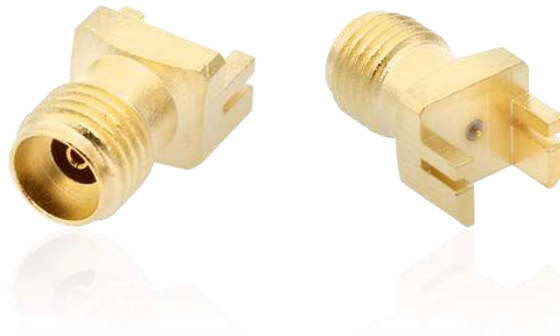


*Withwave's Board Edge 2.92 mm* connectors are specially designed for high frequency substrates to minimize electromagnetic transition effects from coaxial to Microstrip/CPW structure. We solve your performance and cost problems.



### ■ Features

- DC to 40 GHz
- Board Clearance : 0.6, 0.8, 1.0, 1.1, 1.2, 1.5, 1.6, 1.7, 2.1, 2.3 & 3.6 mm
- Easy Installation on designed substrate

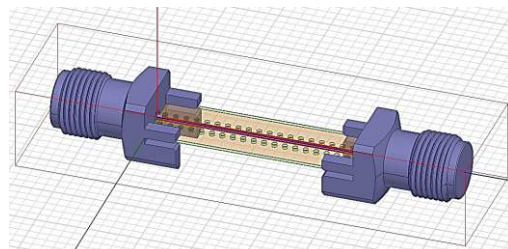
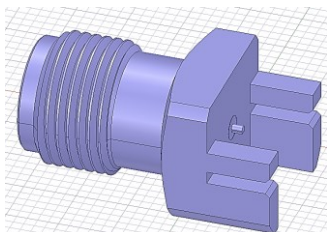
### ■ Application

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



### ■ Design Assistance

- 3D Model for Mechanical Layout (STEP file)
- **ANSYS HFSS models** (version 17.0 or newer) for 3D EM(Electromagnetic) Simulation

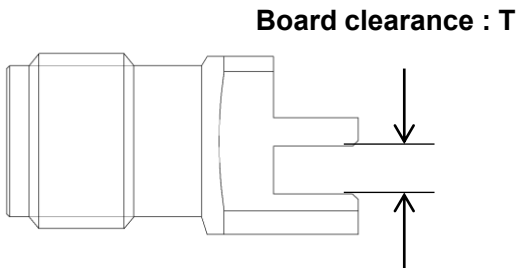


### ■ Specification

Scope	Items	Specification
Electrical	Freq. range	DC to 40 GHz
	Impedance	50 Ohm
	VSWR(Max)	1.20 : 1 (30 GHz) 1.40 : 1 (40 GHz)
Material	Connector type	2.92 mm(Female)
	Body	Brass (gold pated)
	Contact	BeCu (gold plated)

\* RoHS Compliant

### ■ Ordering Information



Board Clearance (T : mm)	Part No.
0.6	SM03FS007
0.8	SM03FS008
1.0	SM03FS009
1.1	SM03FS010
1.2	SM03FS011
1.5	SM03FS012
1.6	SM03FS013
1.7	SM03FS014
2.1	SM03FS015
2.3	SM03FS016
3.6	SM03FS017

### ■ Installation Procedure

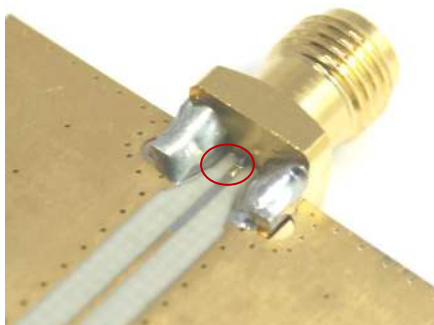
#### STEP 1 :

Insert Board Edge 2.92 mm connector at the edge position of substrate.



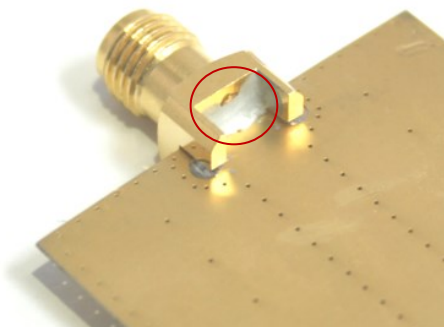
#### STEP 2 :

Make sure contact pin is aligned with the center of the signal trace. and, solder contact pin on the signal trace and two legs on the ground plane while ensuring the connector is held in the correct position.



#### STEP 3 :

Solder two legs and connector body on the back side of substrate (ground plane) to improve RF performance. Remove any excess solder and clean all flux and other residues from trace area.



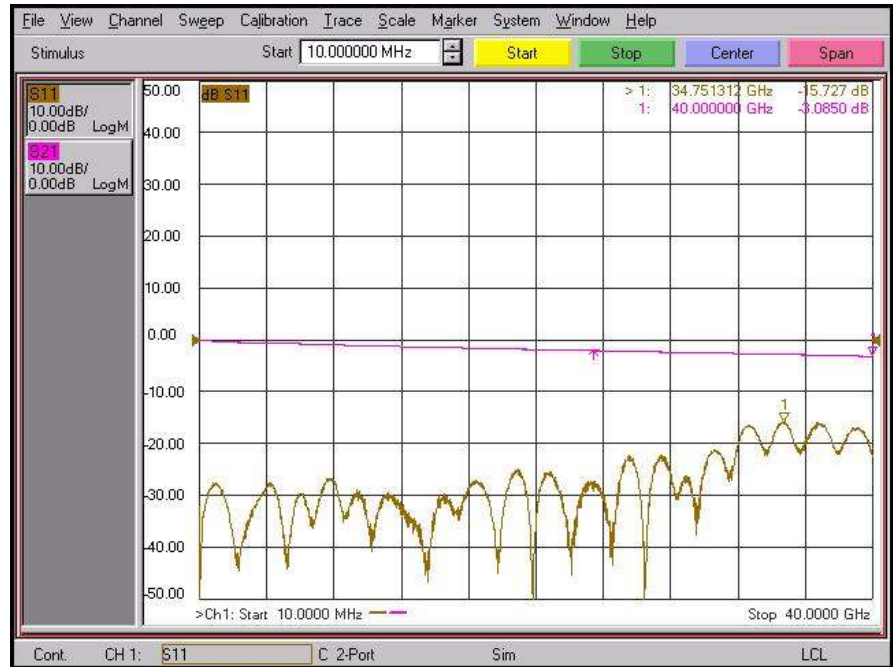
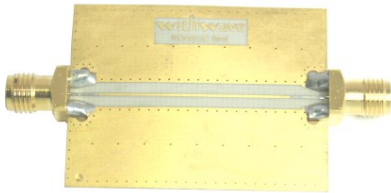
### Measurement data

### Microstrip type

Freq. : 10 MHz to 40 GHz

Substrate : RO4003C (8 mil)

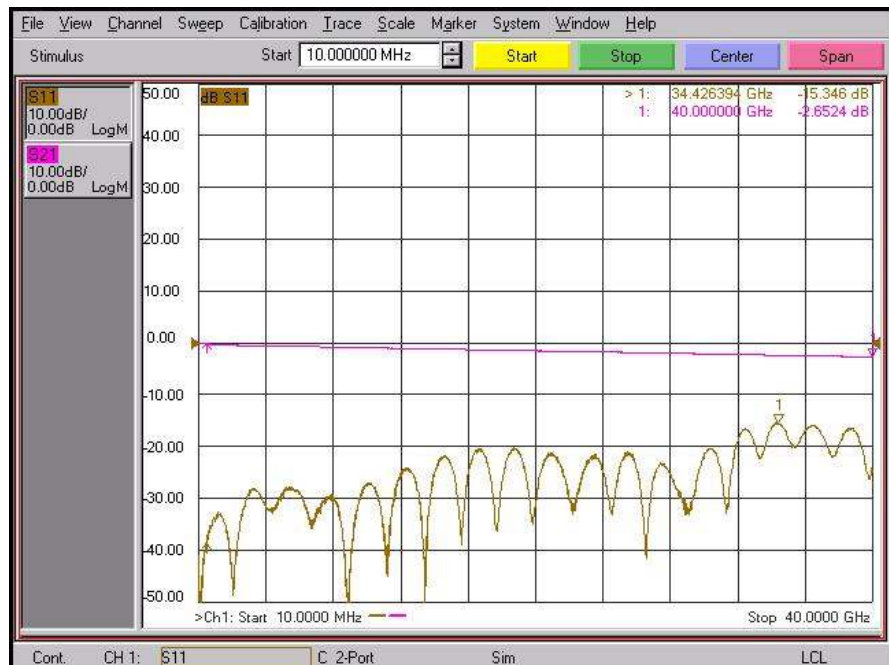
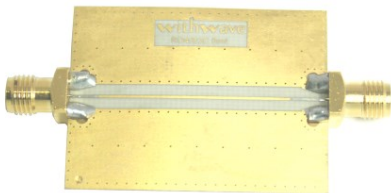
Part No. : SM03FS007



Freq. : 10 MHz to 40 GHz

Substrate : RO4003C (12 mil)

Part No. : SM03FS007



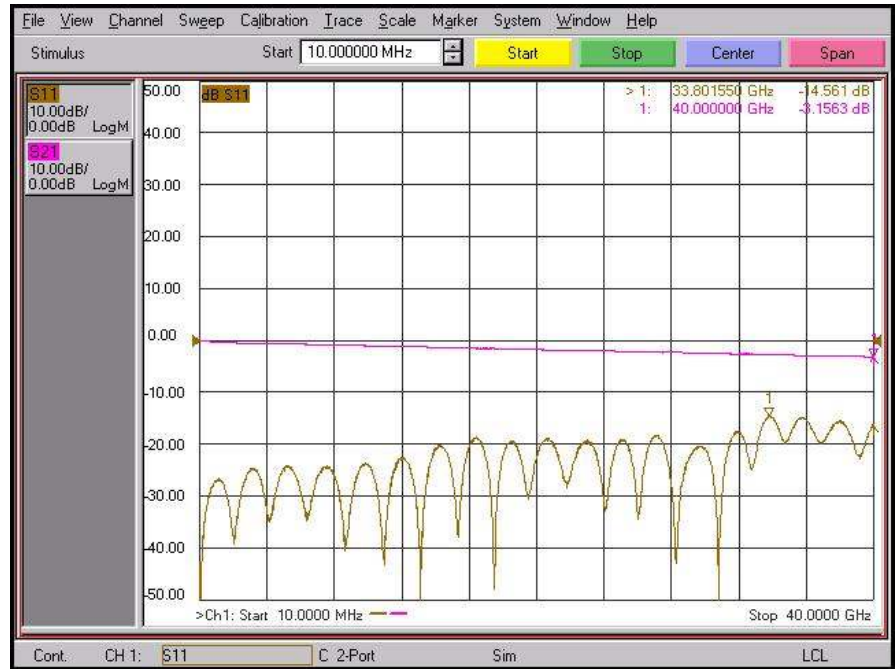
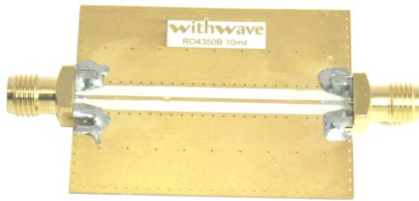
### Measurement data

### Microstrip type

Freq. : 10 MHz to 40 GHz

Substrate : RO4350B (10 mil)

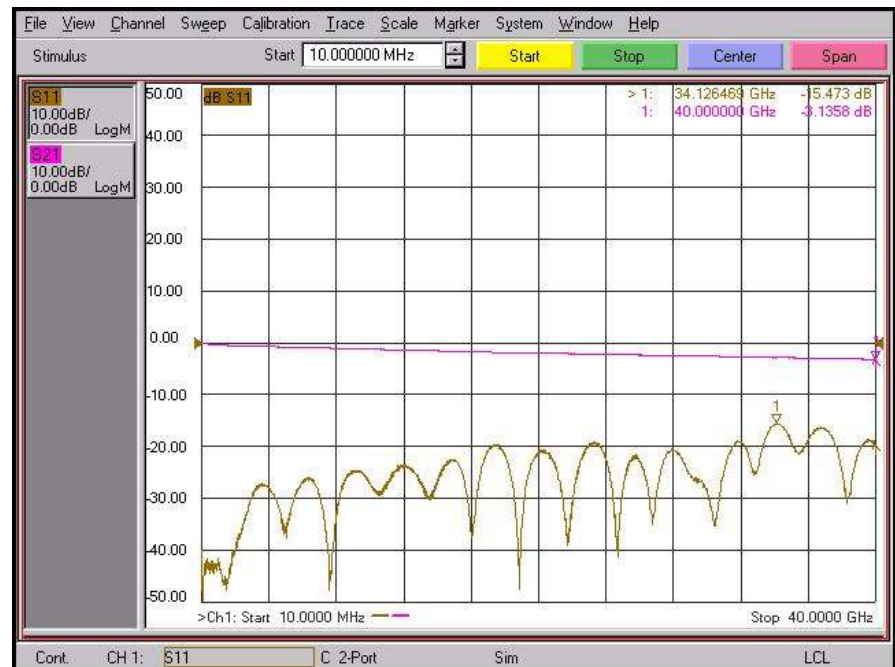
Part No. : SM03FS007



Freq. : 10 MHz to 40 GHz

Substrate : Du5880 (5 mil)

Part No. : SM03FS007



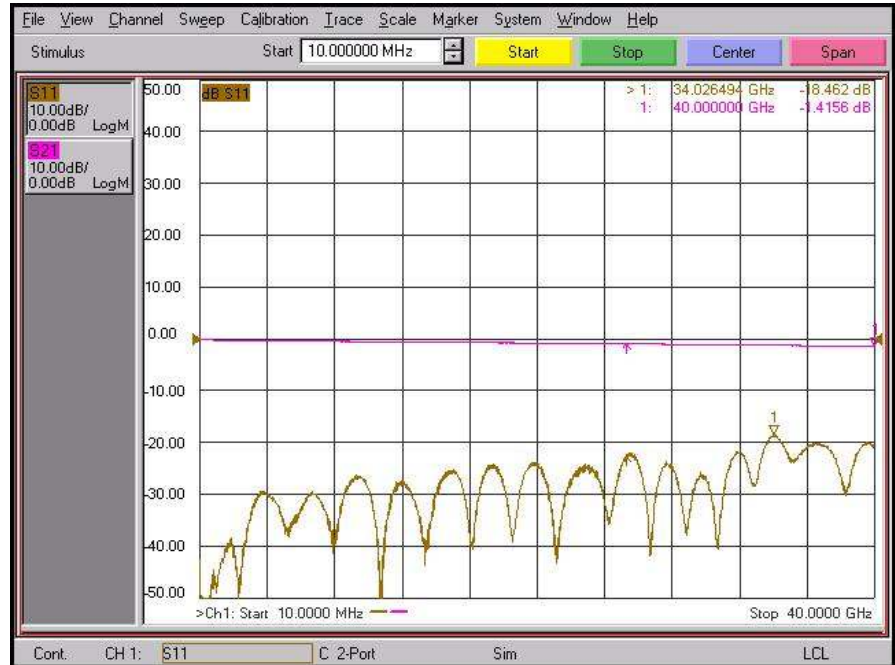
### Measurement data

### Microstrip type

Freq. : 10 MHz to 40 GHz

Substrate : Du5880 (10 mil)

Part No. : SM03FS007

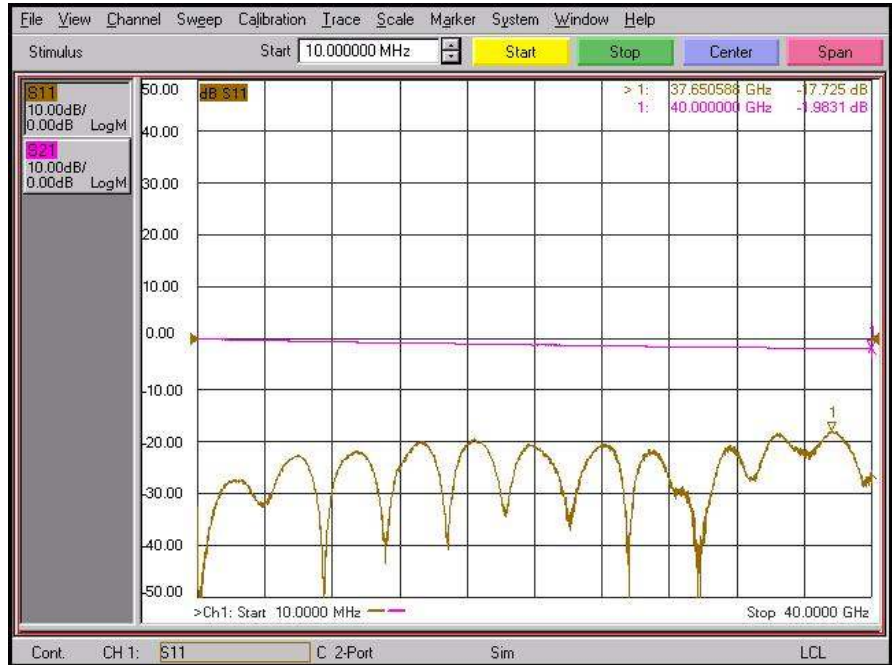




### Measurement data

## Top Ground Microstrip type

Freq. : 10 MHz to 40 GHz



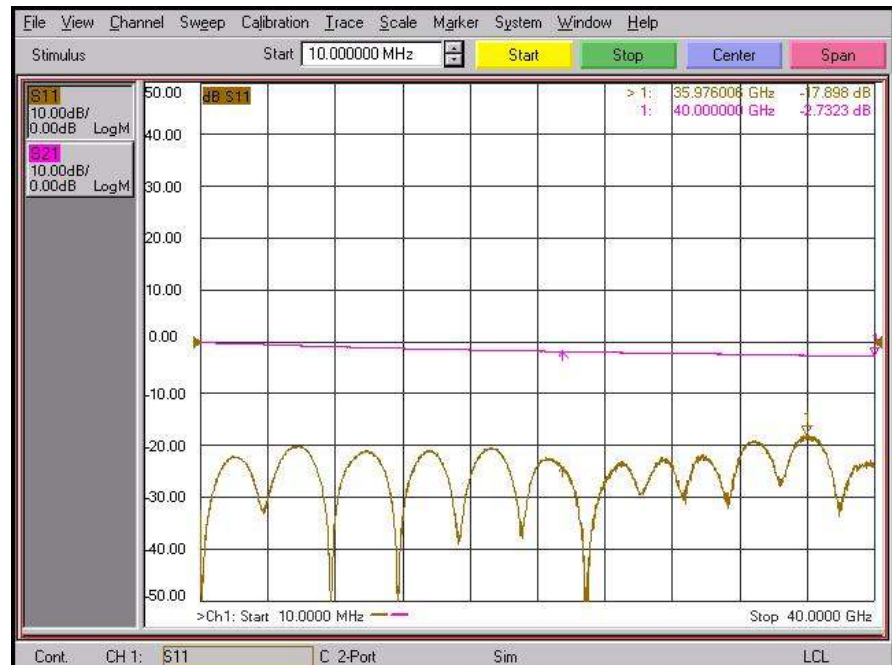
Substrate : RO4003C (8 mil)

Part No. : SM03FS007



## GCPWG type

Freq. : 10 MHz to 40 GHz



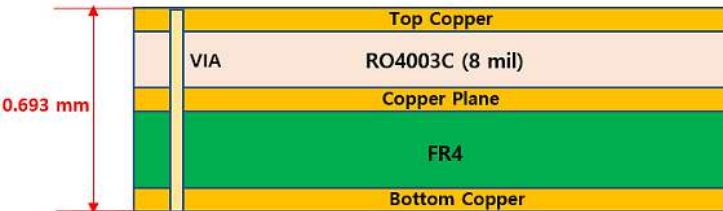
Substrate : RO4003C (8 mil)

Part No. : SM03FS007



### Measurement data

## Multilayer PCB (RO4003C 8 mil + FR4)



RO4003C (8 mil)  
FR4

## GCPWG type

Freq. : 10 MHz to 40 GHz

Substrate : RO4003C (8 mil)+FR4

Part No. : SM03FS007

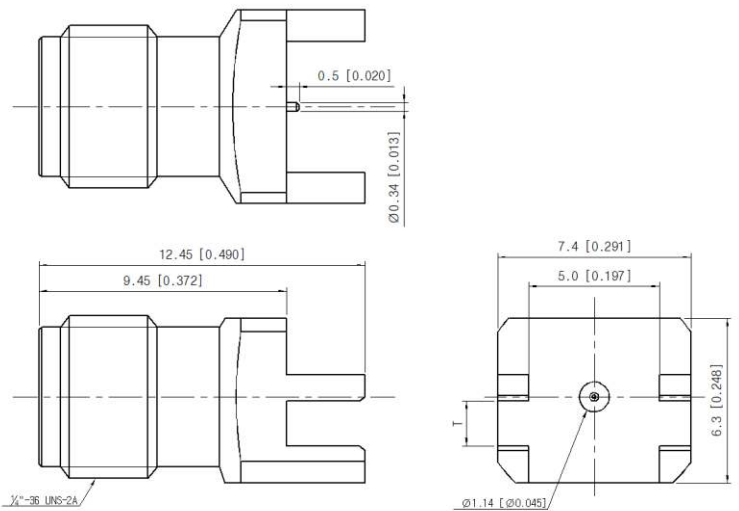




### ■ Drawing

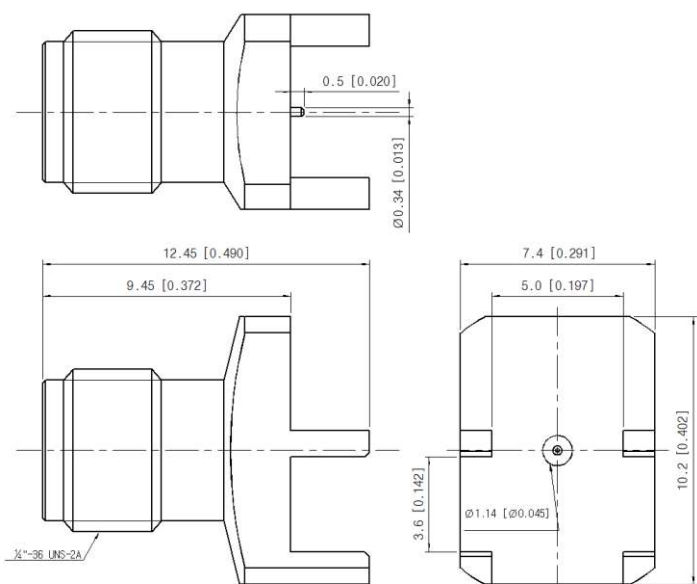
Unit : mm

Board Clearance (T : mm)	Part No.
0.6	SM03FS007
0.8	SM03FS008
1.0	SM03FS009
1.1	SM03FS010
1.2	SM03FS011
1.5	SM03FS012
1.6	SM03FS013
1.7	SM03FS014
2.1	SM03FS015
2.3	SM03FS016



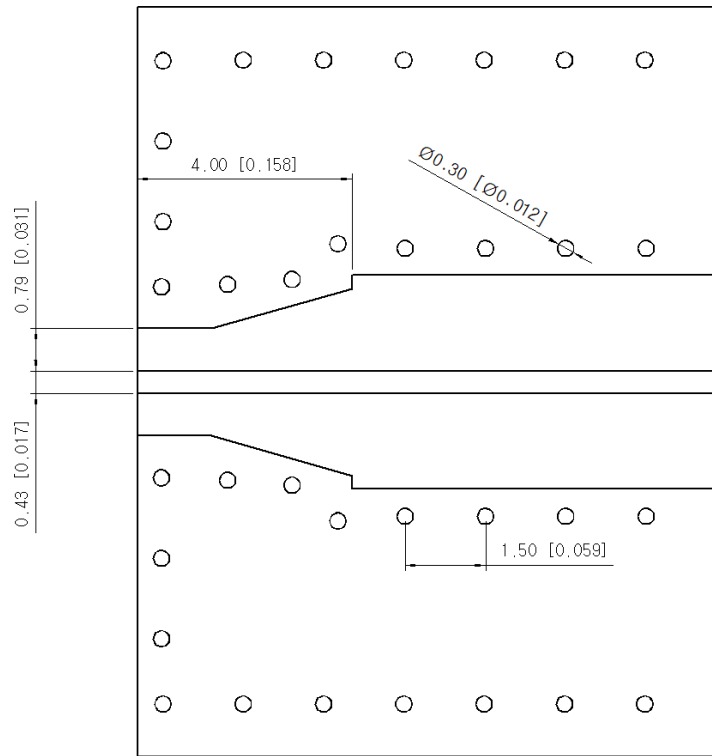
Unit : mm

Board Clearance (T : mm)	Part No.
3.6	SM03FS017

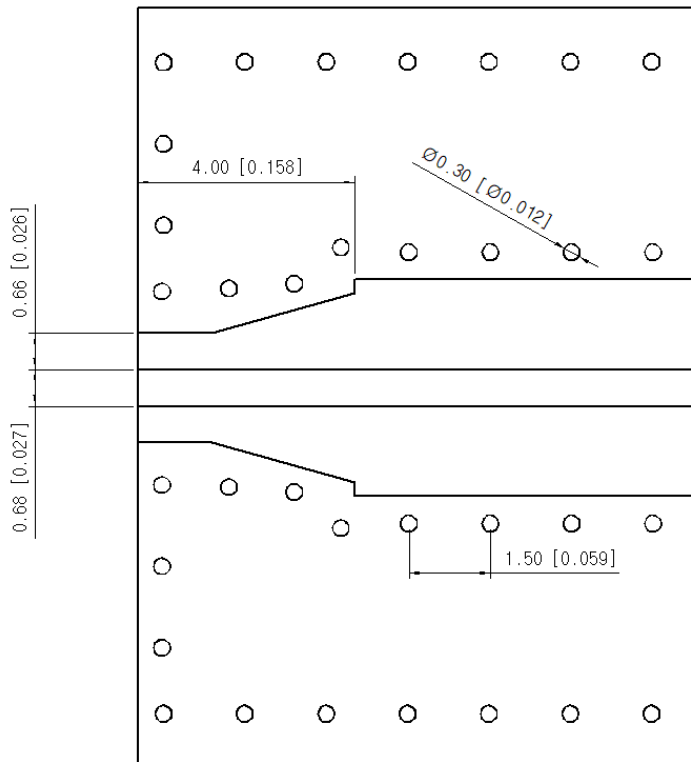


### ■ Recommended Patten

#### RO4003C 8 mil Microstrip type

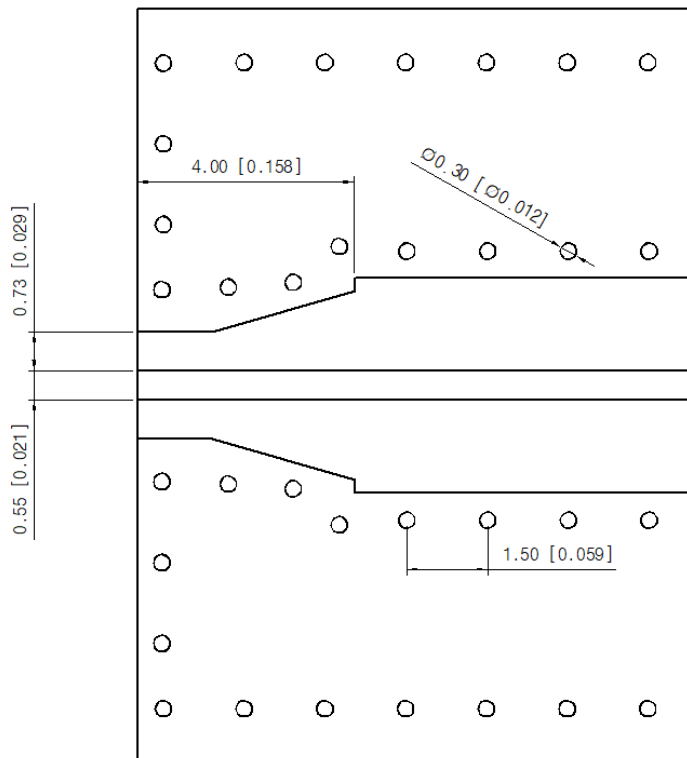


#### RO4003C 12 mil Microstrip type

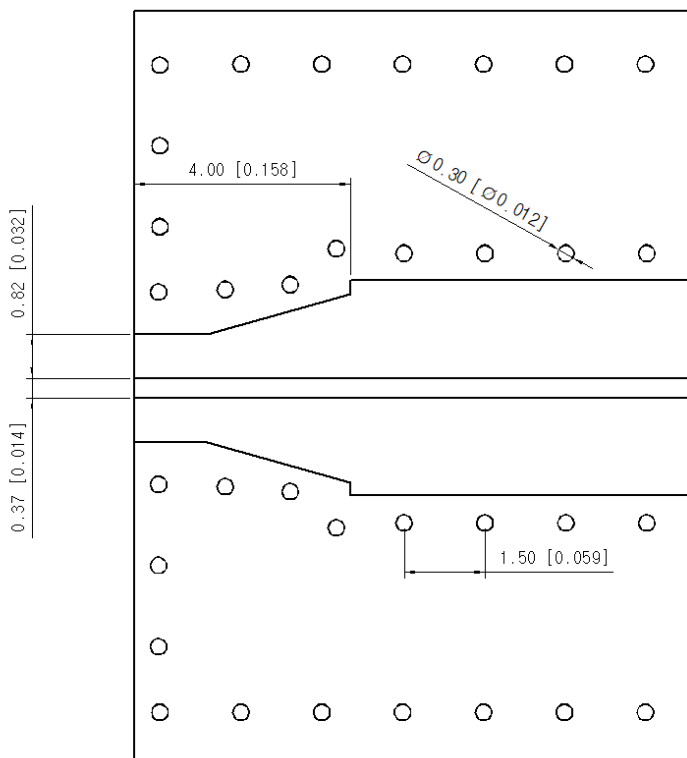


### ■ Recommended Patten

#### **RO4350B 10 mil Microstrip type**

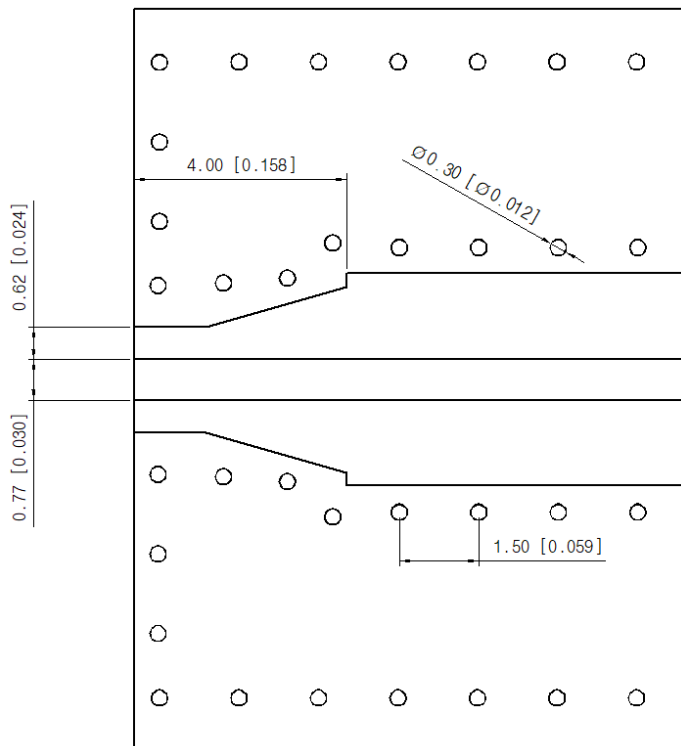


#### **Du5880 5 mil Microstrip type**



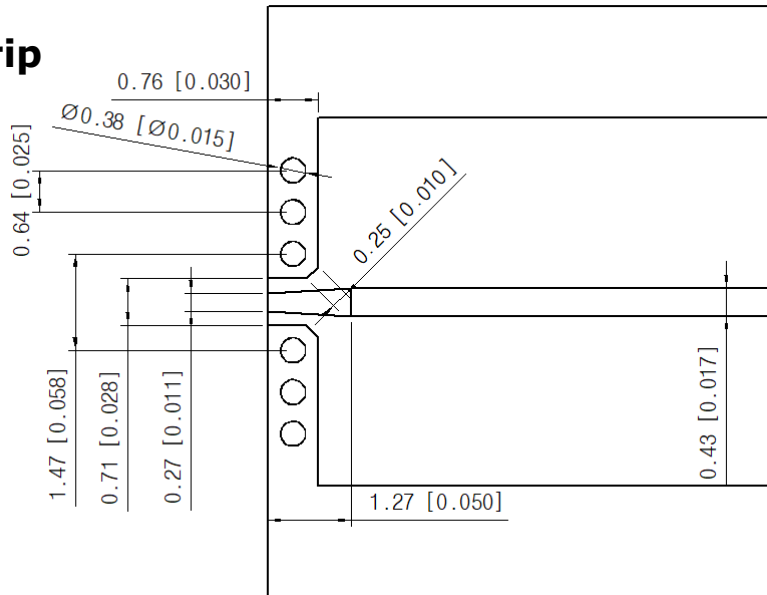
### ■ Recommended Patten

## Du5880 10 mil Microstrip type

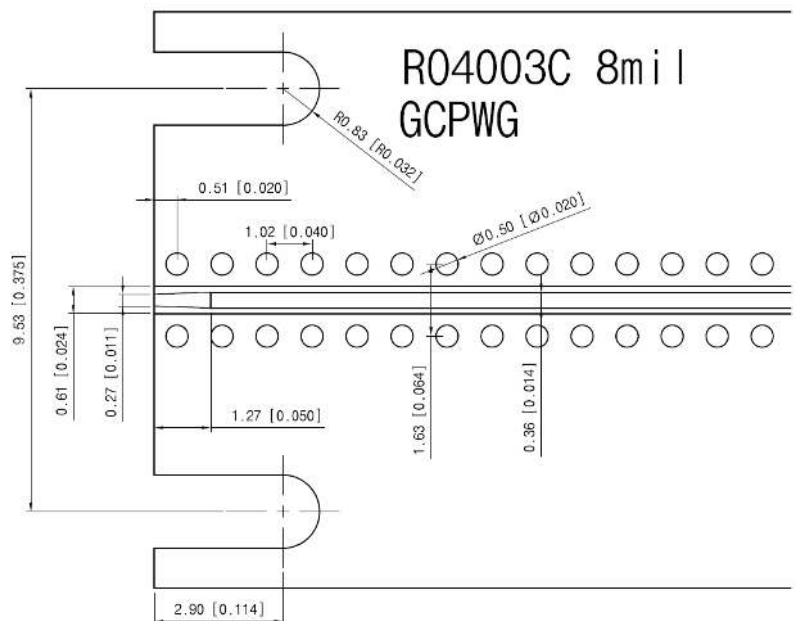


### ■ Recommended Pattern

#### RO4003C 8 mil Top Ground Microstrip



#### RO4003C 8 mil GCPWG





### ■ Revision History

Revision	Date	Changes
Ver 1.0	2018-11-15	Release Board Edge 2.92 mm Connectors
Ver 1.1	2019-12-03	Revised drawing
Ver 1.2	2020-03-01	Add Design Assistance for ANSYS HFSS 3D Simulation model
Ver 1.3	2020-11-05	Add Test Result on Multilayer PCB