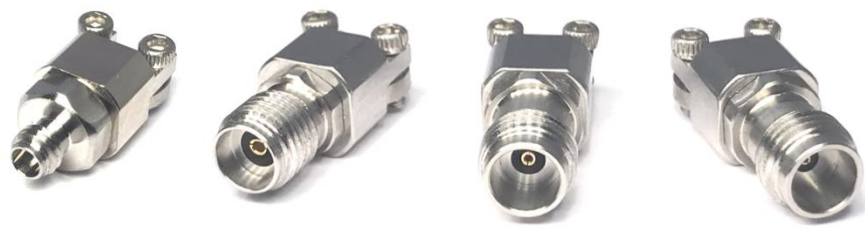


End Launch Connectors *Narrow Block*

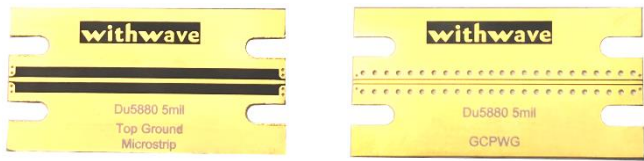
2.92 mm, 2.4 mm, 1.85 mm, 1.0 mm

Withwave's End Launch connectors (Narrow Block) are specially designed for well-used high frequency substrates to minimize electromagnetic effects including impedance discontinuities from coaxial to GCPWG (Grounded Coplanar Waveguide) and Top Ground Microstrip structure. The types of connectors are 2.92 mm, 2.4 mm, 1.85 mm & 1.0mm. We solve your performance and cost problems.



■ Features

- Now available in : **2.92 mm (40 GHz), 2.40 mm (50 GHz), 1.85 mm (67 GHz), 1.0 mm(110GHz)**
- **GCPWG, Top Ground Microstrip structure**
- Easy Installation on designed substrate
- No Soldering required



■ Application

- RFIC Chip set evaluation board
- High data rate ASIC and SoC evaluation module test
- Substrate Characterization



**End Launch
(Standard)**



**End Launch
(Narrow Block)**



End Launch Connectors **Narrow Block**

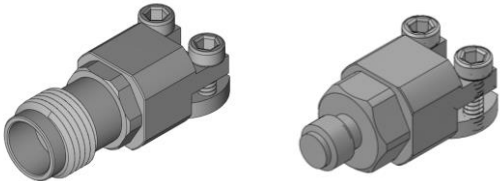
2.92 mm, 2.4 mm, 1.85 mm, 1.0 mm

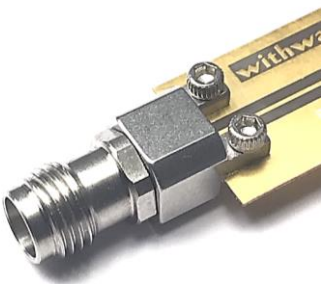
■ Specification

Scope	Items	Specification
Electrical	Freq. range	DC to 40 GHz (2.92 mm type)
		DC to 50 GHz (2.4 mm type)
	Impedance	DC to 67 GHz (1.85 mm type)
		DC to 110 GHz (1.0 mm type)
Material	VSWR(Max)	50 Ohm
		1.40 : 1 (to 40 GHz)
	Connector type	1.40 : 1 (to 50 GHz)
		1.40 : 1 (to 67 GHz)
Material	Body & Block	2.00 : 1 (to 110 GHz)
		2.92 mm, 2.4 mm, 1.85 mm, 1.0 mm
	Contact	Stainless Steel
		BeCu with Gold Plated

* RoHS Compliant

■ Ordering Information

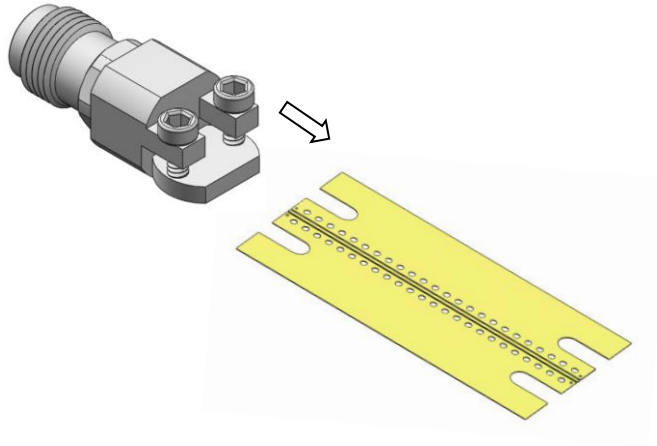
Application	Connector	Type	Part No.
 Narrow Block	2.92 mm	Female	NE03FS001
		Male	NE03MS001
	2.4 mm	Female	NE02FS001
		Male	NE02MS001
	1.85 mm	Female	NE01FS001
		Male	NE01MS001
	1.0 mm	Female	NE00FS001
		Male	NE00MS001



■ Installation Procedure

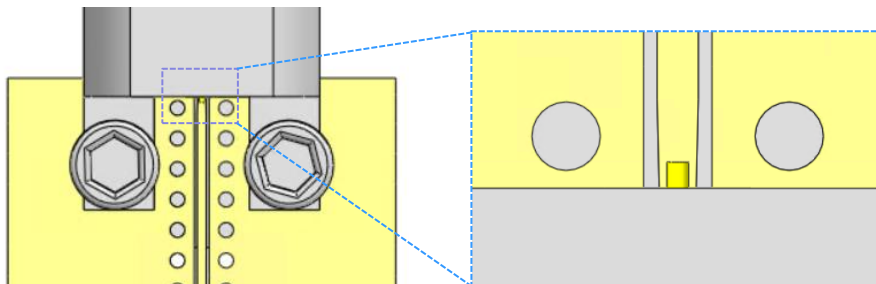
STEP 1 :

Insert end launch connector (including block & screws) in the edge position of substrate.



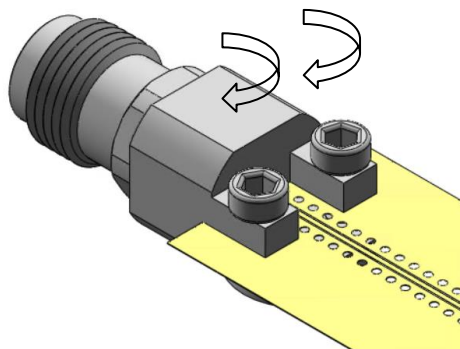
STEP 2:

Ensure the pin is centered on the trace.



STEP 3:

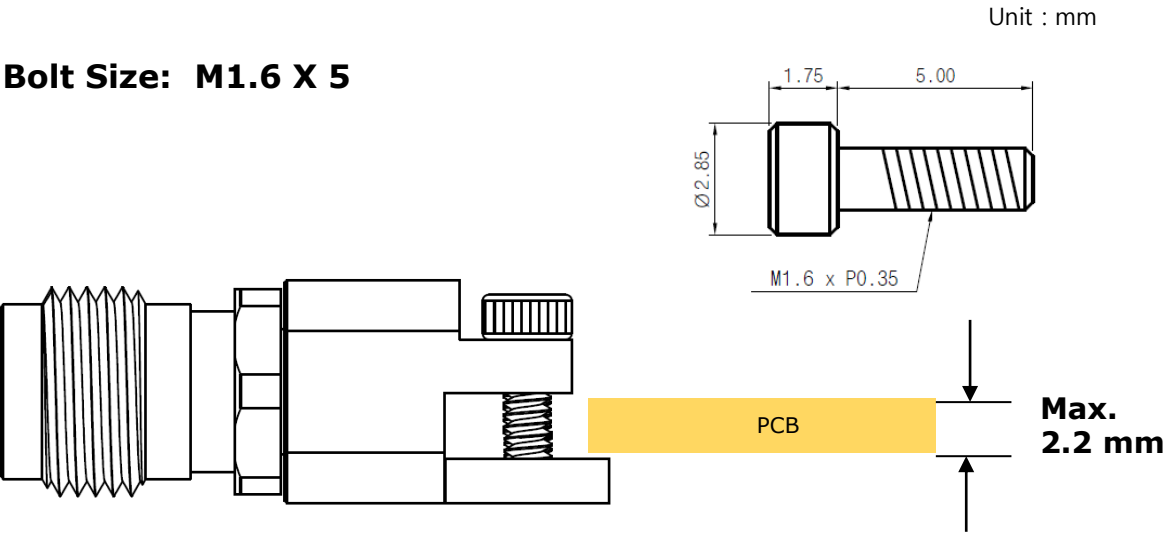
Ensure the block is tight against the substrate.



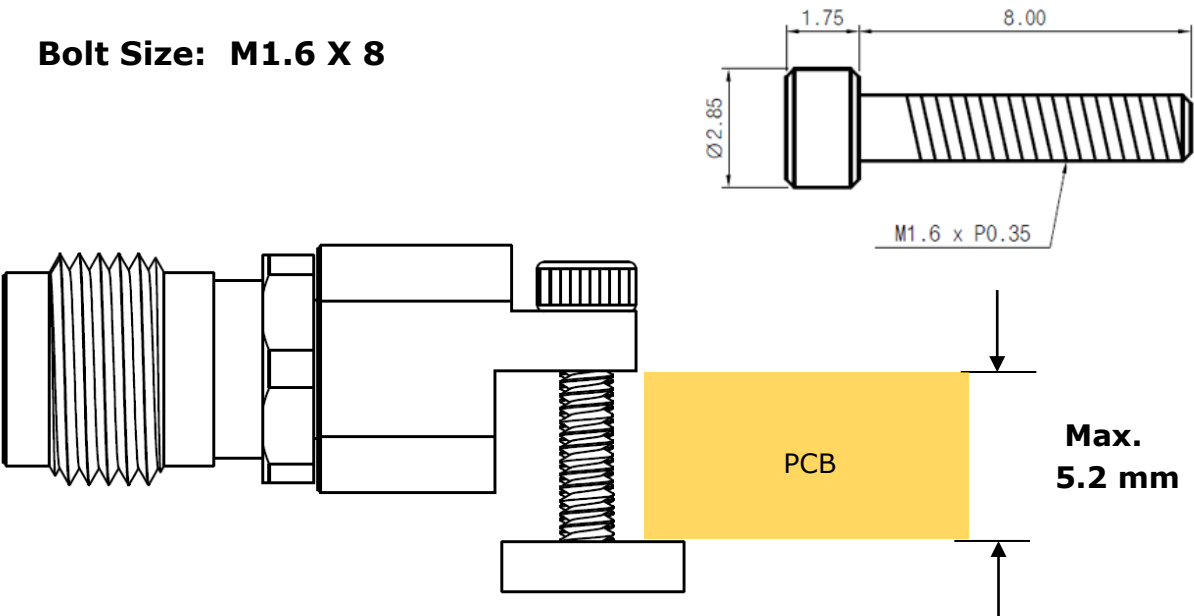
2.92 mm, 2.4 mm, 1.85 mm, 1.0 mm

■ **Maximum PCB Thickness (Low Profile type)**

Bolt Size: M1.6 X 5



Bolt Size: M1.6 X 8



■ Test Result

2.92mm Type
GCPWG Structure

Substrate : RO4003C (8 mil)

Part No. : NE03FS001



Freq. : 10 MHz to 40 GHz



Substrate : RO4350B (10 mil)

Part No. : NE03FS001



Substrate : Duroid 5880 (5 mil)

Part No. : NE03FS001



* Substrate length : 1 inch (=25.4 mm)

■ Test Result

2.92mm Type
Top Ground Microstrip

Freq. : 10 MHz to 40 GHz

Substrate : RO4003C (8 mil)

Part No. : NE03FS001



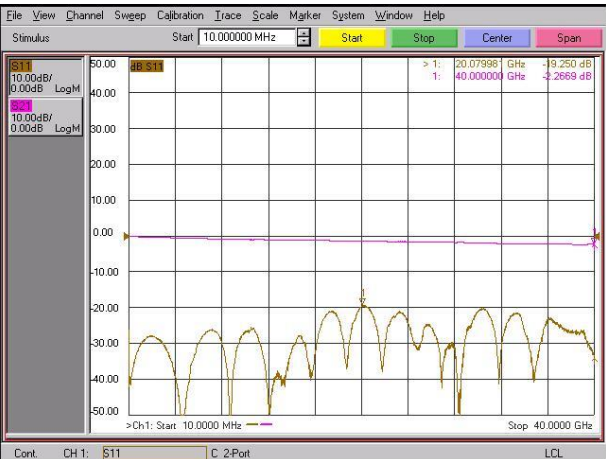
Substrate : RO4350B (10 mil)

Part No. : NE03FS001



Substrate : Duroid 5880 (5 mil)

Part No. : NE03FS001



* Substrate length : 1 inch (=25.4 mm)

■ Test Result

2.4 mm Type
GCPWG Structure

Freq. : 10 MHz to 50 GHz

Substrate : RO4003C (8 mil)

Part No. : NE02FS001



Substrate : RO4350B (10 mil)

Part No. : NE02FS001



Substrate : Duroid 5880 (5 mil)

Part No. : NE02FS001



* Substrate length : 1 inch (=25.4 mm)

■ **Test Result**

2.4 mm Type

Top Ground Microstrip

Substrate : RO4003C (8 mil)

Part No. : NE02FS001

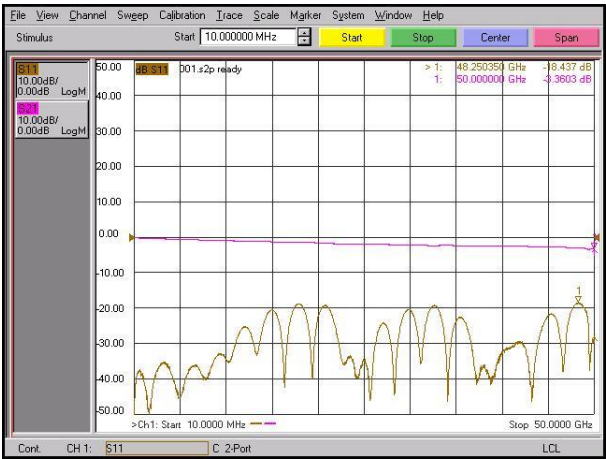


Freq. : 10 MHz to 50 GHz



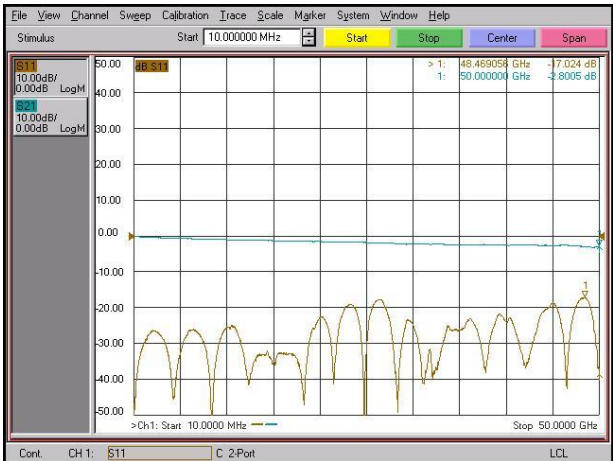
Substrate : RO4350B (10 mil)

Part No. : NE02FS001



Substrate : Duroid 5880 (5 mil)

Part No. : NE02FS001



* Substrate length : 1 inch (=25.4 mm)

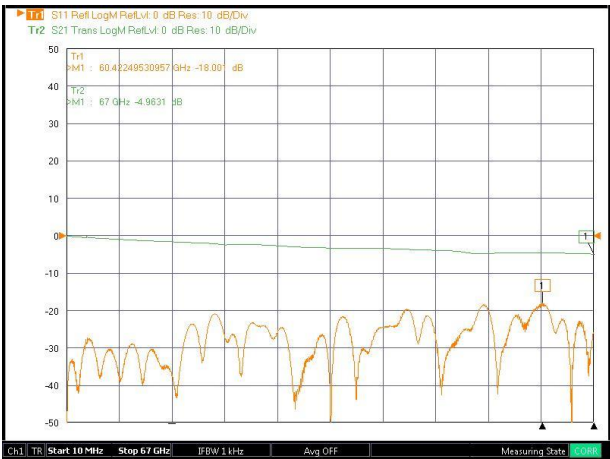
■ **Test Result**

1.85 mm Type
GCPWG Structure

Freq. : 10 MHz to 67 GHz

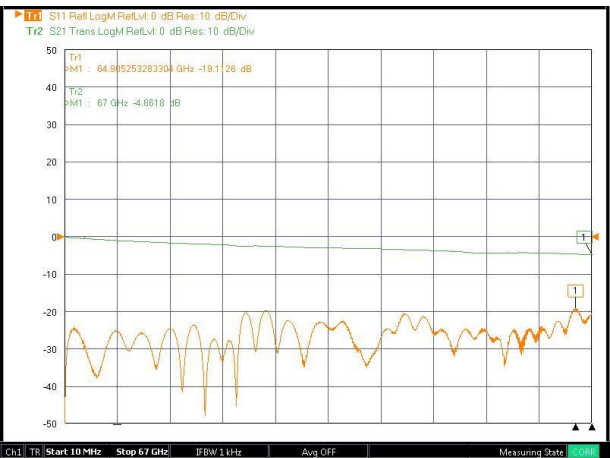
Substrate : RO4003C (8 mil)

Part No. : NE01FS001



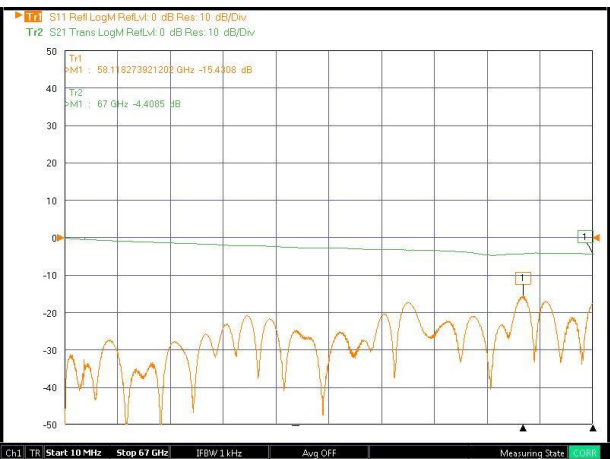
Substrate : RO4350B (10 mil)

Part No. : NE01FS001



Substrate : Duroid 5880 (5 mil)

Part No. : NE01FS001



* Substrate length : 1 inch (=25.4 mm)

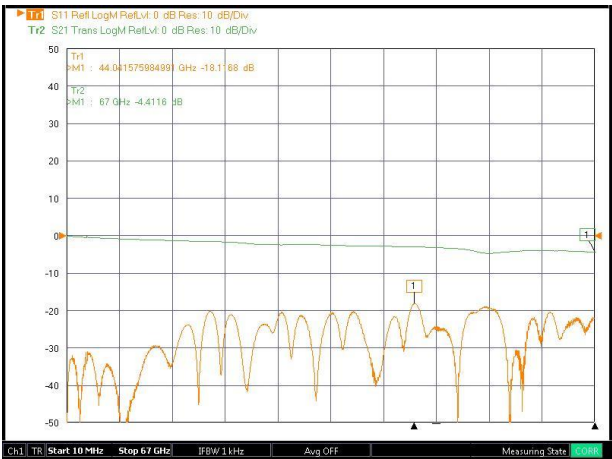
■ **Test Result**

1.85 mm Type
Top Ground Microstrip

Freq. : 10 MHz to 67 GHz

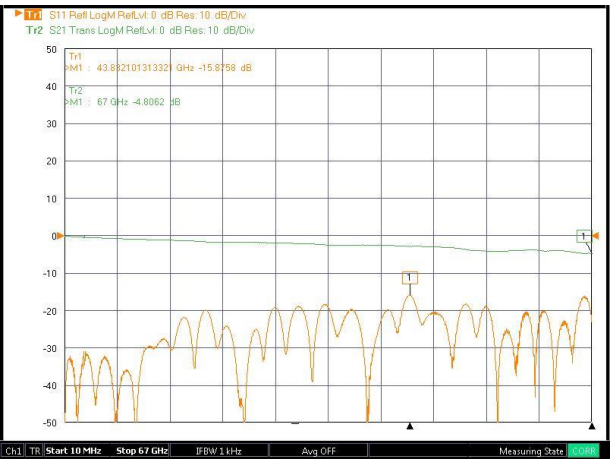
Substrate : RO4003C (8 mil)

Part No. : NE01FS001



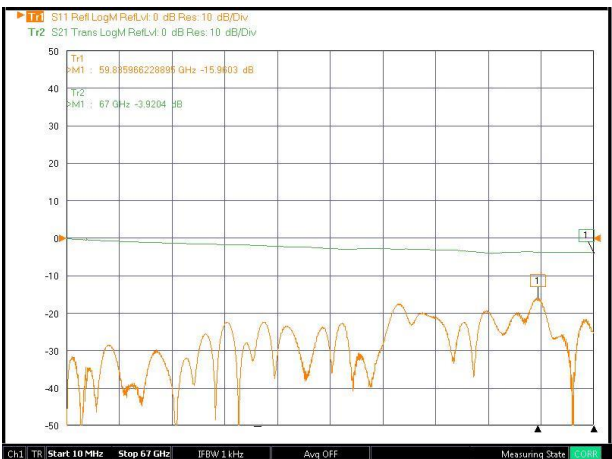
Substrate : RO4350B (10 mil)

Part No. : NE01FS001



Substrate : Duroid 5880 (5 mil)

Part No. : NE01FS001



* Substrate length : 1 inch (=25.4 mm)

■ **Test Result**

1.0 mm Type (Female type)

GCPWG Structure

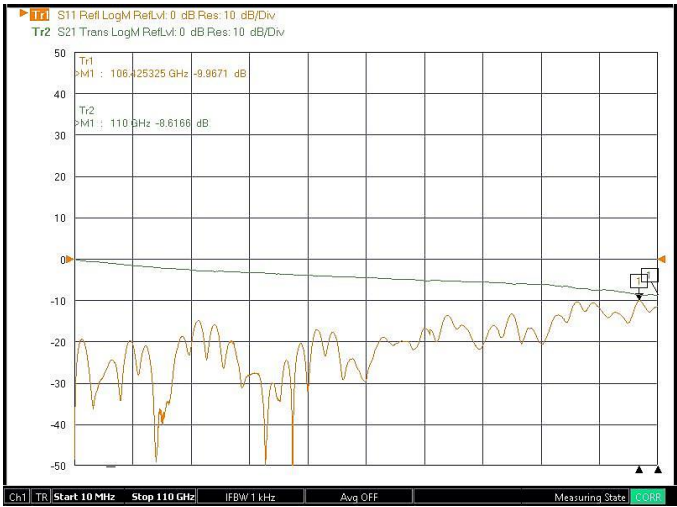
Freq. : 10 MHz to 110 GHz

Substrate : RO3003 (5 mil)

Part No. : NE00FS001



* Substrate length : 1 inch (=25.4 mm)



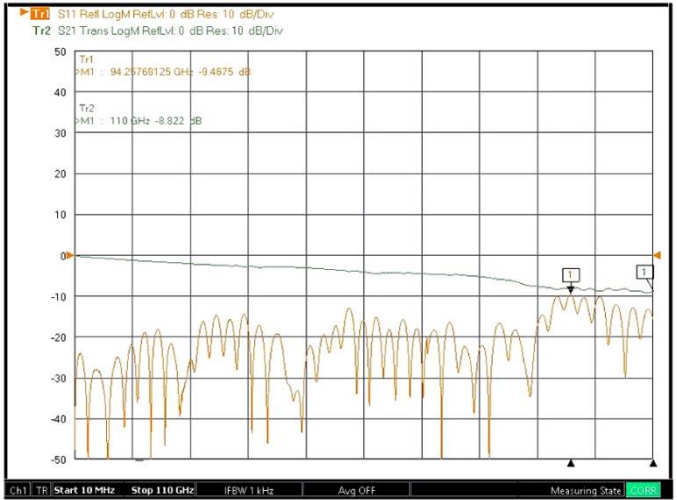
Top Ground Microstrip

Substrate : RO3003 (5 mil)

Part No. : NE00FS001



* Substrate length : 30 mm



■ **Test Result**

1.0 mm Type (Male type)
GCPWG Structure

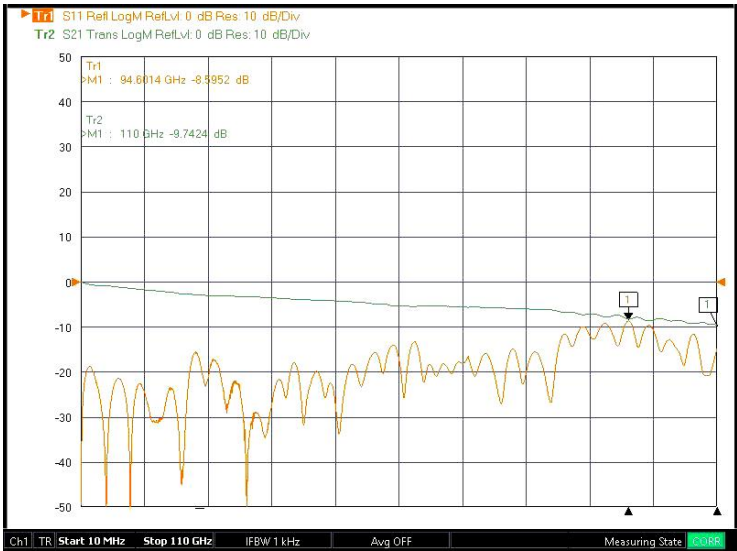
Substrate : RO3003 (5 mil)

Part No. : NE00MS001



* Substrate length : 1 inch (=25.4 mm)

Freq. : 10 MHz to 110 GHz



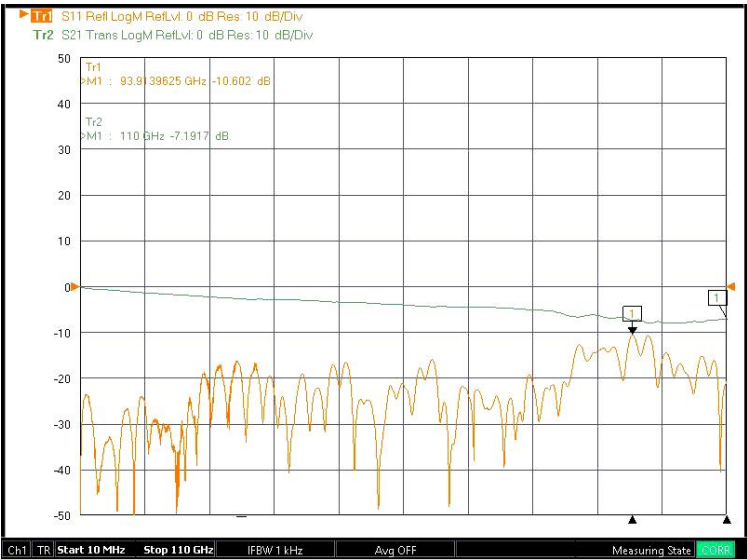
Top Ground Microstrip

Substrate : RO3003 (5 mil)

Part No. : NE00MS001



* Substrate length : 30 mm



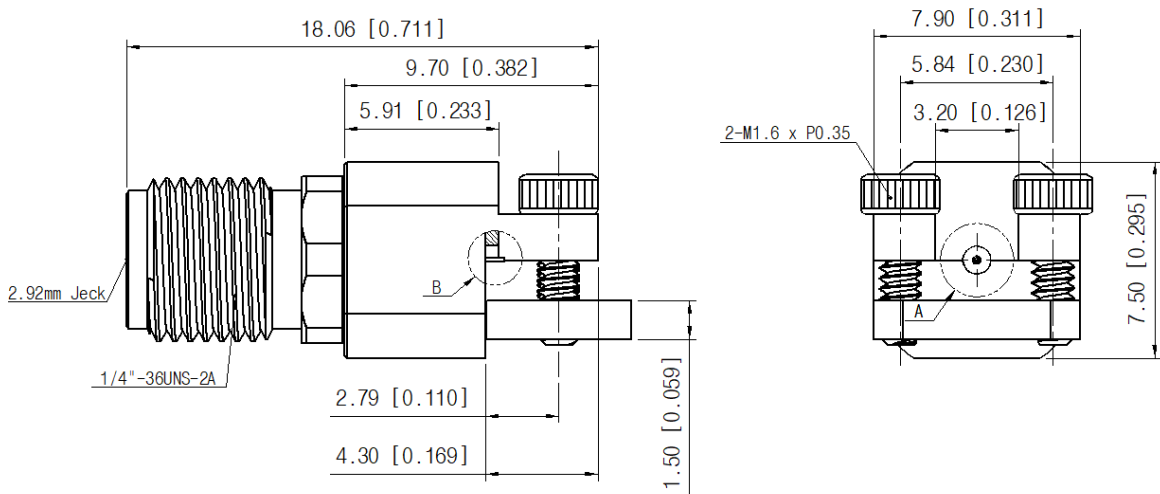
2.92 mm, 2.4 mm, 1.85 mm, 1.0 mm

2.92 mm Type (Female type)

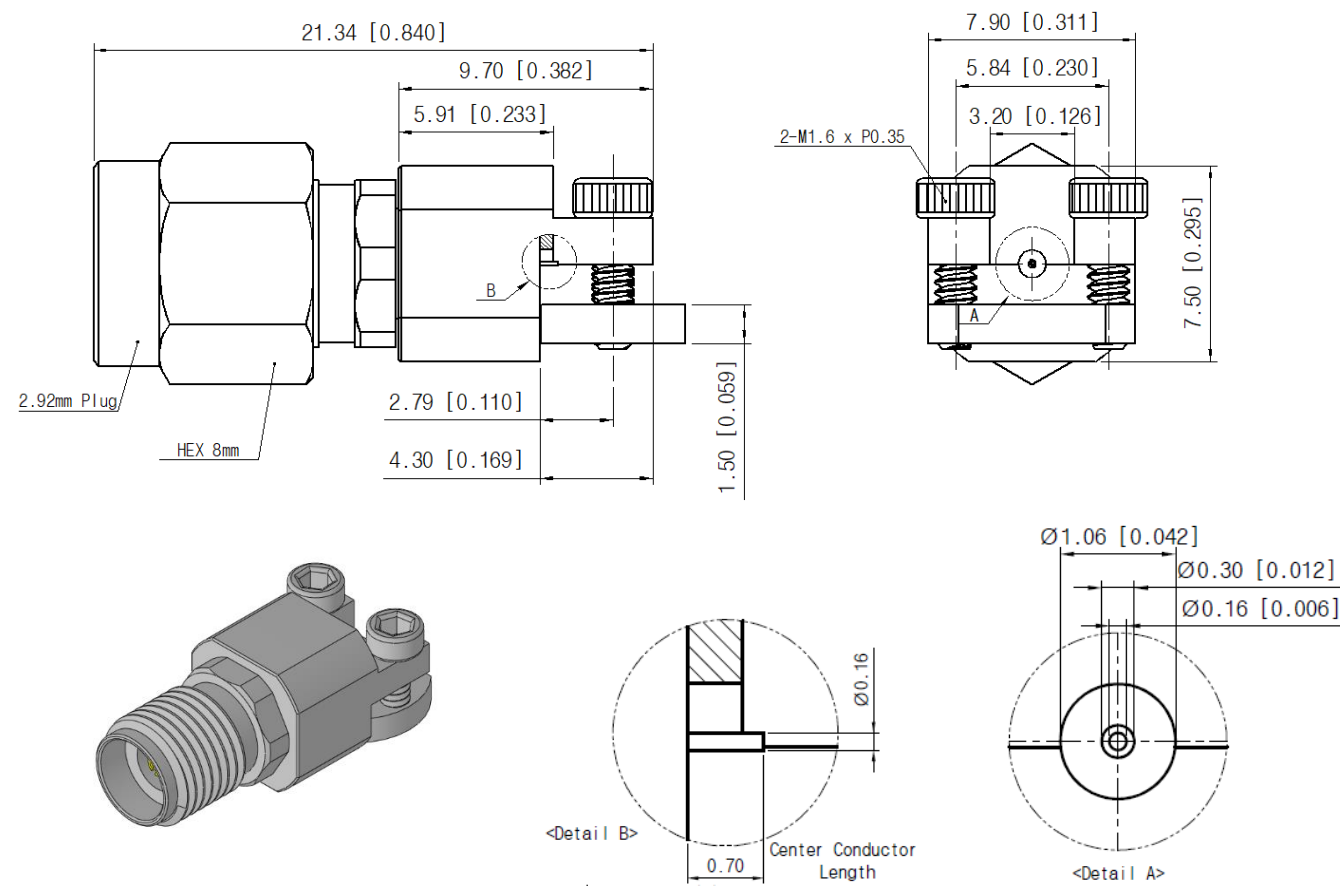
Drawing

Part No. : NE03FS001

Unit : mm[inch]



Part No. : NE03MS001



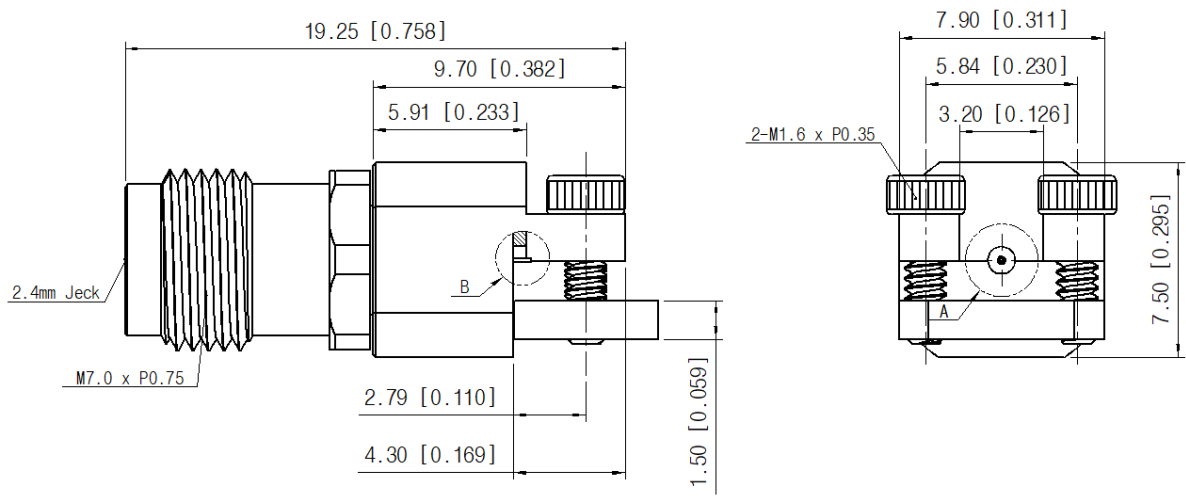
2.92 mm, 2.4 mm, 1.85 mm, 1.0 mm

2.4 mm Type (Female type)

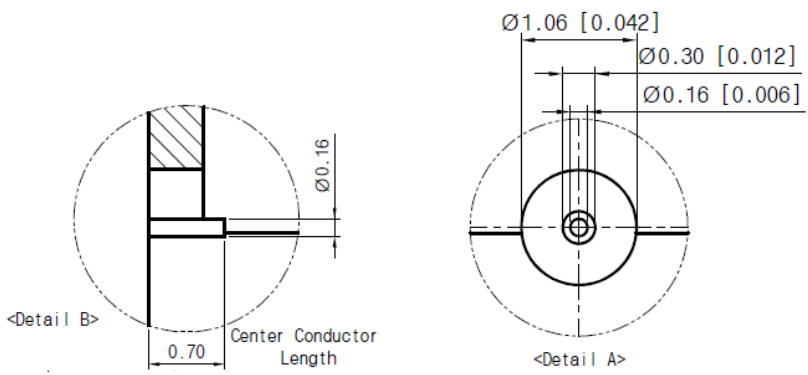
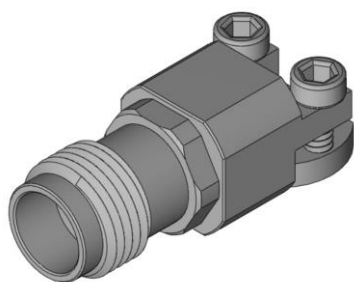
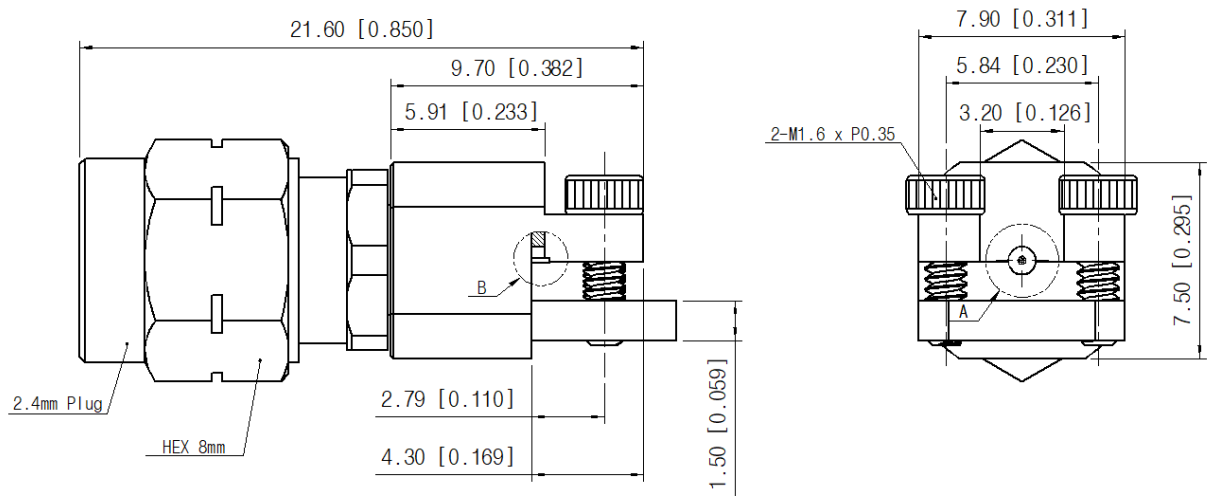
Drawing

Part No. : NE02FS001

Unit : mm[inch]



Part No. : NE02MS001



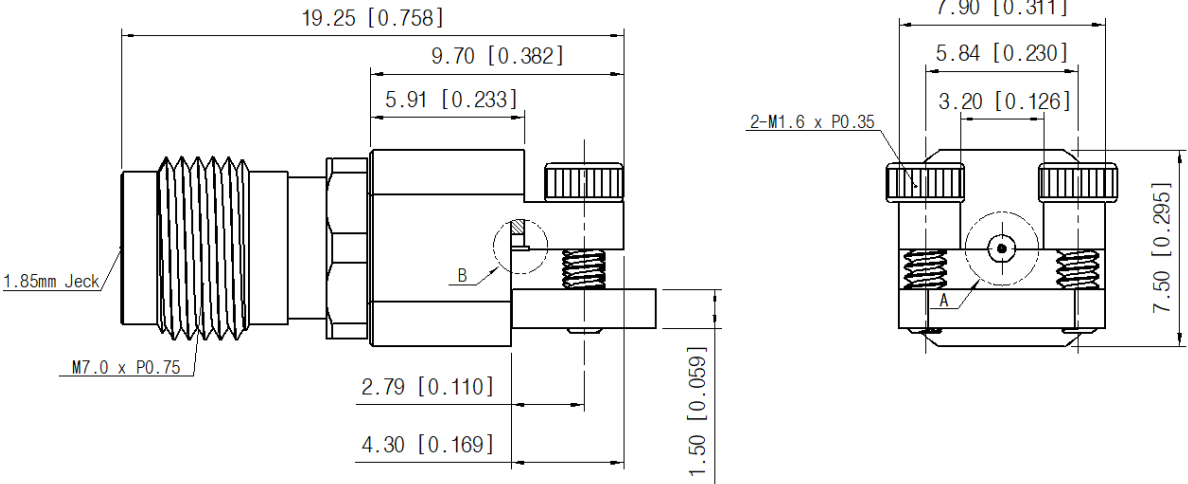
2.92 mm, 2.4 mm, 1.85 mm, 1.0 mm

1.85 mm Type (Female type)

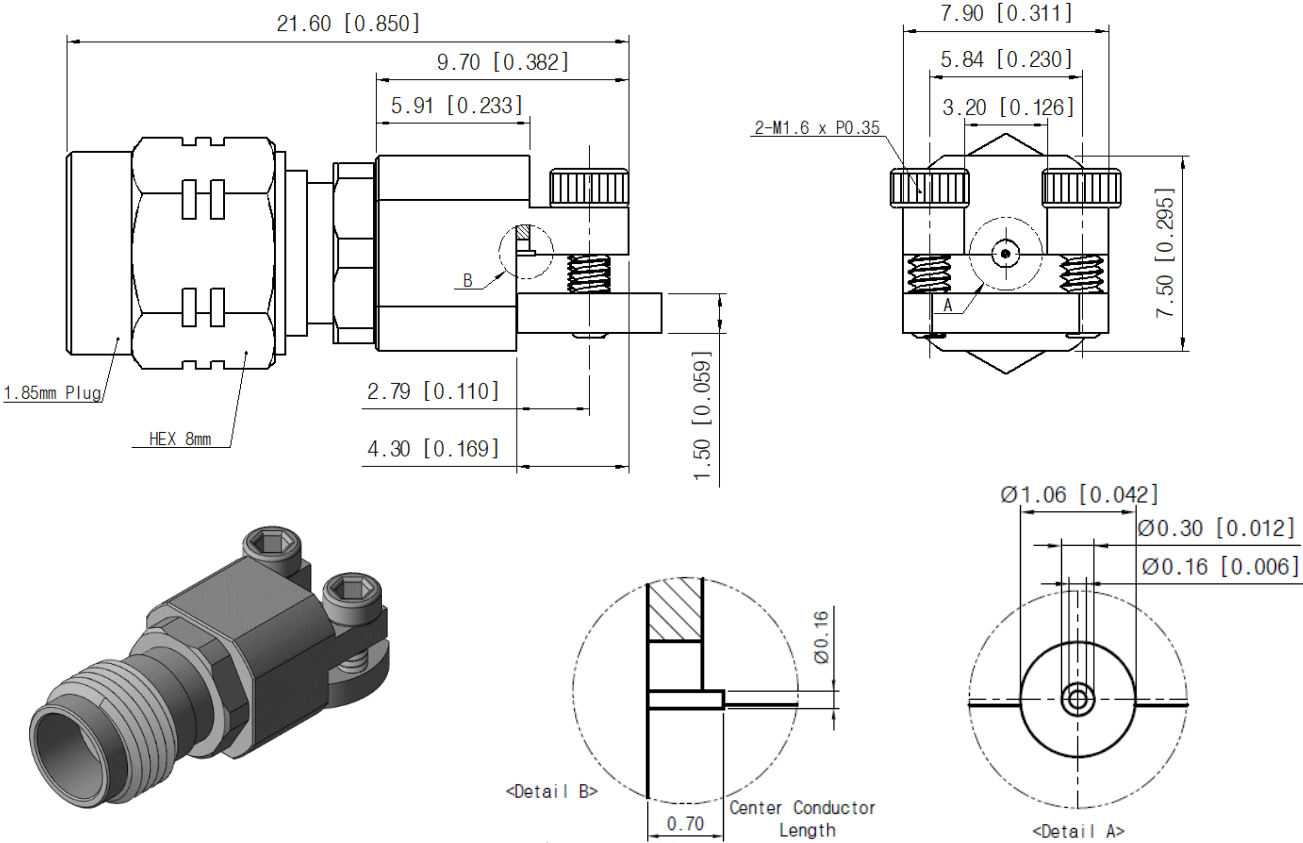
Drawing

Part No. : NE01FS001

Unit : mm[inch]



Part No. : NE01MS001

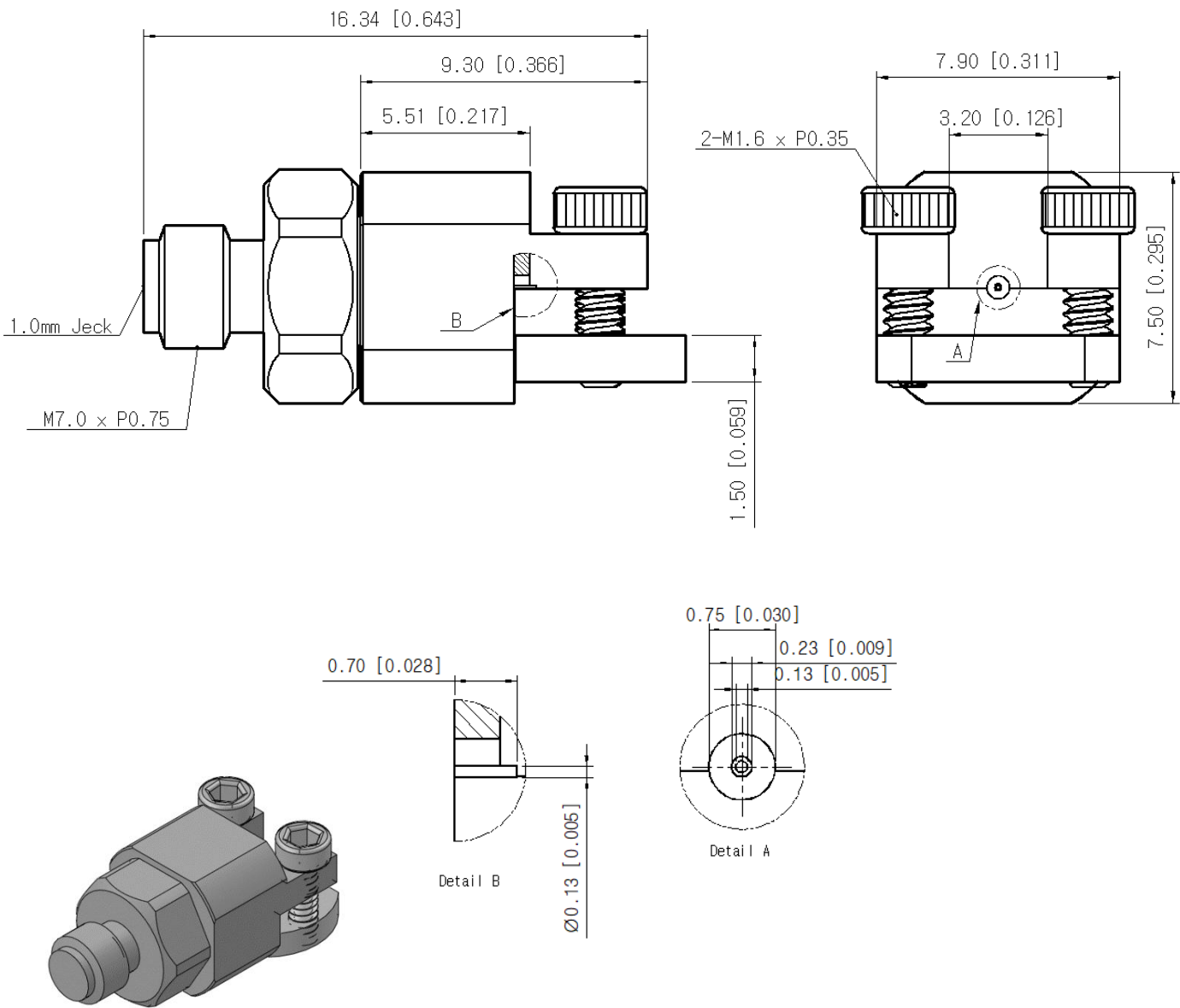


1.0 mm Type (Female type)

Drawing

Part No. : NE00FS001

Unit : mm[inch]

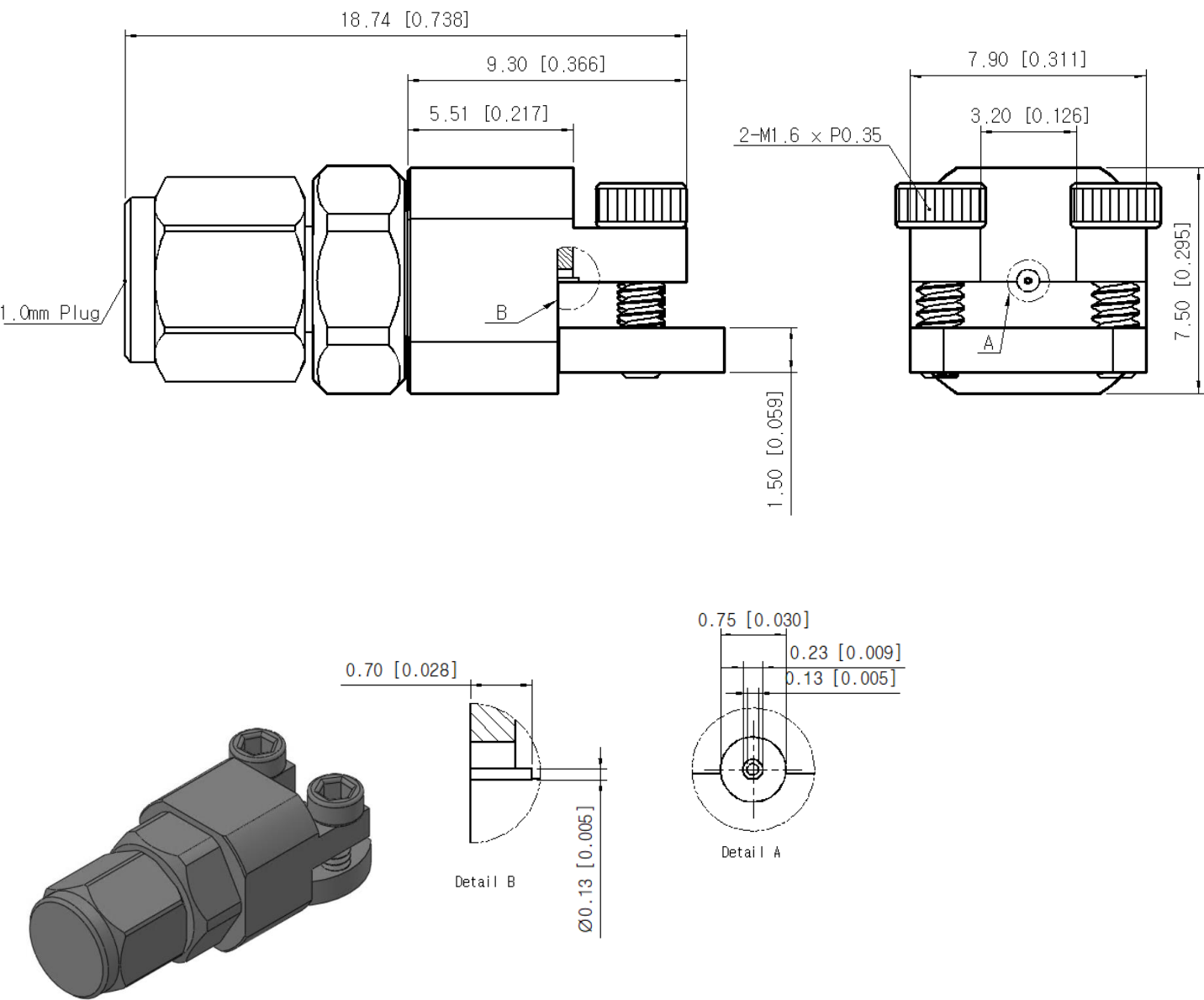


1.0 mm Type (Male type)

■ Drawing

Part No. : NE00FS001

Unit : mm[inch]

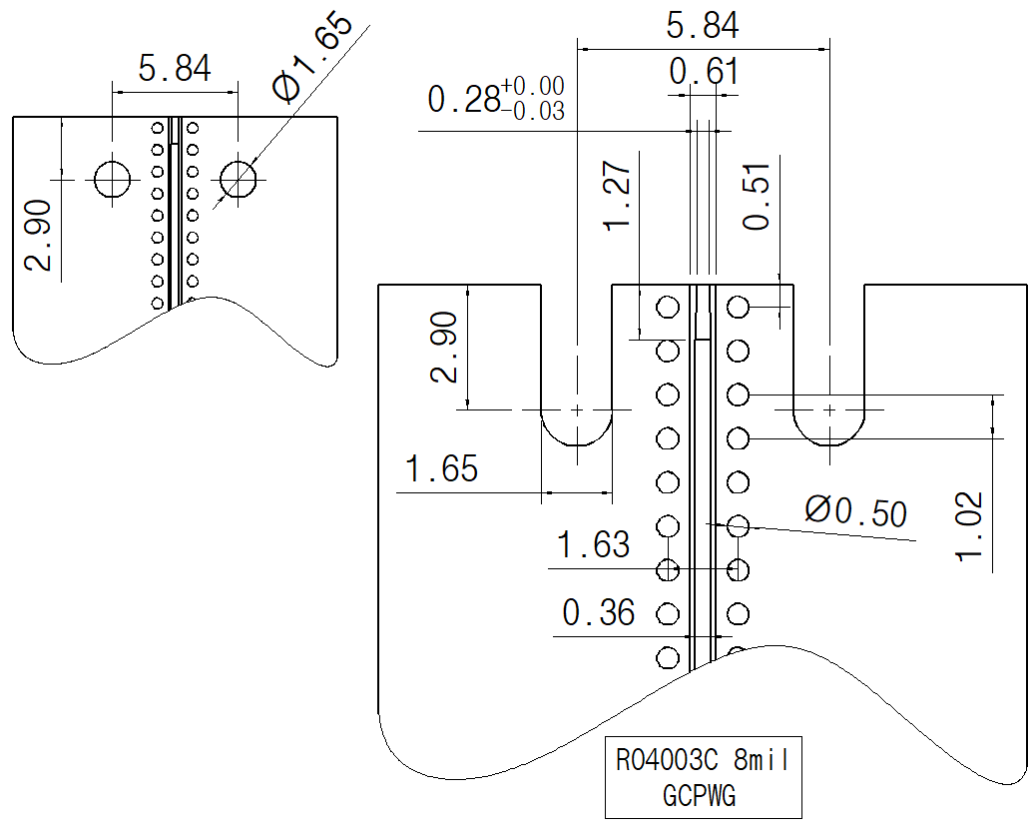


2.92 mm, 2.4 mm, 1.85 mm, 1.0 mm

■ PCB Layout

GCPWG (R04003C 8mil)

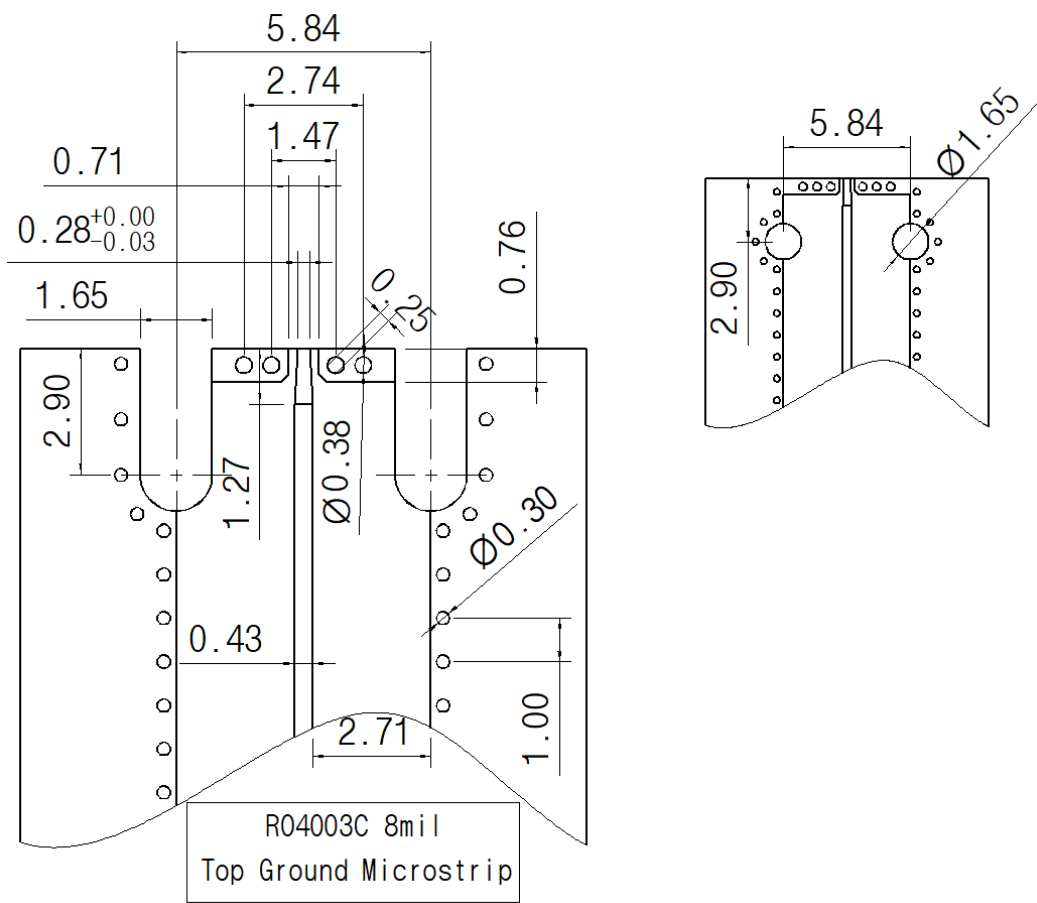
Unit : mm



■ PCB Layout

Top Ground Microstrip (R04003C 8mil)

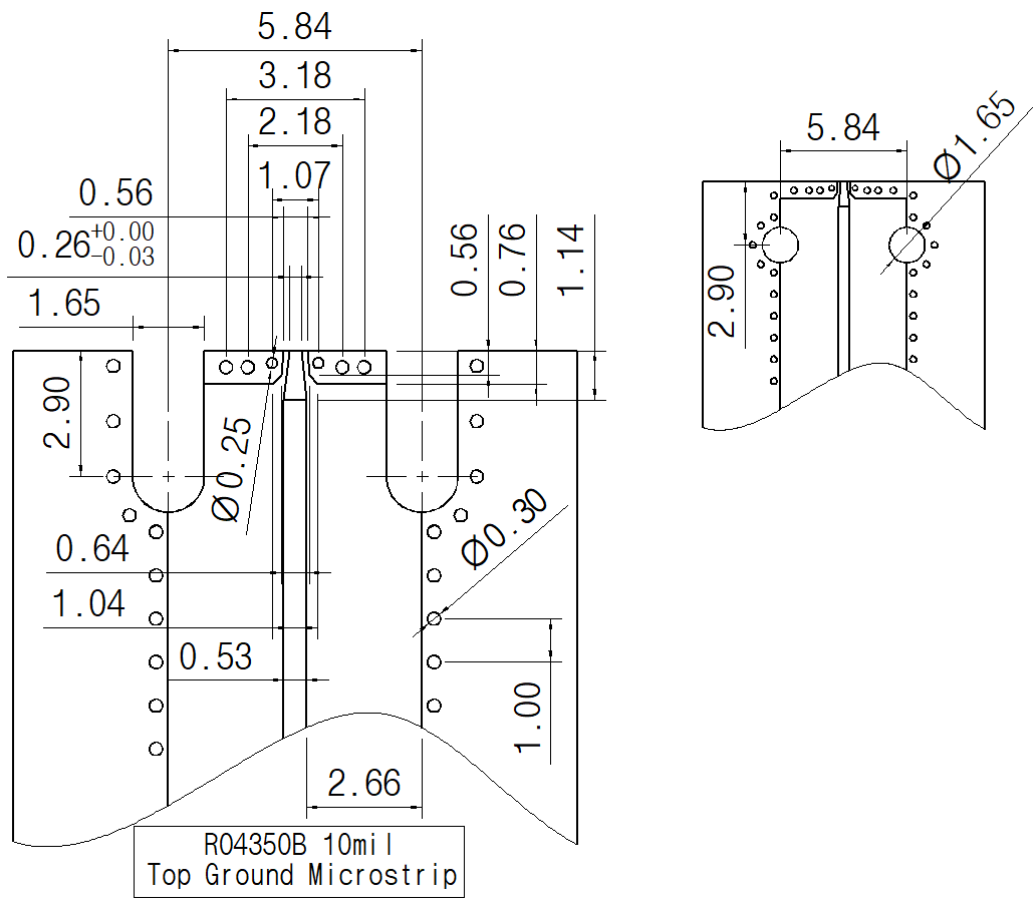
Unit : mm



■ PCB Layout

Top Ground Microstrip (R04350B 10 mil)

Unit : mm

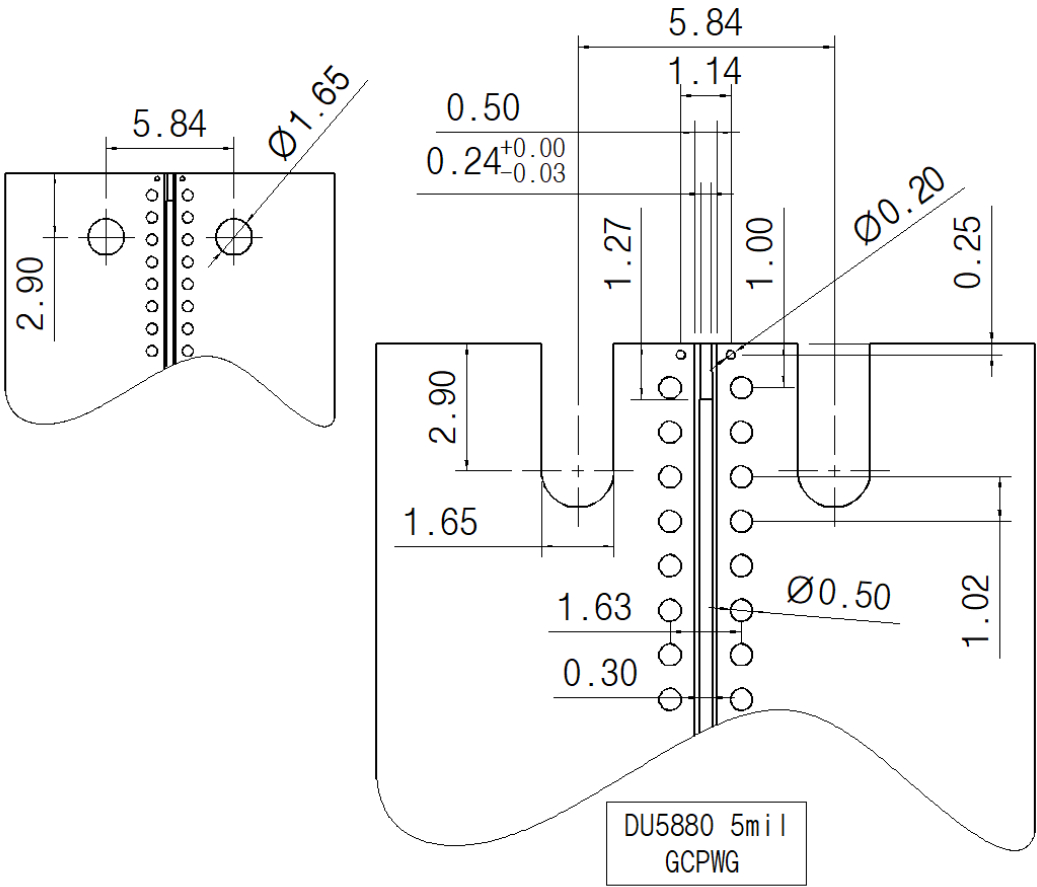


2.92 mm, 2.4 mm, 1.85 mm, 1.0 mm

■ PCB Layout

GCPWG (Duroid 5880 5mil)

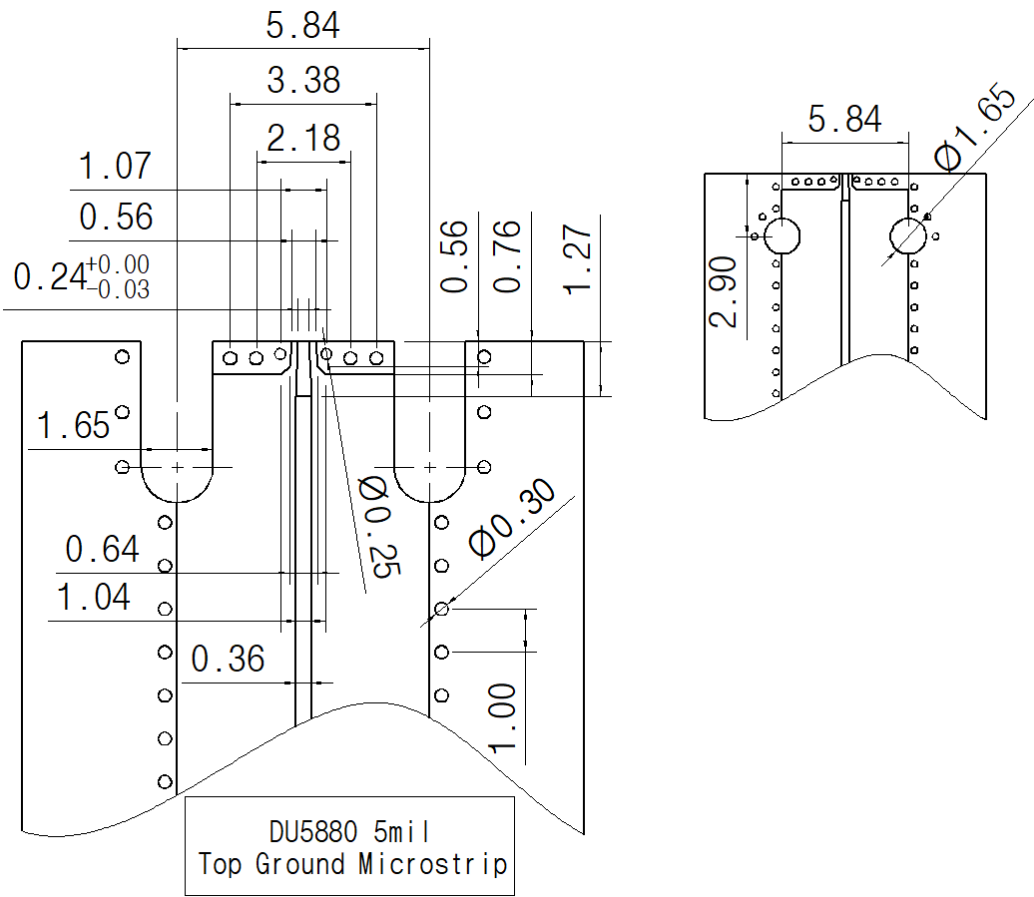
Unit : mm



■ PCB Layout

Top Ground Microstrip (Duroid 5880 5 mil)

Unit : mm

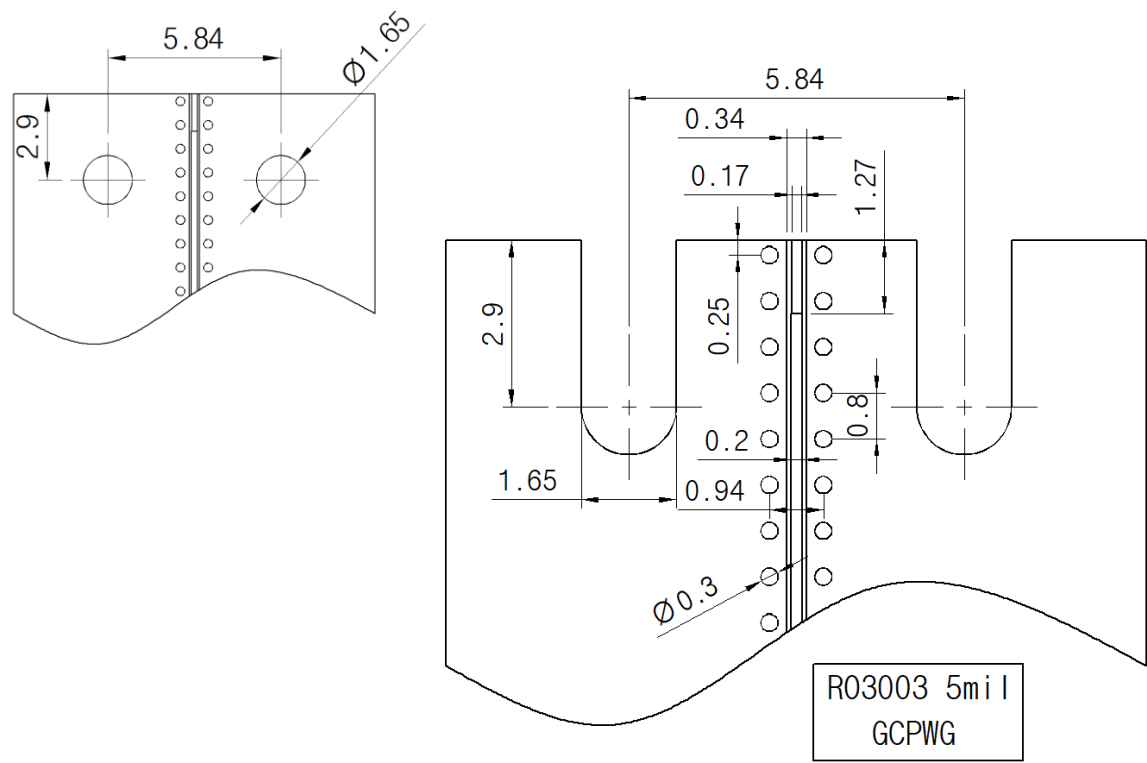


2.92 mm, 2.4 mm, 1.85 mm, 1.0 mm

■ PCB Layout

GCPWG (R03003 5 mil)

Unit : mm

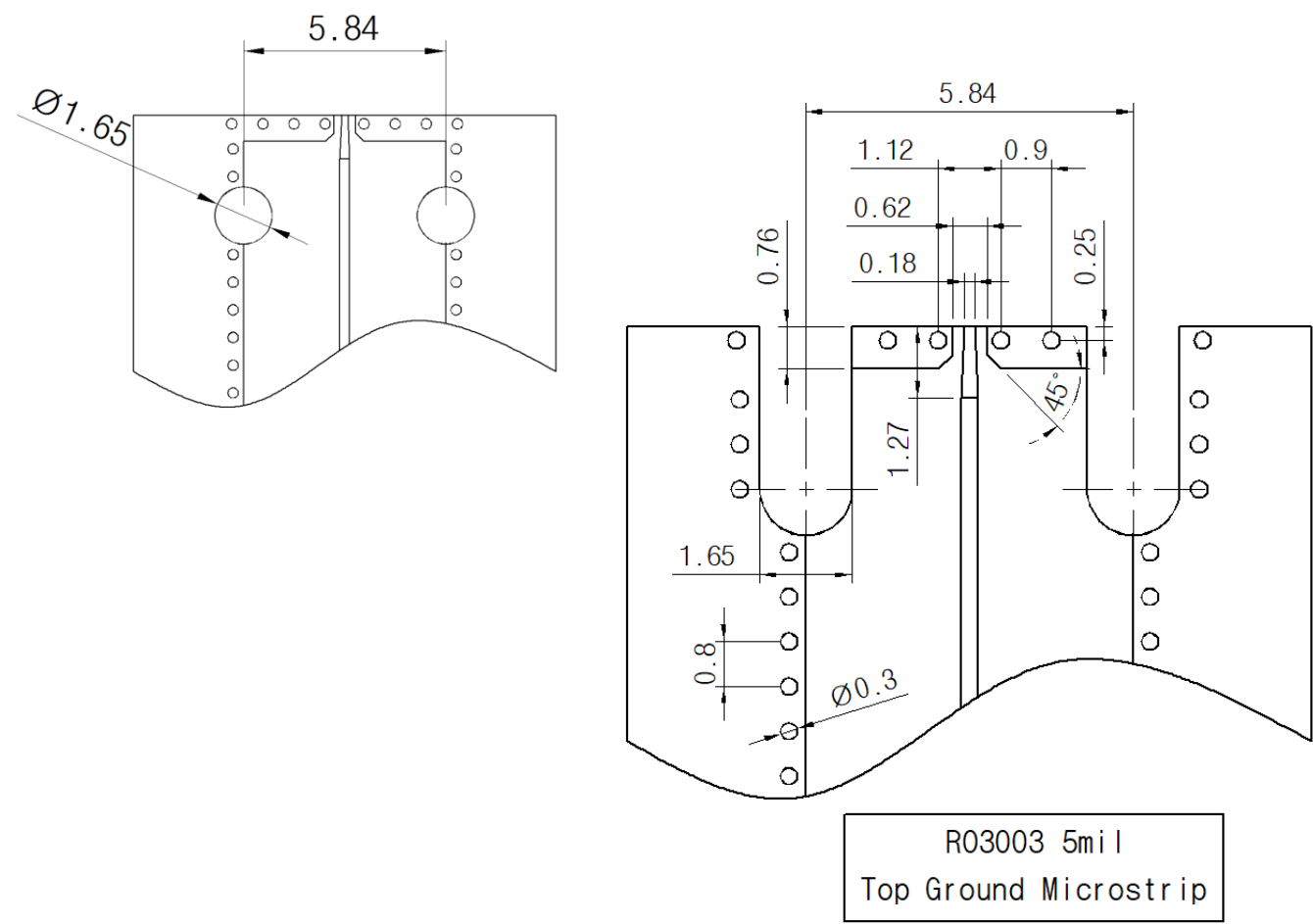


2.92 mm, 2.4 mm, 1.85 mm, 1.0 mm

■ **PCB Layout**

Top Ground Microstrip (R03003 5 mil)

Unit : mm



■ Revision History

Revision	Date	Changes
Ver 1.0	2019-09-15	Released End launch connectors (Narrow Block)
Ver 1.1	2020-01-08	Updated drawing
Ver 1.2	2021-01-11	Add New 1.0 mm type (110 GHz)
Ver 1.3	2021-03-12	Add Test Result of 1.0 mm type (Male)