept Pin DIA.** 0.30 [0.012]

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)

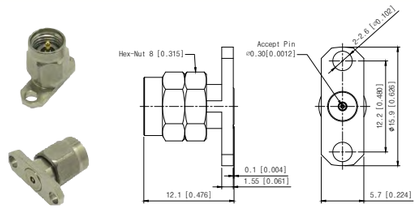


- **Part No.** PKF-S03-000
- **Accept Pin DIA.** 0.30 [0.012]

► PLUG (Male)

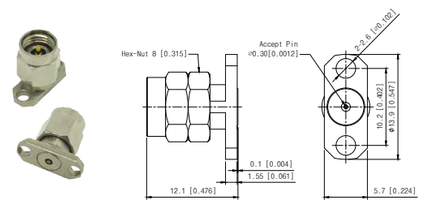
Unit : mm [Inch]

Panel Mount (2 HOLE, 15.9mm LONG)



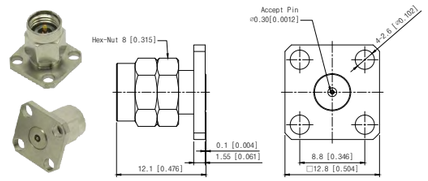
- **Part No.** PKM-S00-000
- **Accept Pin DIA.** 0.30 [0.012]

Panel Mount (2 HOLE, 13.9mm LONG)



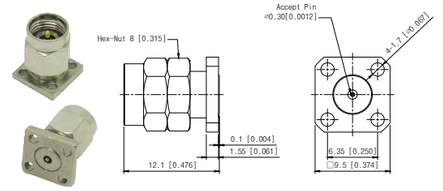
- **Part No.** PKM-S01-000
- **Accept Pin DIA.** 0.30 [0.012]

Panel Mount (4 HOLE, 12.8mm SQUARE)



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

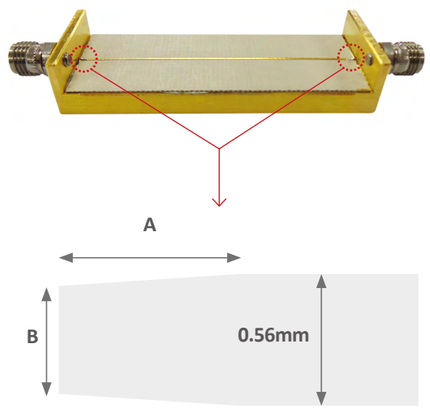
Panel Mount (4 HOLE, 9.5mm SQUARE)



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

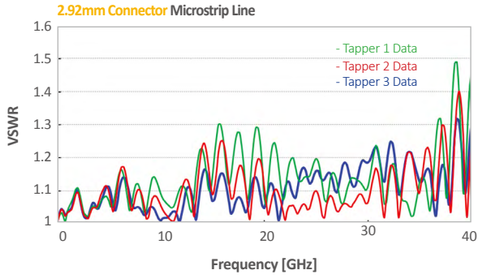
► Design Guide (Microstrip to coax)

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.

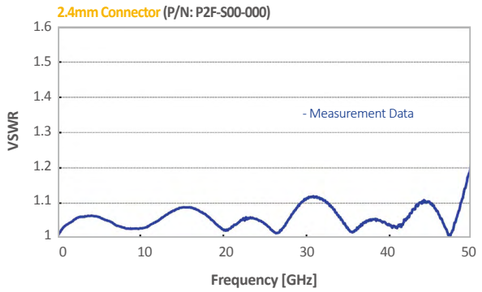


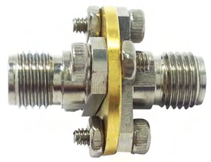
	t	w	g
Er 2.2	10 mil	0.56mm	0.1mm

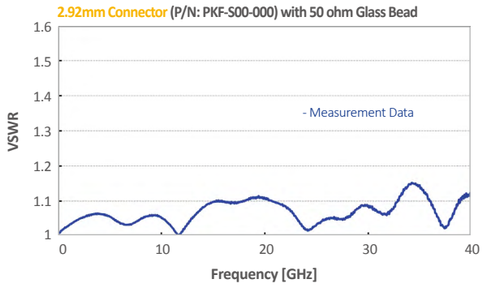
	Tapper 1	Tapper 2	Tapper 3
A	1.0mm	2.0mm	3.0mm
B	0.53mm	0.5mm	0.45mm



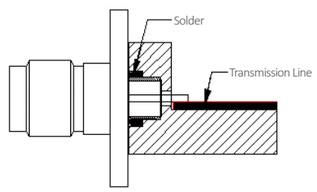
► Test result of Back to Back

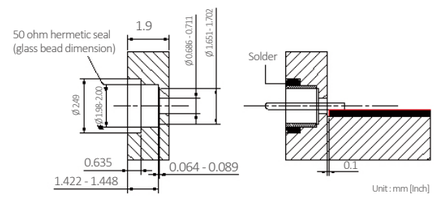


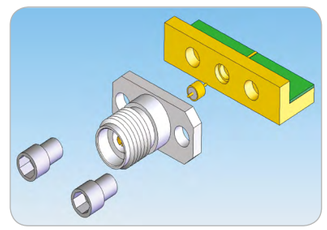


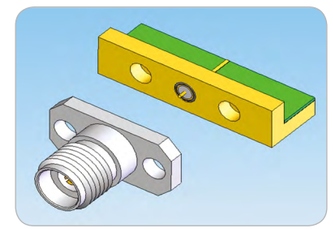


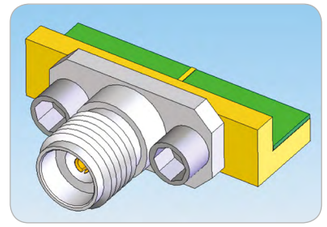
0.012" Glass Bead Installation

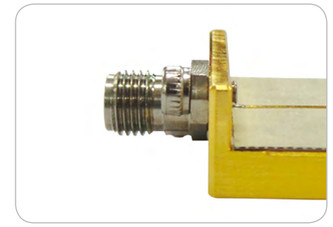




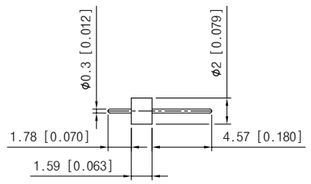








► Hermetic Seal (0.012” Glass Bead)



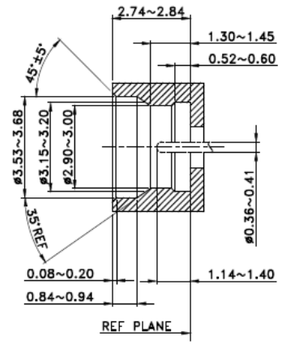
· **Part No.** TL-522

▶ Introduction

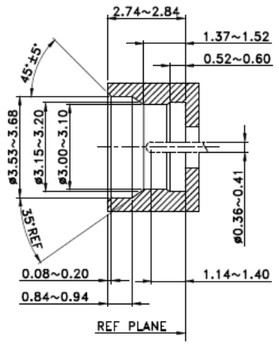
GigaLane SMP Connectors offer you precise mating and excellent VSWR performance through 40 GHz with competitive price. They have excellent vibration and shock performance based on MIL standard and suitable for application such as military, broadband, instrumentation and telecommunication application.

▶ Interface Standards (MIL-STD-348)

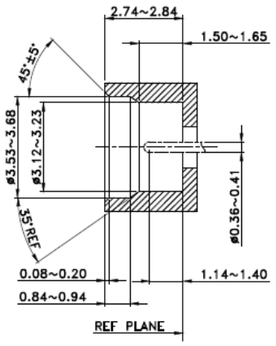
Unit : mm



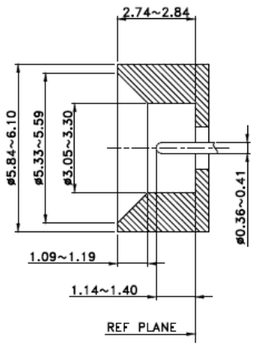
(Full Detent)



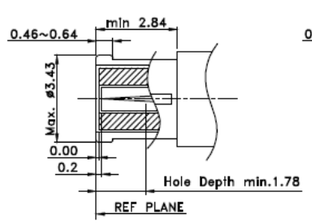
(Limited Detent)



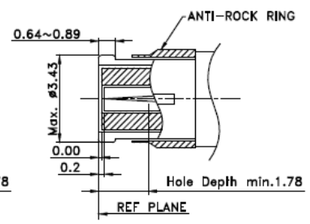
(Smooth Bore)



(Catechers Mit)

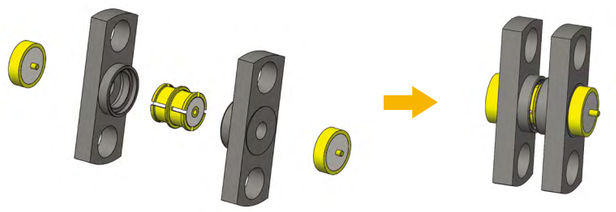


(Uncabled Connector)

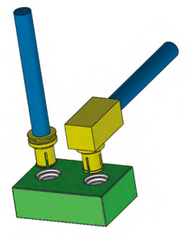


(Cabled Connector)

▶ Installation of SMP Connectors



(Installation of SMP Connectors)



(Installation of SMP Cable)

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

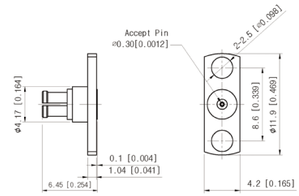
Mechanical Force for Shrouds (male type)

	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)



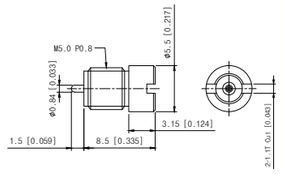
・**Part No.** PPF-S00-000

SMP Connectors

► PLUG (Male)

Unit : mm [Inch]

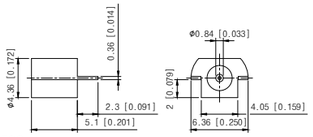
PCB Thread-in



- **Type.** - **Part No.**

Full	PPM-S02-F00
Limited	PPM-S02-L00
Smooth	PPM-S02-S00

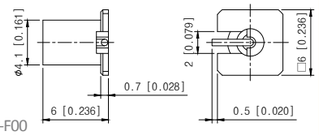
PCB Edge Mount



- **Type.** - **Part No.**

Full	PPM-S03-F00
Limited	PPM-S03-L00
Smooth	PPM-S03-S00

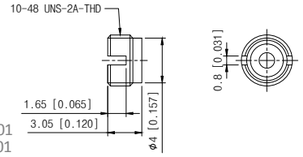
PCB Right Angle Mount



- **Type.** - **Part No.**

Full	PPM-R00-F00
Limited	PPM-R00-L00
Smooth	PPM-R00-S00

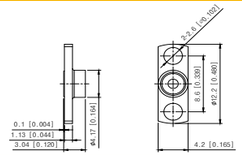
Panel Shroud, Thread-in (No Center Contact)



- **Type.** - **Part No.**

Full	PPM-S02-F01
Limited	PPM-S02-L01
Smooth	PPM-S02-S01

2 HOLE Panel Shroud (No Center Contact)



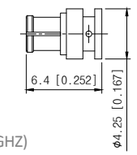
- **Type.** - **Part No.**

Full	PPM-S00-F00
Limited	PPM-S00-L00
Smooth	PPM-S00-S00

► SMP Connectors for Cable Assemblies

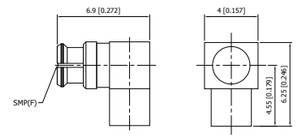
Unit : mm [Inch]

Straight JACK (SR085, SF085)



- **Part No.** PFS01, PFS02 (18GHZ, 40GHZ)

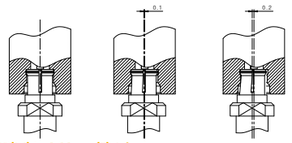
Right Angle JACK (SR085, SF085)



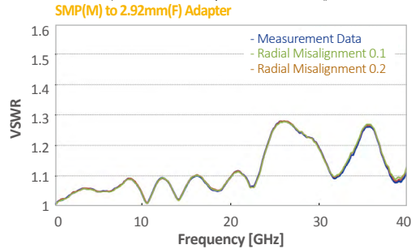
- **Part No.** PFR01

► Test Result of SMP Connectors

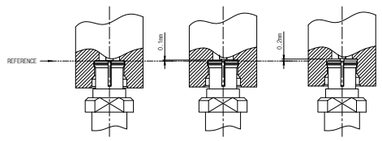
Radial Mis-Alignment Condition



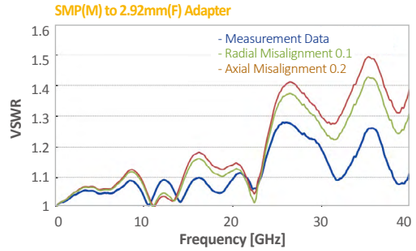
SMP(M) to 2.92mm(F) Adapter



Axial Mis-Alignment Condition



SMP(M) to 2.92mm(F) Adapter



BMA Connectors

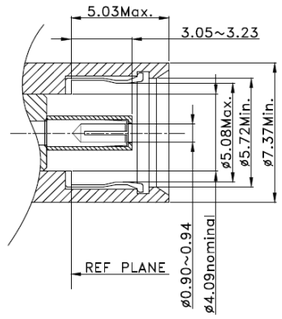
GigaLane

► Introduction

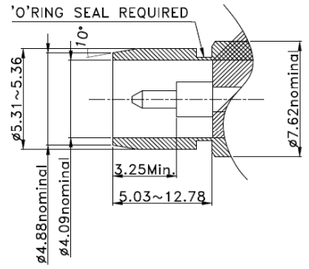
GigaLane BMA Connectors offer you precise mating and excellent VSWR performance through 18 GHz. They are designed based on MIL standard and are ideally suited for communication base station equipment, rack-and-panel applications with appropriate float-mounted jacks, building block systems such as radar.

► 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	 2mΩ max 3mΩ 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) Brass Stainless Steel	Passivated Gold Plated Passivated
Center Contact	Beryllium Copper(BeCu) Brass	Gold Plated Gold Plated
Insulator	PTFE	-

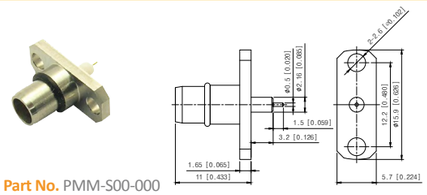
BMA Connectors

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

► PLUG (Male)

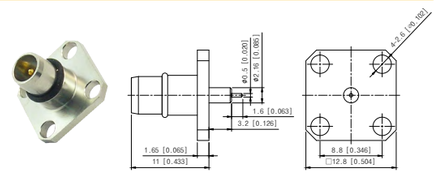
Unit : mm [Inch]

Panel Mount (2 HOLE, 15.9mm LONG)



・ **Part No.** PMM-S00-000

Panel Mount (4 HOLE, 12.8mm SQUARE)

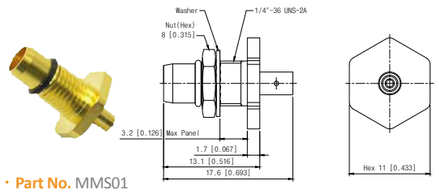


・ **Part No.** PMM-S01-000

► BMA Connectors for Cable Assemblies

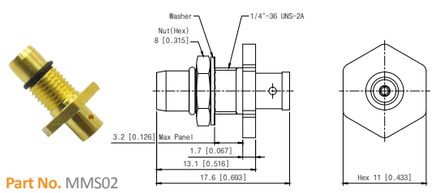
Unit : mm [Inch]

Straight PLUG Bulkhead (SR085, SF085)



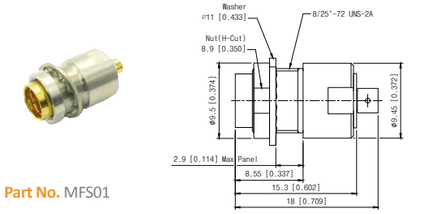
・ **Part No.** MMS01

Straight PLUG Bulkhead (SR141, SF141)



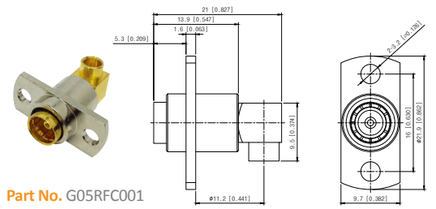
・ **Part No.** MMS02

Straight Aligner JACK (SR085, SF085)



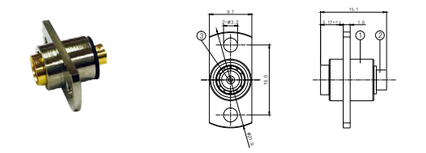
・ **Part No.** MFS01

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



・ **Part No.** G05RFC001

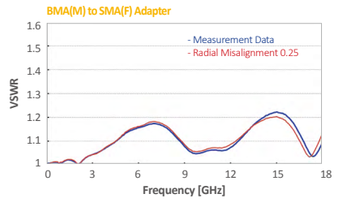
Straight Flange Jack (2HOLE, 15.1mm Long)(SR141,SF141)



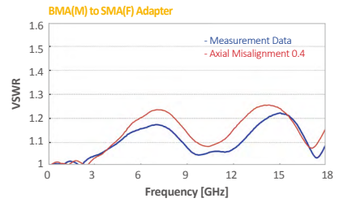
・ **Part No.** G05SFC012

► Test Result of BMA Connectors

Radial Mis-Alignment Condition



Axial Mis-Alignment Condition



High Performance End Launch Connectors

GigaLane

► 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

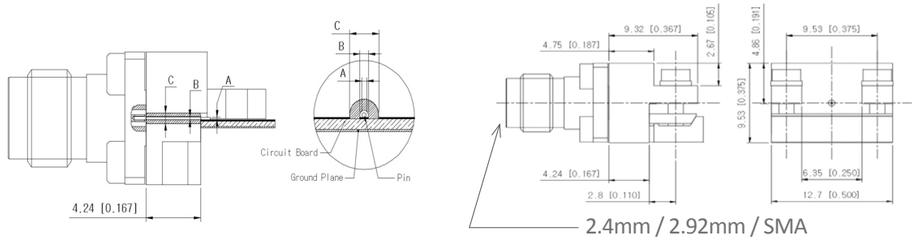
Materials

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	-

Unit : mm [Inch]

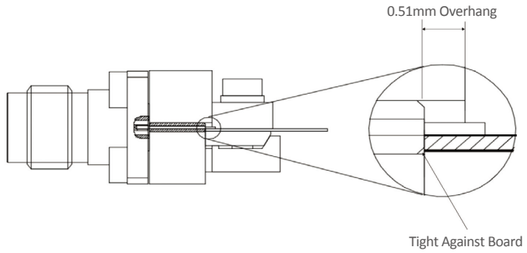
Part No.	Pin Diameter		Dielectric Diameter
	A	B	C
G01SFB001 (2.4 mm, 50 GHz)	0.13 [0.005]	0.23 [0.009]	0.73 [0.029]
G02SFB002 (2.92 mm, 40 GHz)	0.18 [0.007]	0.3 [0.011]	0.93 [0.036]
G06SFB102 (SMA, 27 GHz)	0.18 [0.007]	0.3 [0.011]	0.93 [0.036]

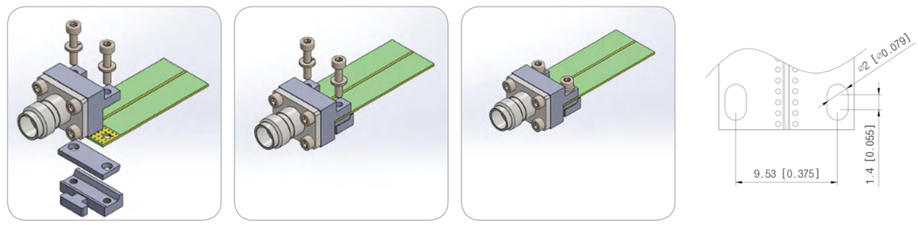
► Drawing



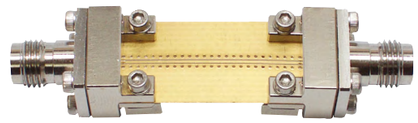
► Installation Procedure

- 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.

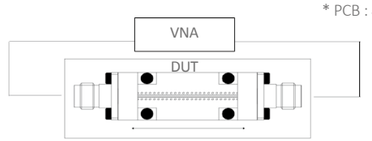




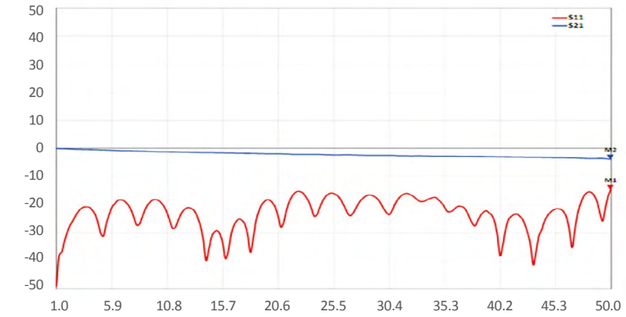
► GCPWG Test Result of G01SFB001



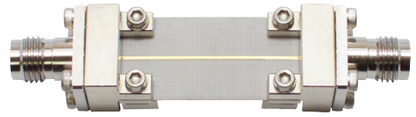
* PCB : 8 MIL R4003



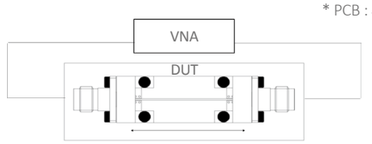
Specificaton	Test Result
- Insertion Loss : Min. -4.2 dB @ 0.1~50 GHz - Return Loss : Max. -13 dB @ 0.1~50 GHz	- Insertion Loss : Min. -3.8 dB @ 0.1~50 GHz - Return Loss : Max. -14.5 dB @ 0.1~50 GHz



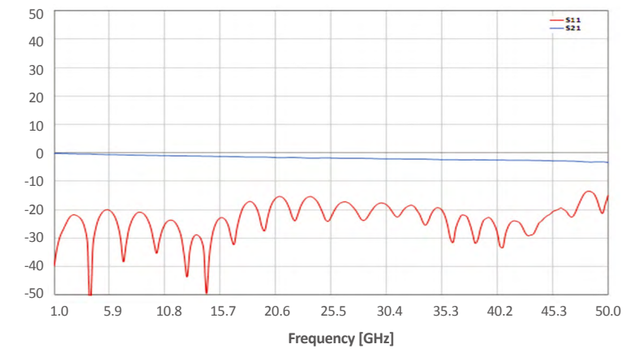
► Microstrip with Top Ground Test Result of G01SFB001



* PCB : 8 MIL R4003



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

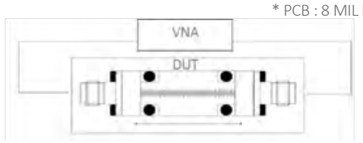


High Performance End Launch Connectors

GigaLane

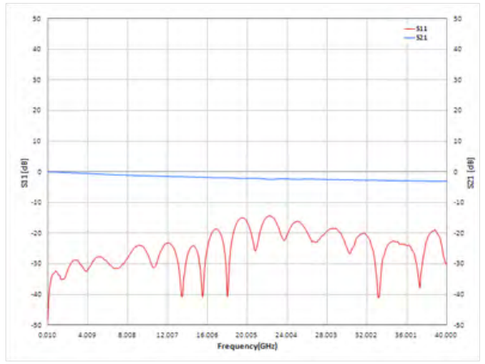
► GCPWG Test Result of G02SFB002

* PCB : 8 MIL R4003(0.5oz)



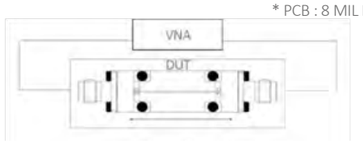
25.4mm[1.0inch]

Specificaton	Test Result
- Insertion Loss : Min -3.7dB @ 0.1~40GHz - Return Loss : Max. -13dB @ 0.1~40GHz	- Insertion Loss : Min -3.3dB @ 0.1~40GHz - Return Loss : Max. -14.9dB @ 0.1~40GHz



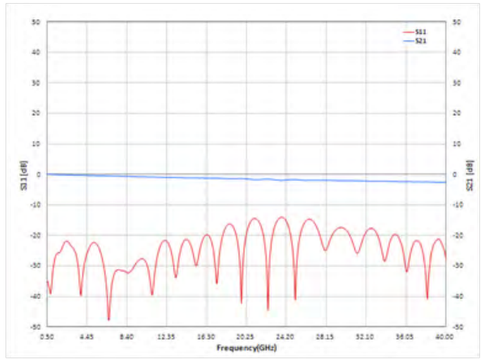
► Microstrip with Top Ground Test Result of G02SFB002

* PCB : 8 MIL R4003(0.5oz)



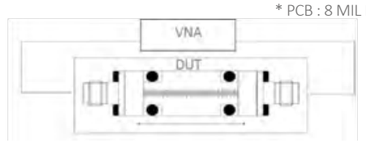
25.4mm[1.0inch]

Specificaton	Test Result
- Insertion Loss : Min -3.7dB @ 0.1~40GHz - Return Loss : Max. -13dB @ 0.1~40GHz	- Insertion Loss : Min -2.6dB @ 0.1~40GHz - Return Loss : Max. -14.0dB @ 0.1~40GHz



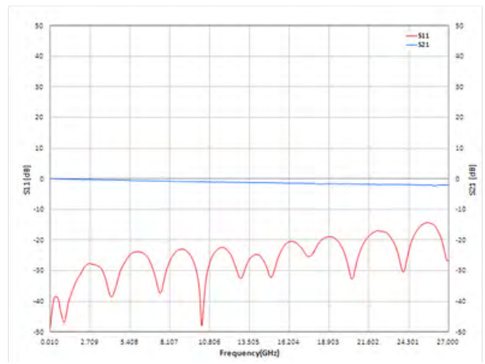
► GCPWG Test Result of G06SFB102

* PCB : 8 MIL R4003(0.5oz)



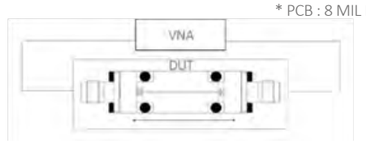
25.4mm[1.0inch]

Specificaton	Test Result
- Insertion Loss : Min -3.2dB @ 0.1~27GHz - Return Loss : Max. -13dB @ 0.1~27GHz	- Insertion Loss : Min -2.4dB @ 0.1~27GHz - Return Loss : Max. -14.3dB @ 0.1~27GHz



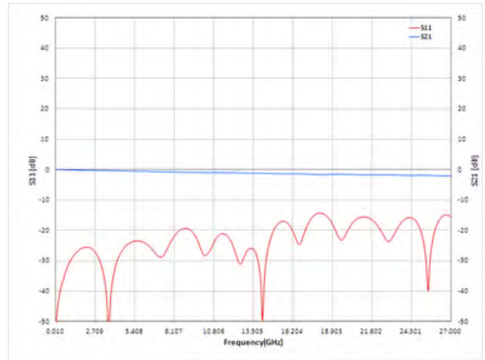
► Microstrip with Top Ground Test Result of G06SFB102

* PCB : 8 MIL R4003(0.5oz)



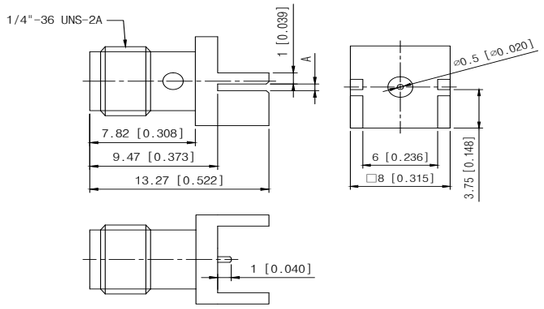
25.4mm[1.0inch]

Specificaton	Test Result
- Insertion Loss : Min -3.2dB @ 0.1~27GHz - Return Loss : Max. -13dB @ 0.1~27GHz	- Insertion Loss : Min -2.1@ 0.1~27GHz - Return Loss : Max. -14.4@0.1~27GHz

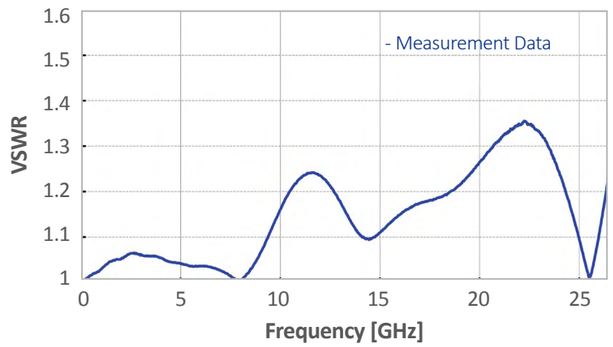


High Performance End Launch Connectors

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)

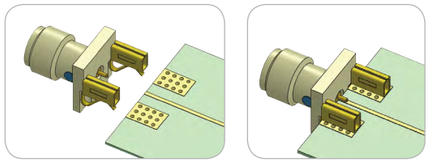


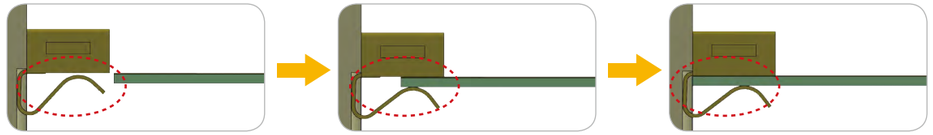
Unit : mm [Inch]

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

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.





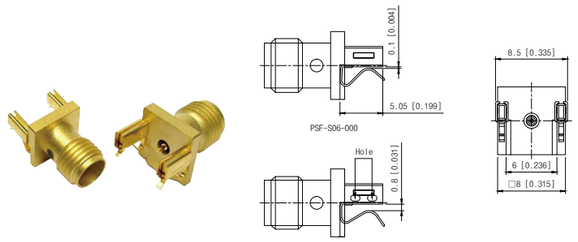
Easy & Speedy insertion

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

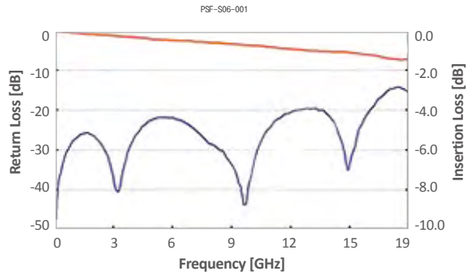
Built-in tension of legs enables even and firm attachment to the PCB

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



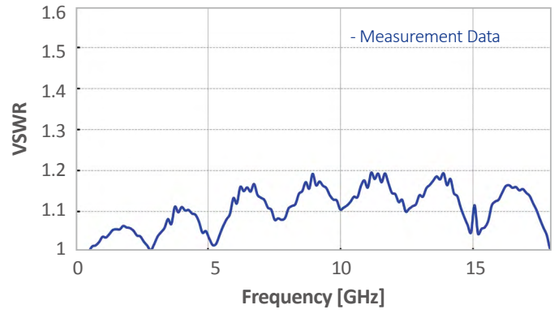
<DUT>
- Connector
  - PSF-S06-000 : 2ea
- PCB
  - FR4 Sub Thickness : 0.6mm
  - 50 Ω Line Width : 1.2mm
  - Line Length : 18mm

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

High Performance End Launch Connectors

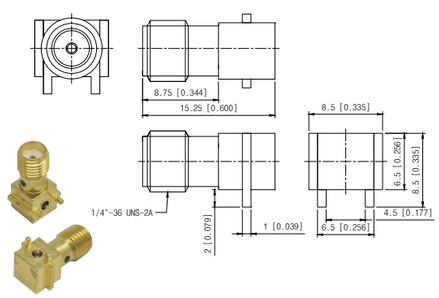
GigaLane VEREND™(Vertical-End launch) SMA Connector is designed for applications such as circuit boards for SMD(Surface Mounted Device) and for vertical mounting on RF test boards. It has excellent electrical transition on right angle section up to 18 GHz.

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

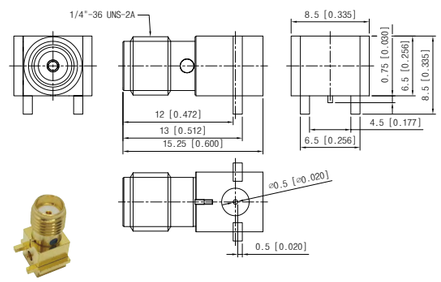


► JACK (Female)

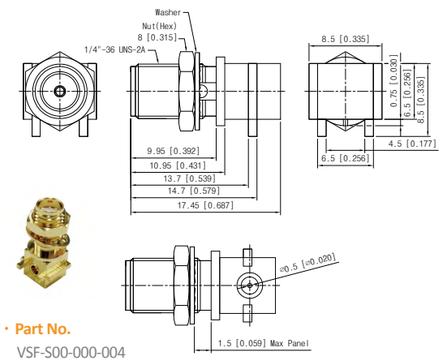
Unit : mm [Inch]



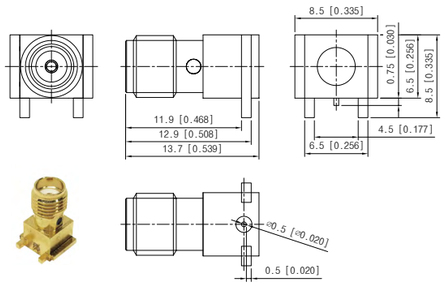
· **Part No.**
VSF-S00-000



· **Part No.**
VSF-S00-000-001



· **Part No.**
VSF-S00-000-004



· **Part No.**
VSF-S00-000-005

High Performance SMA Connectors

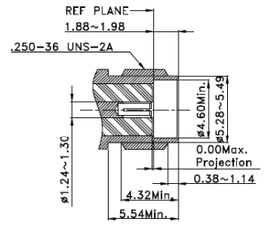
GigaLane

► Introduction

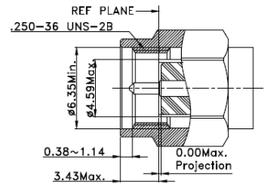
GigaLane High Performance SMA Connectors are designed for applications up to 26.5 GHz in the common high frequency substrates and it is suitable for military and microwave frequencies.

► Interface Standards (MIL-STD-348)

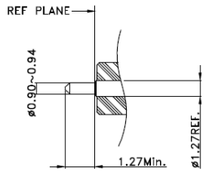
Unit : mm [Inch]



(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	 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 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
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	-

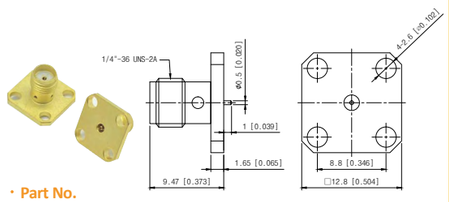
High Performance SMA Connectors

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

► JACK (Female)

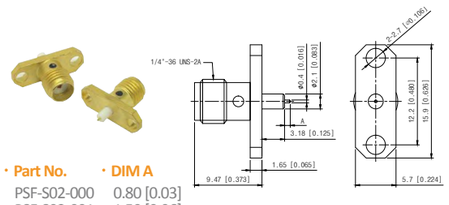
Unit : mm [Inch]

Panel Mount (4 HOLE, 12.8mm SQUARE)



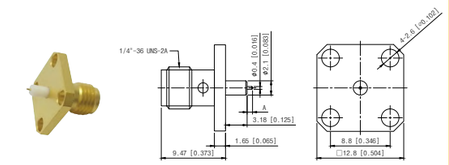
- Part No.
  PSF-S00-000

Panel Mount (2 HOLE, 15.9mm LONG)



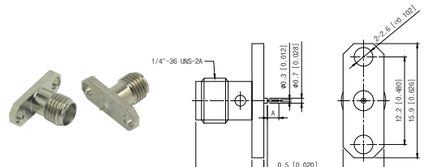
Part No.	DIM A
PSF-S02-000	0.80 [0.03]
PSF-S02-001	1.50 [0.06]

Panel Mount Jack (4 HOLE, 12.8mm SQUARE)



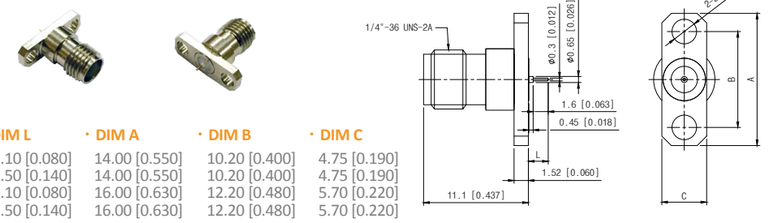
Part No.	DIM A
PSF-S02-003	0.80 [0.03]
PSF-S02-004	1.50 [0.06]

Panel Mount (2 HOLE, 15.9mm LONG)



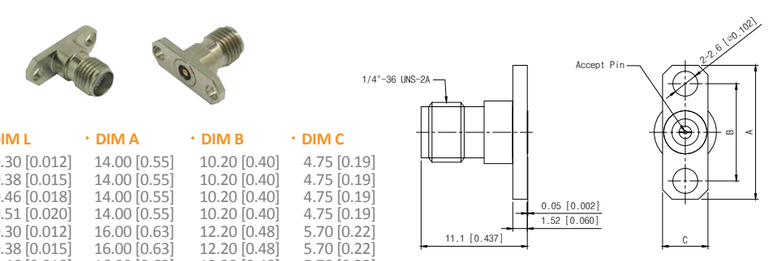
Part No.	DIM A
PSF-S03-000	2.10 [0.08]
PSF-S03-001	3.50 [0.14]

Panel Mount Epoxy Captivated (EMI Shielding)



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)



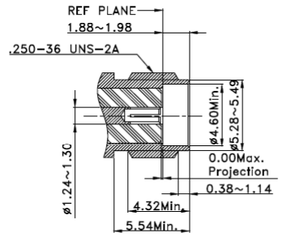
Part No.	DIM L	DIM A	DIM B	DIM C
PSF-S03-006	0.30 [0.012]	14.00 [0.55]	10.20 [0.40]	4.75 [0.19]
PSF-S03-007	0.38 [0.015]	14.00 [0.55]	10.20 [0.40]	4.75 [0.19]
PSF-S03-008	0.46 [0.018]	14.00 [0.55]	10.20 [0.40]	4.75 [0.19]
PSF-S03-009	0.51 [0.020]	14.00 [0.55]	10.20 [0.40]	4.75 [0.19]
PSF-S03-010	0.30 [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

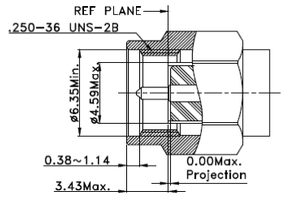
GigaLane SMA(Sub Miniature A) connectors are widely used in the frequency range DC to 18 GHz with low loss characteristics. SMA connectors are most used in military, microwave frequencies and telecommunication application.

► Interface Standards (MIL-STD-348)

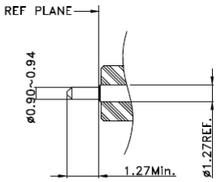
Unit : mm [Inch]



(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	 2mΩ max 3mΩ 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
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 for Cable Assemblies

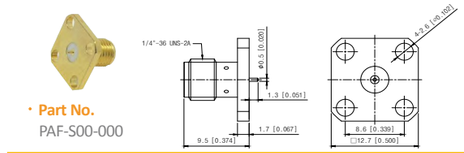
GigaLane

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

► JACK (Female)

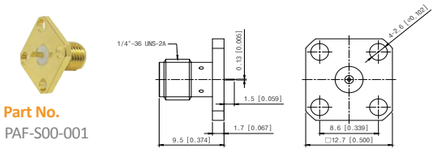
Unit : mm [Inch]

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



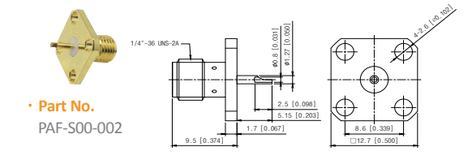
・Part No.
PAF-S00-000

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



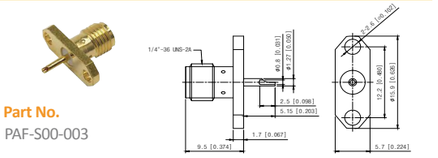
・Part No.
PAF-S00-001

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



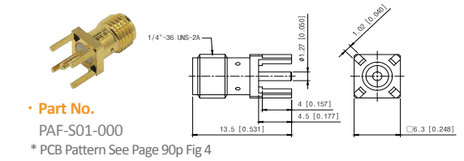
・Part No.
PAF-S00-002

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



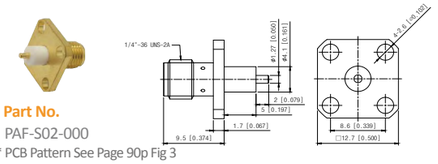
・Part No.
PAF-S00-003

PCB Mount (13.5mm LONG)



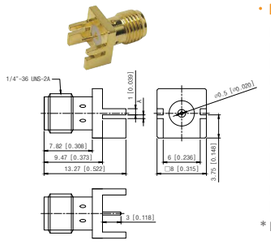
・Part No.
PAF-S01-000
* PCB Pattern See Page 90p Fig 4

Panel Mount (4 HOLE, 12.7mm SQUARE)



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

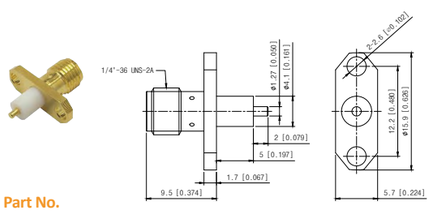
End Launch (13.27mm LONG)



・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 (2 HOLE, 15.9mm LONG)

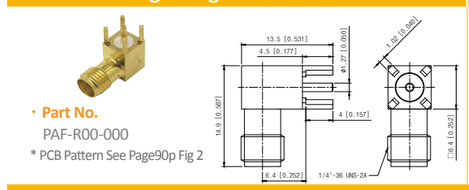


・Part No.
PAF-S06-000

► JACK Right Angle(Female)

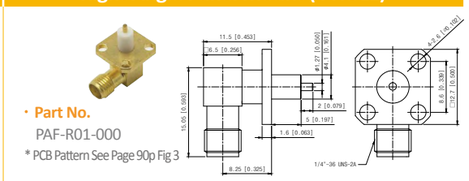
Unit : mm [Inch]

Right Angle PCB Mount



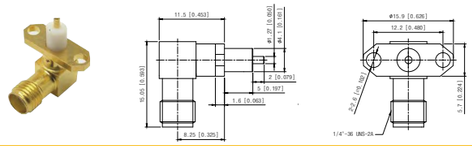
・Part No.
PAF-R00-000
* PCB Pattern See Page90p Fig 2

Right Angle Panel Mount (4 HOLE)



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

Right Angle Panel Mount (2 HOLE)

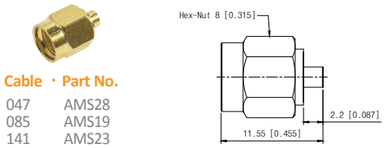


・Part No.
PAF-R02-000
* PCB Pattern See Page 90p Fig 3

► For Semi-Rigid & Semi-Flexible Cable Assemblies

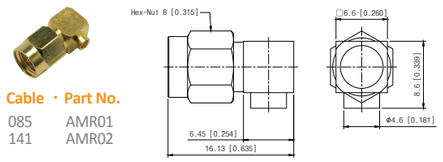
Unit : mm [Inch]

Straight PLUG(Male)



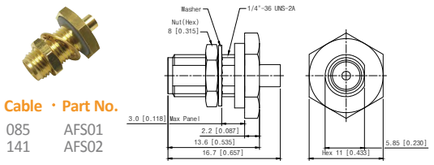
・Cable	・Part No.
047	AMS28
085	AMS19
141	AMS23

Right Angle PLUG(Male)



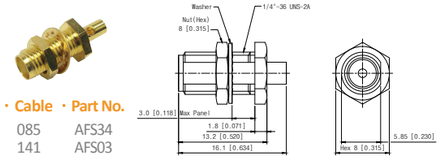
・Cable	・Part No.
085	AMR01
141	AMR02

Bulkhead JACK(Female), 11mm HEX



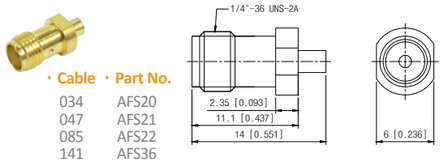
・Cable	・Part No.
085	AFS01
141	AFS02

Bulkhead JACK(Female), 8.0mm HEX



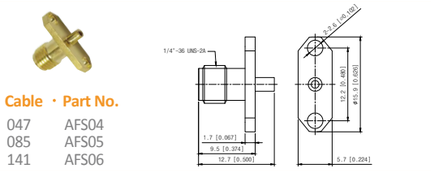
・Cable	・Part No.
085	AFS34
141	AFS03

Straight JACK(Female)



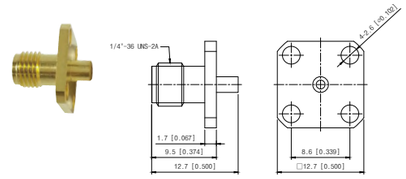
・Cable	・Part No.
034	AFS20
047	AFS21
085	AFS22
141	AFS36

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)

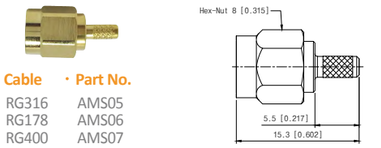


・Cable	・Part No.
047	AFS07
085	AFS08
141	AFS09

► For Flexible Cable Assemblies

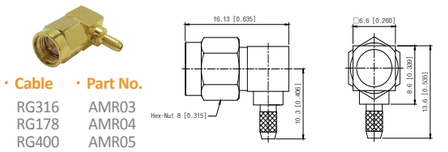
Unit : mm [Inch]

Right Angle PCB Mount



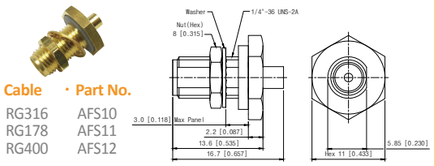
・Cable	・Part No.
RG316	AMS05
RG178	AMS06
RG400	AMS07

Right Angle Panel Mount (4 HOLE)



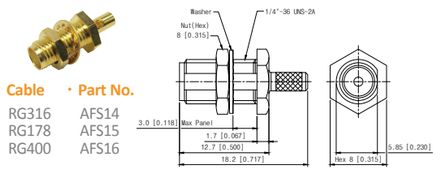
・Cable	・Part No.
RG316	AMR03
RG178	AMR04
RG400	AMR05

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

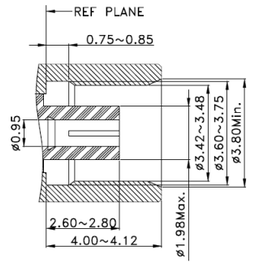
MCX Connectors

► Introduction

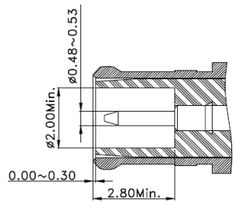
GigaLane MCX Connectors are intended for use with microwave application requiring excellent performance up to 6G Hz in 50 Ohm impedance. MCX connectors are similar in design to SMB connectors but smaller than SMB connectors. Typical applications for MCX connectors include GPS, wireless communication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

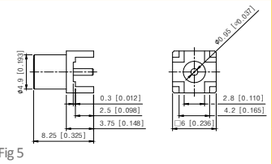
*Note : These characteristics are typical but may not apply to all connectors.

► JACK (Female)

Unit : mm [Inch]

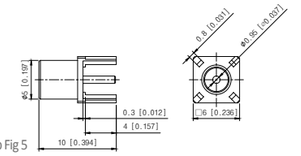
PCB Mount

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



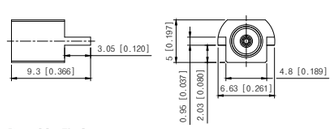
PCB Mount

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



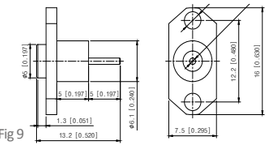
PCB Edge Mount

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



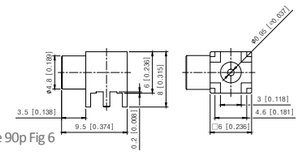
Panel Mount (2 HOLE 16mm LONG)

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



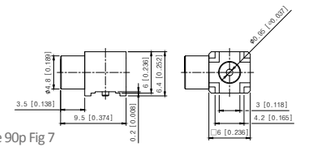
Right Angle PCB Mount

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



Right Angle PCB Mount

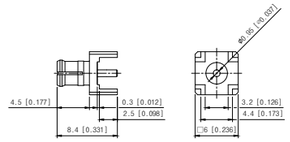
· Part No.
PDF-R01-000
* PCB Pattern See Page 90p Fig 7



► Plug(Male)

Unit : mm [Inch]

PCB Mount



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

MCX Connectors for Cable Assemblies

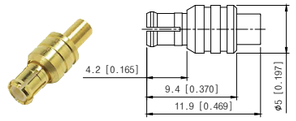
► For Semi-Rigid & Semi-Flexible Cable Assemblies

Unit : mm [Inch]

Straight PLUG

· Cable
047
085

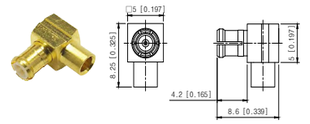
· Part No.
DMS04
DMS01



Right Angle PLUG

· Cable
047
085

· Part No.
DMR05
DMR01



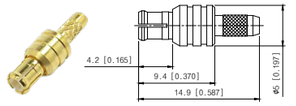
► For Flexible Cable Assemblies

Unit : mm [Inch]

Straight PLUG

· Cable
RG178
RG316

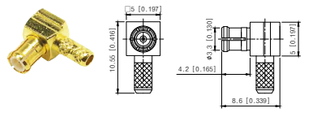
· Part No.
DMS05
DMS02



Right Angle PLUG

· Cable
RG178
RG316

· Part No.
DMR04
DMR02



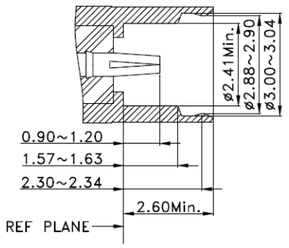
MMCX Connectors

► Introduction

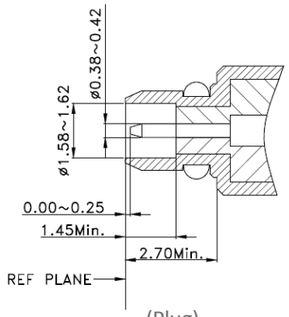
GigaLane MMCX Connectors are intended for use in applications where the smallest dimensions are required. These connectors operate up to 6 GHz and are optimum for wireless communication systems such as cellular, wireless and PCS. MMCX provides a low RF-leakage by its non-slotted outer contract.

► 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	 2mΩ max 6mΩ 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

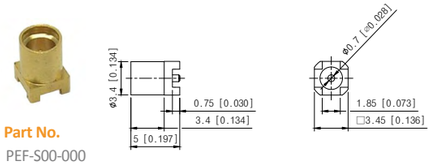
Materials

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

► JACK (Female)

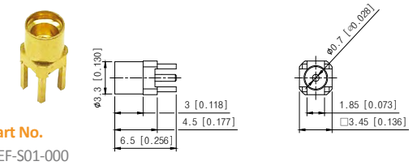
Unit : mm [Inch]

PCB Mount



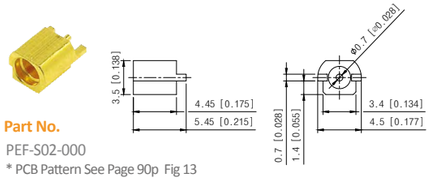
· Part No.
PEF-S00-000
* PCB Pattern See Page 90p Fig 10

PCB Mount



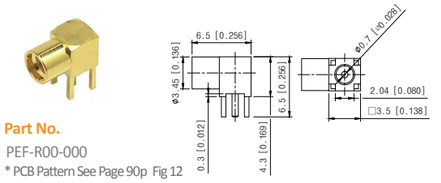
· Part No.
PEF-S01-000
* PCB Pattern See Page 90p Fig 11

PCB Edge Mount



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

Right Angle PCB Mount



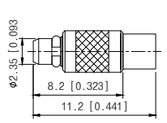
· Part No.
PEF-R00-000
* PCB Pattern See Page 90p Fig 12

MMCX Connectors for Cable Assemblies

► For Semi-Rigid & Semi-Flexible Cable Assemblies

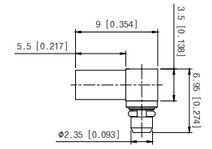
Unit : mm [Inch]

Straight PLUG



· Cable	· Part No.
047	EMS03
085	EMS02

Right Angle PLUG

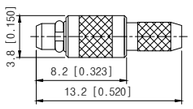


· Cable	· Part No.
047	EMR02
085	EMR03

► For Flexible Cable Assemblies

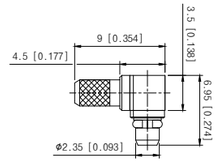
Unit : mm [Inch]

Straight PLUG



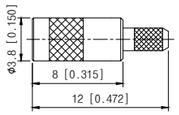
· Cable	· Part No.
RG178	EMS04
RG316	EMS01

Right Angle PLUG



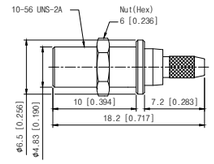
· Cable	· Part No.
RG178	EMR04
RG316	EMR01

Straight JACK



· Cable	· Part No.
RG178	EFS01
RG316	EFS03

Bulkhead JACK



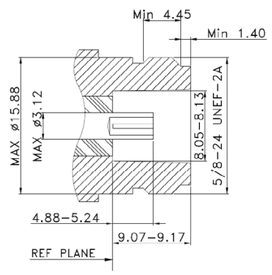
· Cable	· Part No.
RG178	EFS04
RG316	EFS02

► Introduction

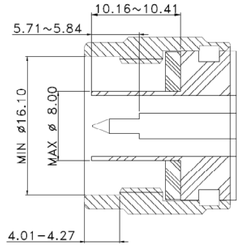
GigaLane N-type connectors are designed for applications up to 11 GHz
Because of the endurance, it is optimum for high power fixed wireless communication equipments.

► 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	 1mΩ max 1mΩ 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 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

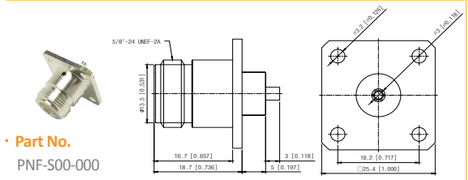
Materials

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

► JACK (Female)

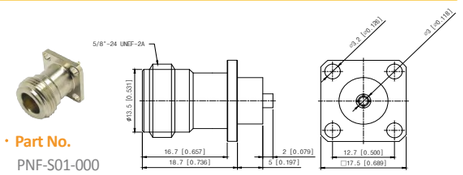
Unit : mm [Inch]

Panel Mount (4 HOLE, 25.4mm SQUARE)



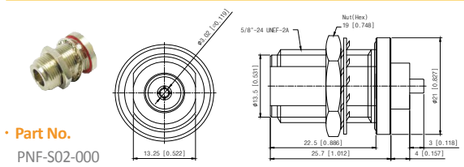
· Part No.
PNF-S00-000
*PCB Pattern See Page 90p Fig 15

Panel Mount (4 HOLE, 17.5mm SQUARE)



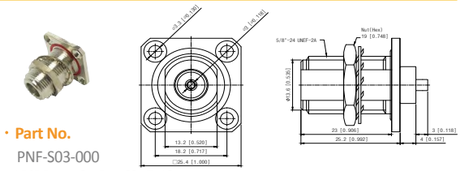
· Part No.
PNF-S01-000
*PCB Pattern See Page 90p Fig 15

Bulkhead Mount



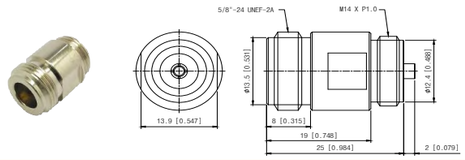
· Part No.
PNF-S02-000
*PCB Pattern See Page 90p Fig 15

Bulkhead Mount (4 HOLE, 25.4mm SQUARE)



· Part No.
PNF-S03-000
*PCB Pattern See Page 90p Fig 16

Panel Mount



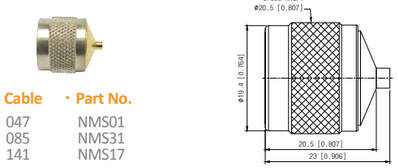
· Part No.
PNF-S04-000

N-Type Connectors for Cable Assemblies

► For Semi-Rigid & Semi-Flexible Cable Assemblies

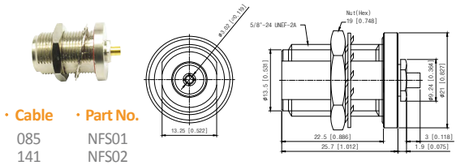
Unit : mm [Inch]

Straight PLUG



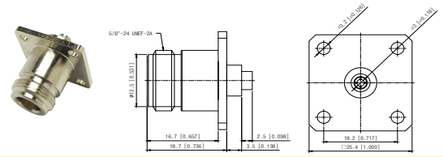
· Cable	· Part No.
047	NMS01
085	NMS31
141	NMS17

Bulk head PLUG



· Cable	· Part No.
085	NFS01
141	NFS02

Panel Mount (4 HOLE, 25.4mm SQUARE)

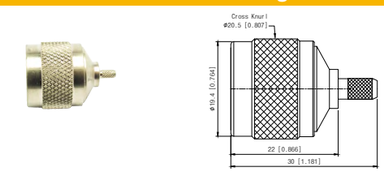


· Cable	· Part No.
085	NFS09
141	NFS03

► For Flexible Cable Assemblies

Unit : mm [Inch]

Straight PLUG



· Cable	· Part No.
RG316	NMS22
RG400	NMS04

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