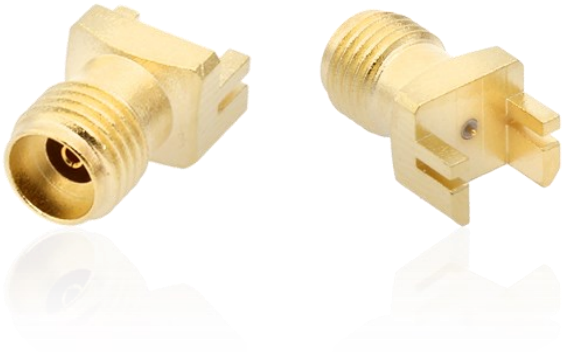
Board Edge 2.92 mm

DC to 40 GHz

withwave
Versatile RF & MW Test Solutions

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

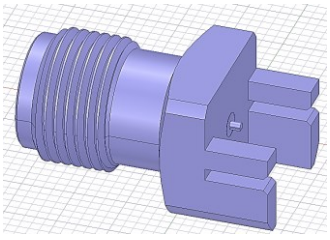
- DC to 40 GHz
- Board Clearance : 0.6, 0.8, 1.0, 1.1, 1.2, 1.5, 1.6, 1.7, 2.1, 2.3 & 3.6 mm
- Easy Installation on designed substrate

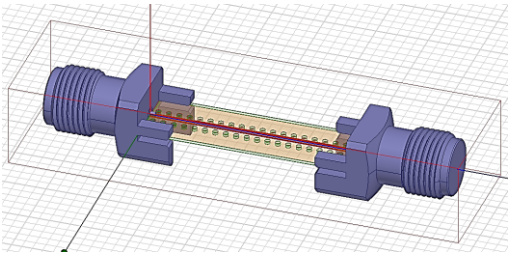
Application

- 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





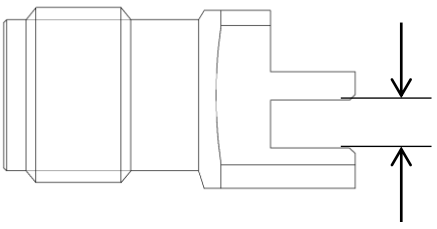
Specification

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)
	Operating Temperature	-40~+125°C

** RoHS Compliant*

Ordering Information

Board clearance : T

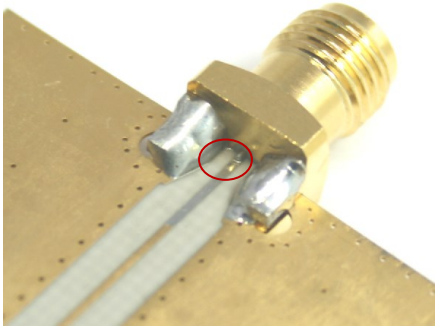


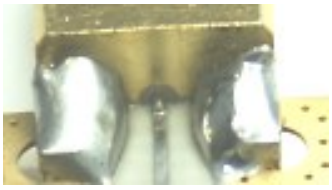
Board Clearance (T : mm)	Part No.
0.6	SM03FS007
0.8	SM03FS008
1.0	SM03FS009
1.1	SM03FS010
1.2	SM03FS011
1.5	SM03FS012
1.6	SM03FS013
1.7	SM03FS014
2.1	SM03FS015
2.3	SM03FS016
3.6	SM03FS017

Installation Procedure

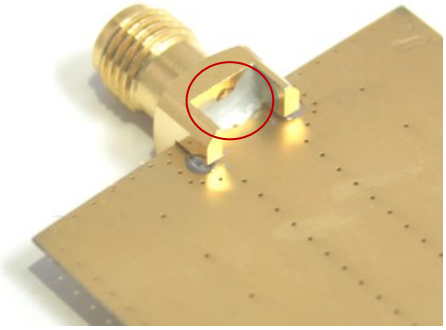
STEP 1 :
Insert Board Edge 2.92 mm connector at the edge position of substrate.

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.



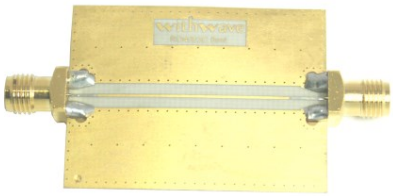
■ *Measurement data*

Microstrip type

Freq. : 10 MHz to 40 GHz

Substrate : RO4003C (8 mil)

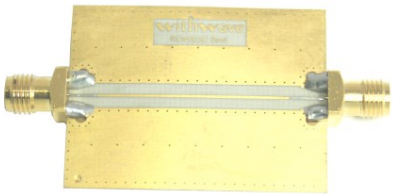
Part No. : SM03FS007



Freq. : 10 MHz to 40 GHz

Substrate : RO4003C (12 mil)

Part No. : SM03FS007



■ *Measurement data*

Microstrip type

Substrate : RO4350B (10 mil)

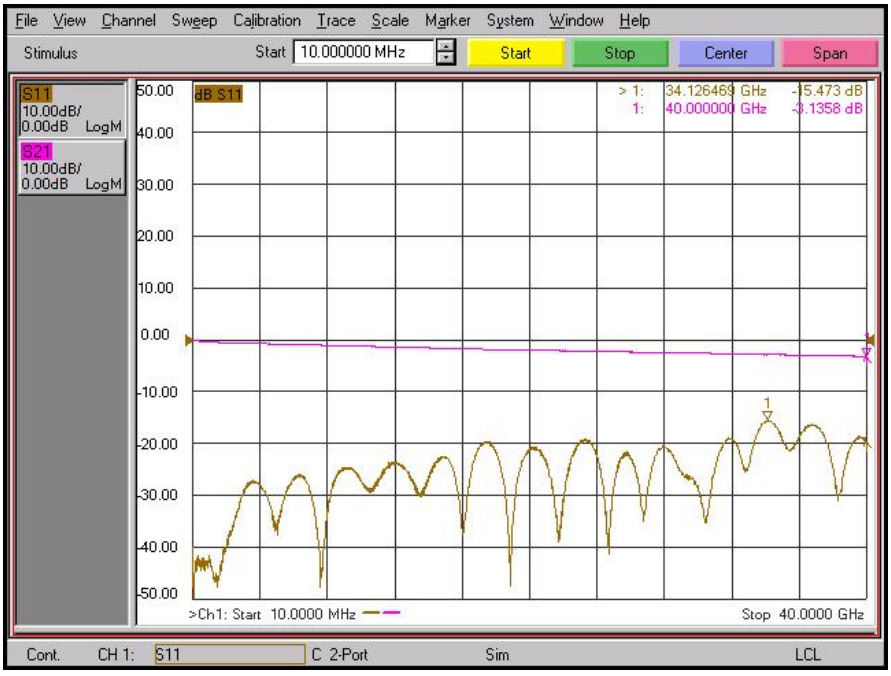
Part No. : SM03FS007

Freq. : 10 MHz to 40 GHz

Substrate : Du5880 (5 mil)

Part No. : SM03FS007

Freq. : 10 MHz to 40 GHz



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

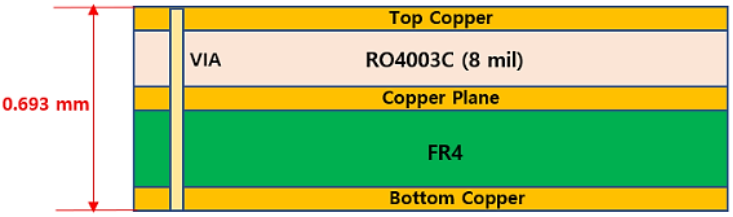
Freq. : 10 MHz to 40 GHz

Substrate : RO4003C (8 mil)

Part No. : SM03FS007

Measurement data

Multilayer PCB (RO4003C 8 mil + FR4)



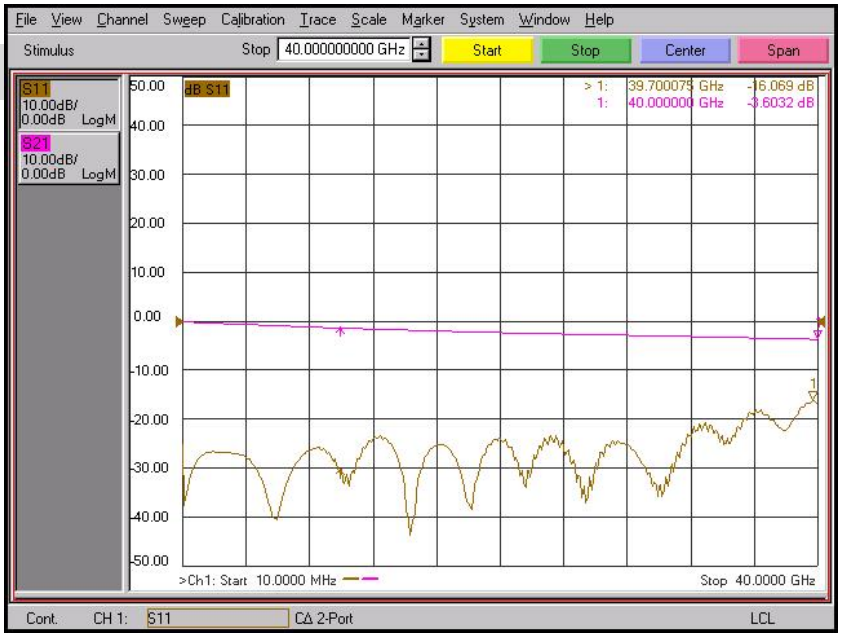
RO4003C (8 mil)
FR4

GCPWG type

Freq. : 10 MHz to 40 GHz

Substrate : RO4003C (8 mil)+FR4

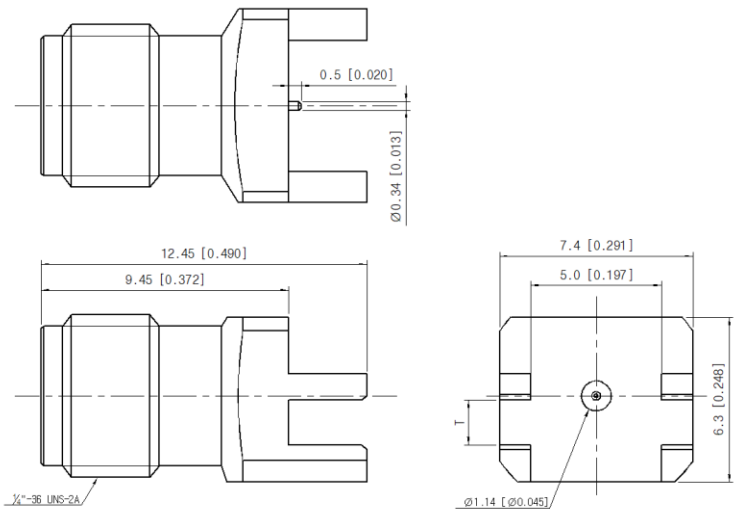
Part No. : SM03FS007



■ Drawing

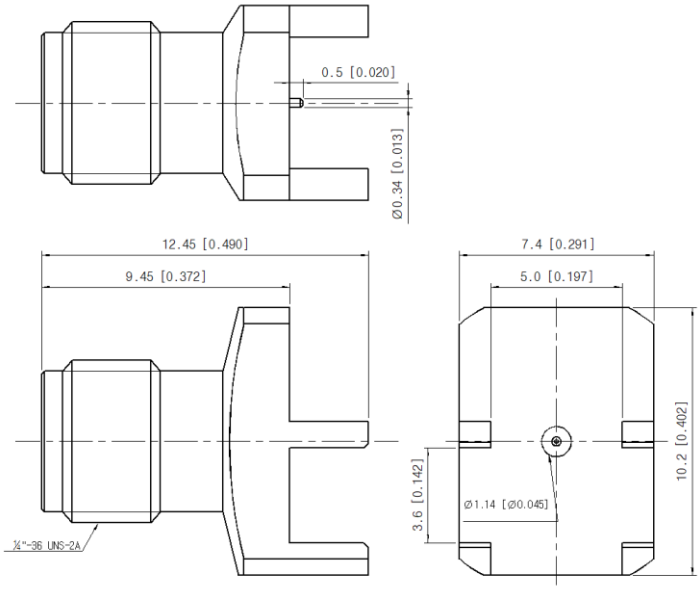
Unit : mm

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



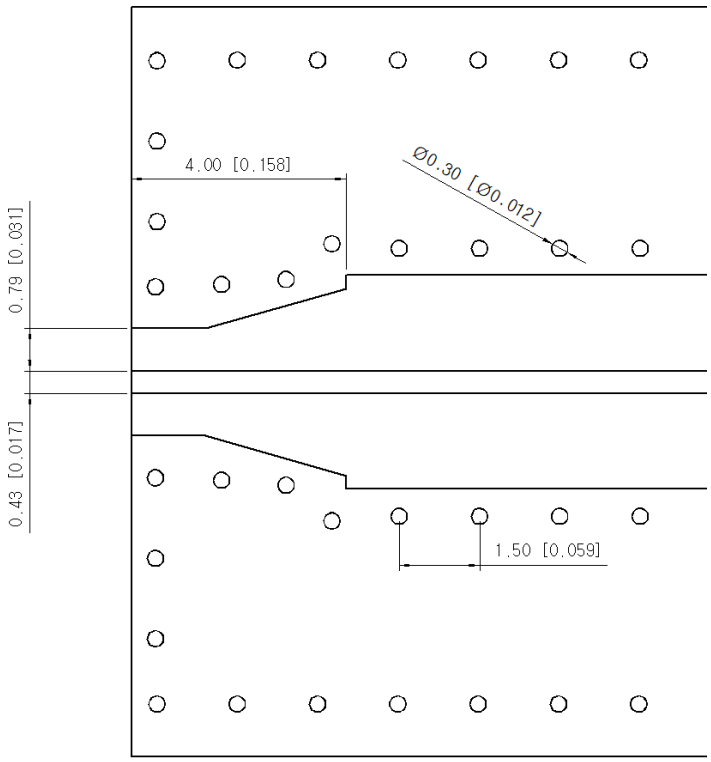
Unit : mm

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

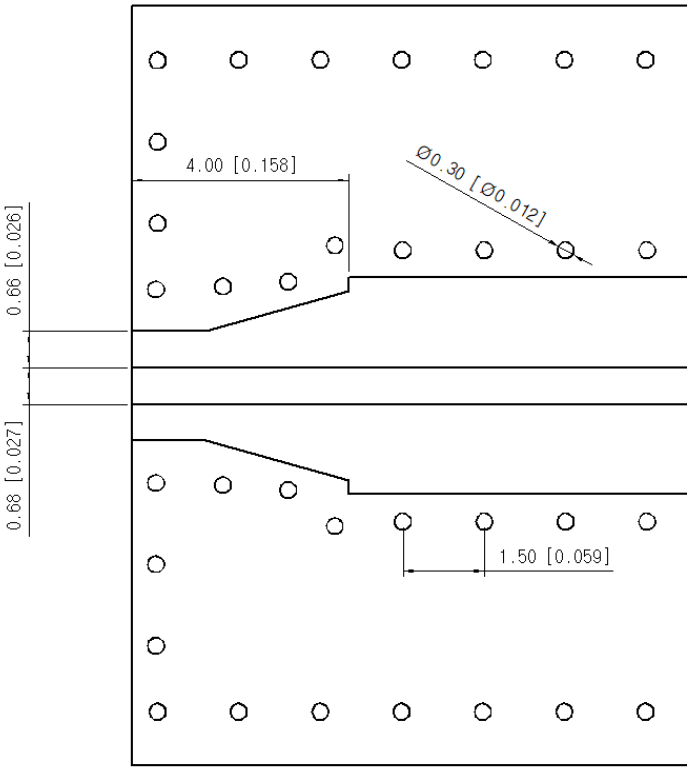


Recommended Patten

RO4003C 8 mil Microstrip type

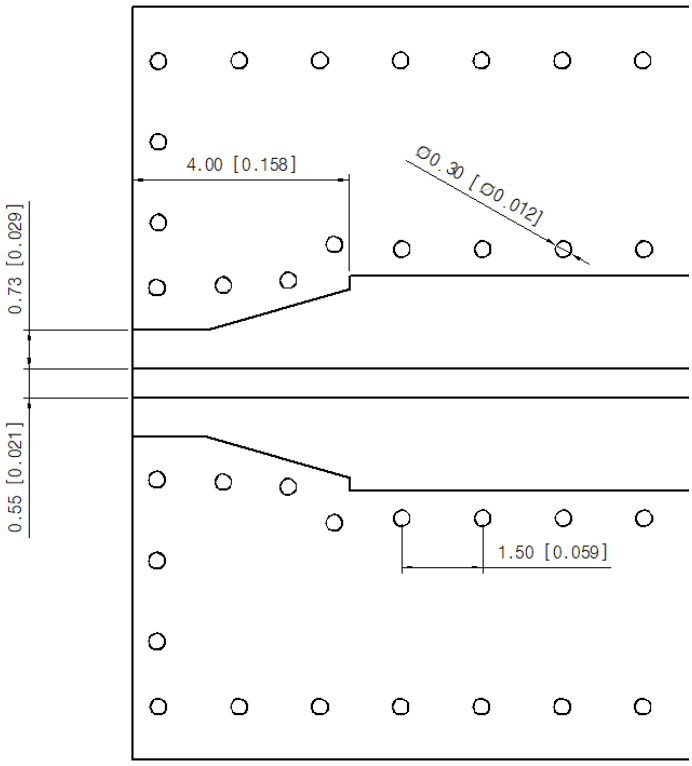


RO4003C 12 mil Microstrip type

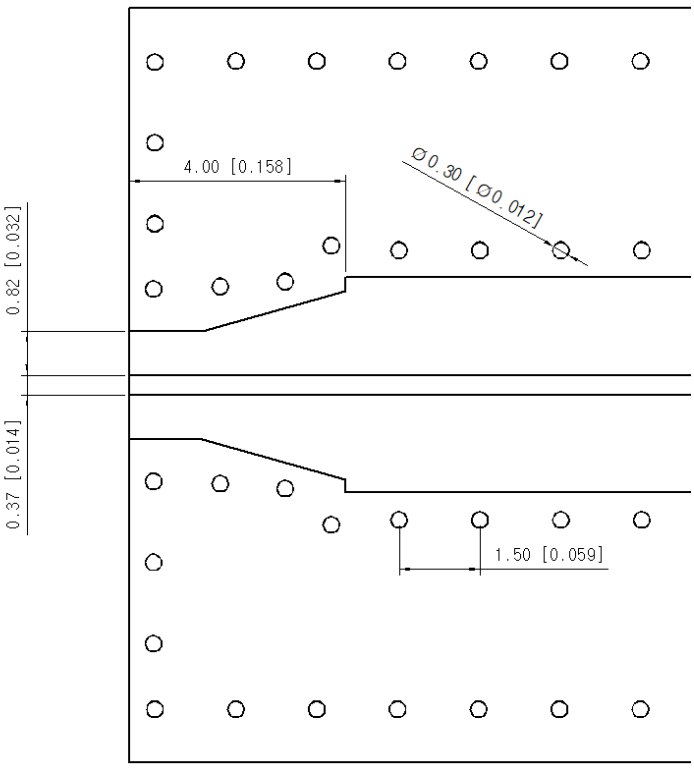


Recommended Patten

RO4350B 10 mil Microstrip type

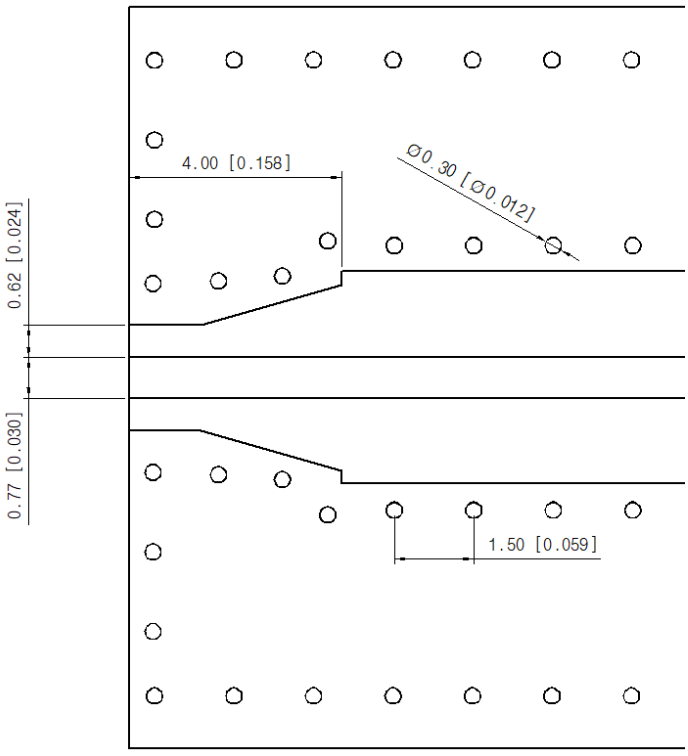


Du5880 5 mil Microstrip type



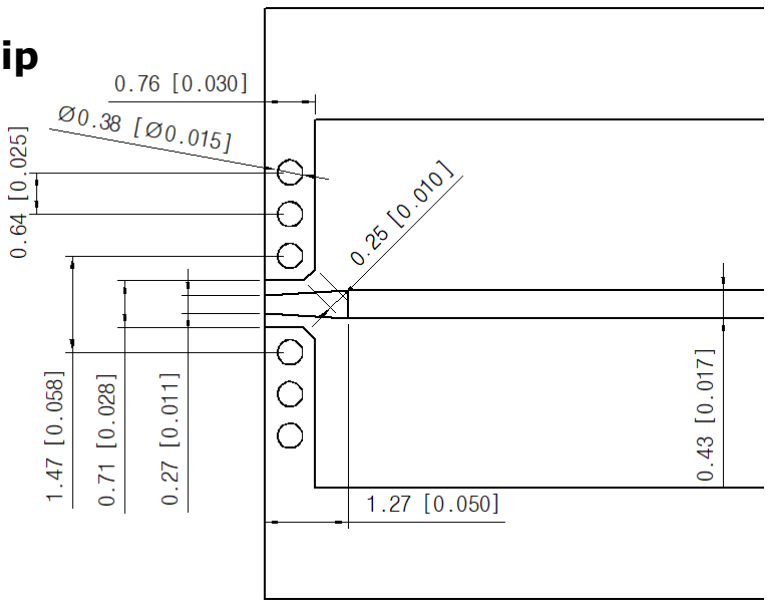
Recommended Patten

Du5880 10 mil
Microstrip type

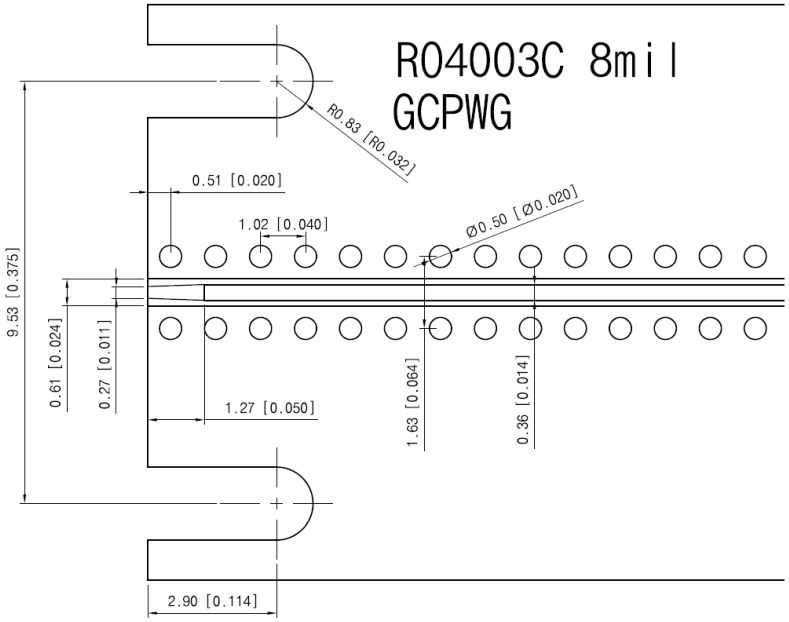


Recommended Patten

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