



**SM1109**

## MAXIMUM RATING

- Input Power Level: 10dBm
- DC Voltage : 5V
- Operating Temperature: -30°C to +85°C
- Storage Temperature: -40°C to +100°C
- Moisture Sensitivity Level: Level 1
- ESD 50V(MM) 100V(HBM)

## ELECTRICAL CHARACTERISTICS

Terminating source impedance(Unbalanced)<sup>(1)</sup> :  $Z_s = 50 \Omega$

Terminating load impedance(Unbalanced)<sup>(1)</sup> :  $Z_L = 50 \Omega$

Item	Unit	Min.	Typ.	Max.	Note
<b>Center Frequency</b> <b>Fc</b>	MHz	-	763	-	-
<b>Insertion Loss</b> (758~768 MHz) <b>IL</b>	dB	-	2.2	3.0	(*1)
<b>Amplitude ripple</b> (758~768 MHz)	dBp-p	-	0.7	2.0	-
<b>VSWR</b> (758~768 MHz)		-	1.8	2.1	-
<b>Attenuation</b> (reference level from 0 dB)					
50~ 698 MHz	dB	30	42	-	-
698 ~ 716 MHz	dB	35	49		
788 ~ 798 MHz	dB	44	49	-	Tx
2400 ~ 2500 MHz	dB	35	42	-	-
4900 ~ 6000 MHz	dB	30	37	-	-

(\*1) Specification of insertion loss excludes loss that comes from the test board.

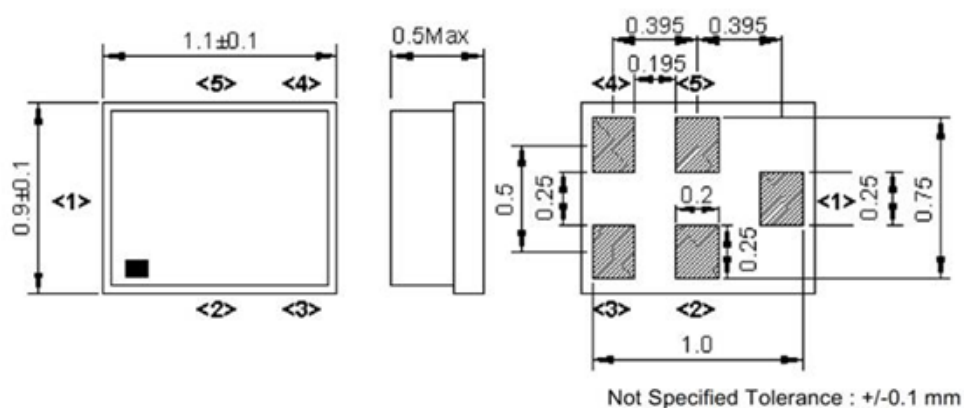


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

### NOTES:

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

## OUTLINE DRAWING



## Pin assignment

Pin No.	Pin name	Description
1	In	Input
2	GND	Ground
3	GND	Ground
4	Out	Output
5	GND	Ground

### Top View (Mass Production):



**Marking name : QL**

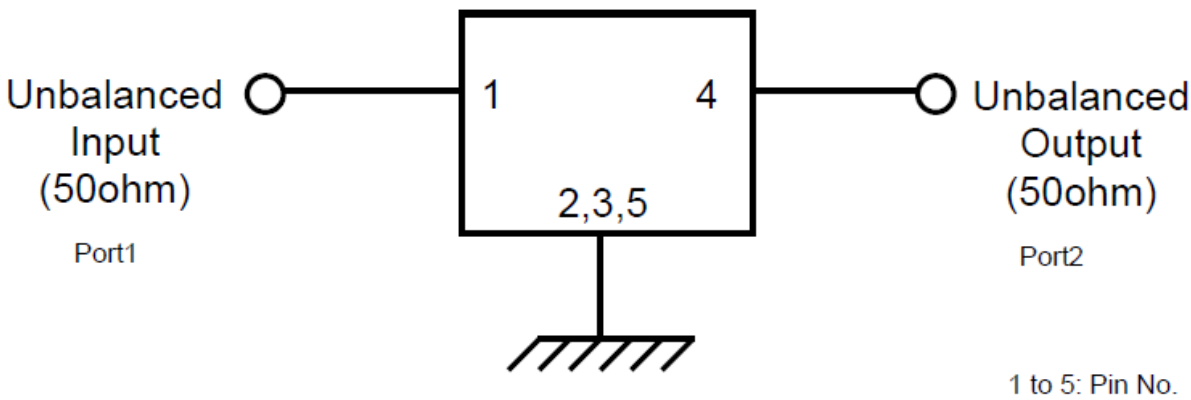
**△ : Date Code**

□ : Lot No. (Indicated by 0~9 or A to Z and a to z, except I, O, i, o and l)

**date Code: (4-year cycle)**

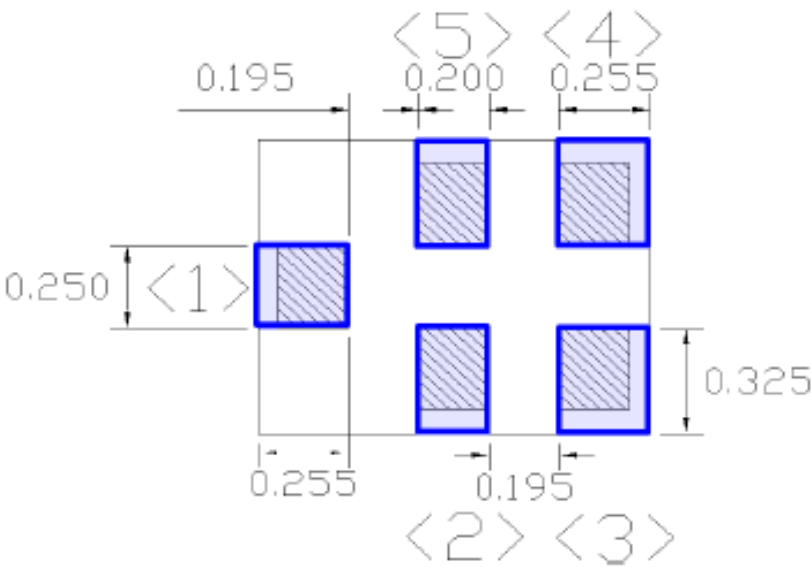
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017 / 2021	A	B	C	D	E	F	G	H	J	K	L	M
2018 / 2022	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019 / 2023	a	b	c	d	e	f	g	h	j	k	l	m
2020 / 2024	n	p	q	r	s	t	u	v	w	x	y	z

Evaluation Circuit



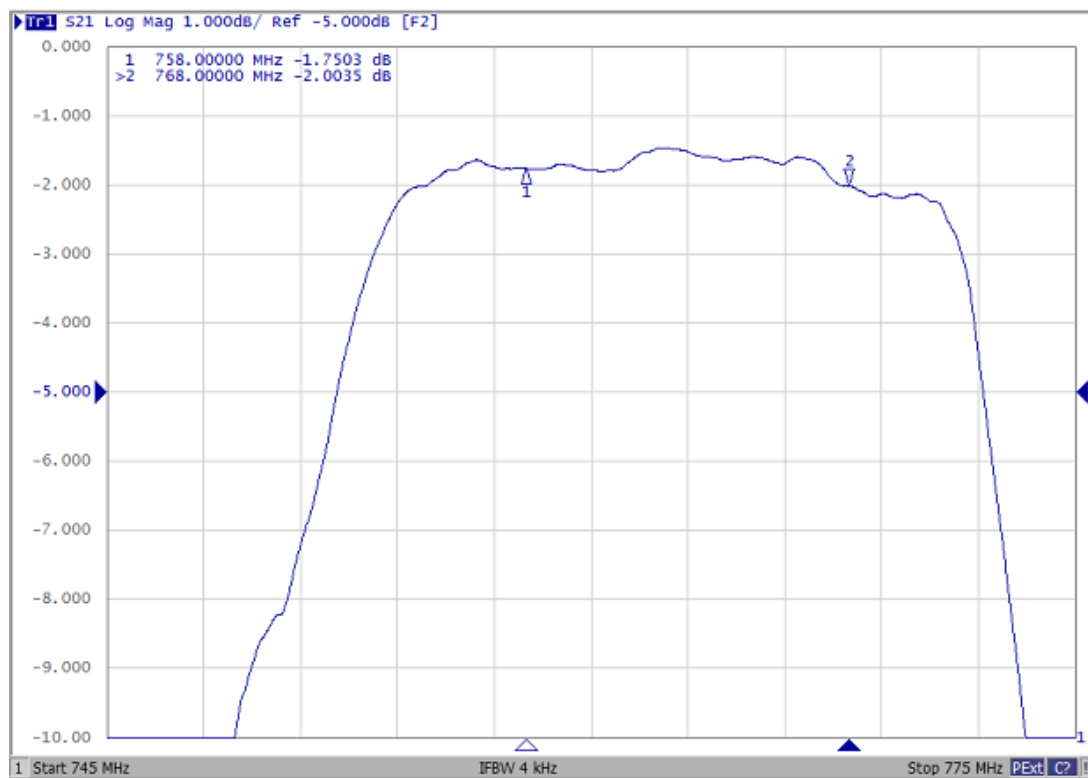
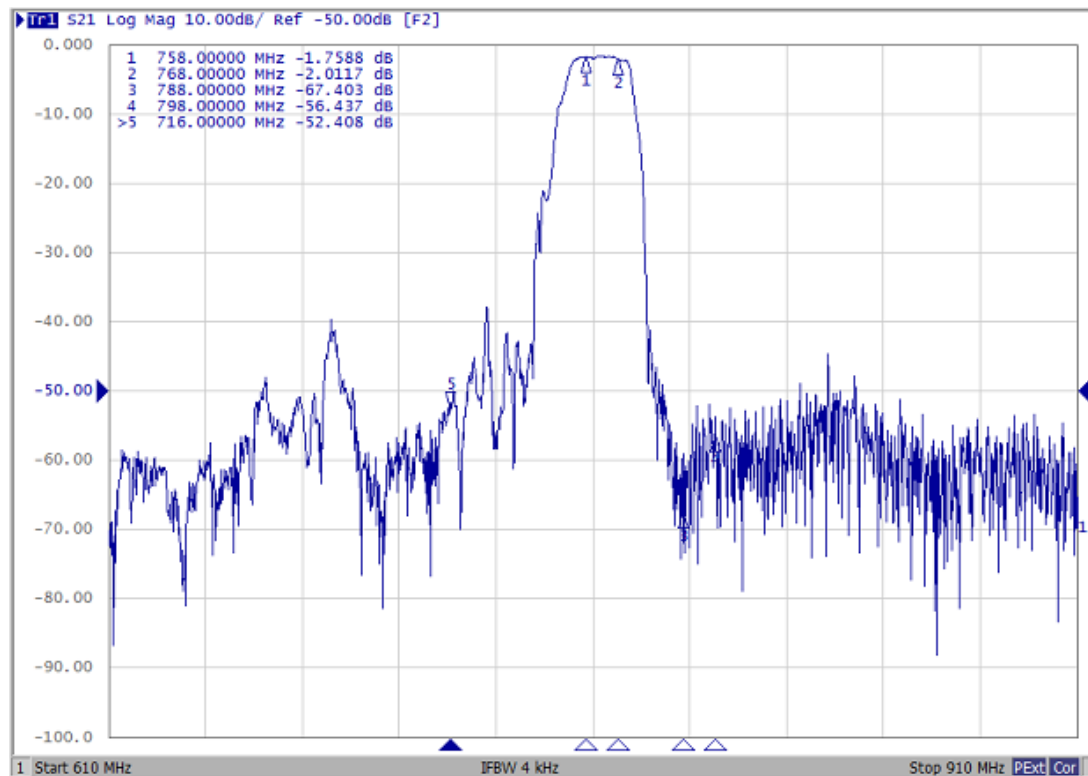
Source & Load Impedance: 50 Ω

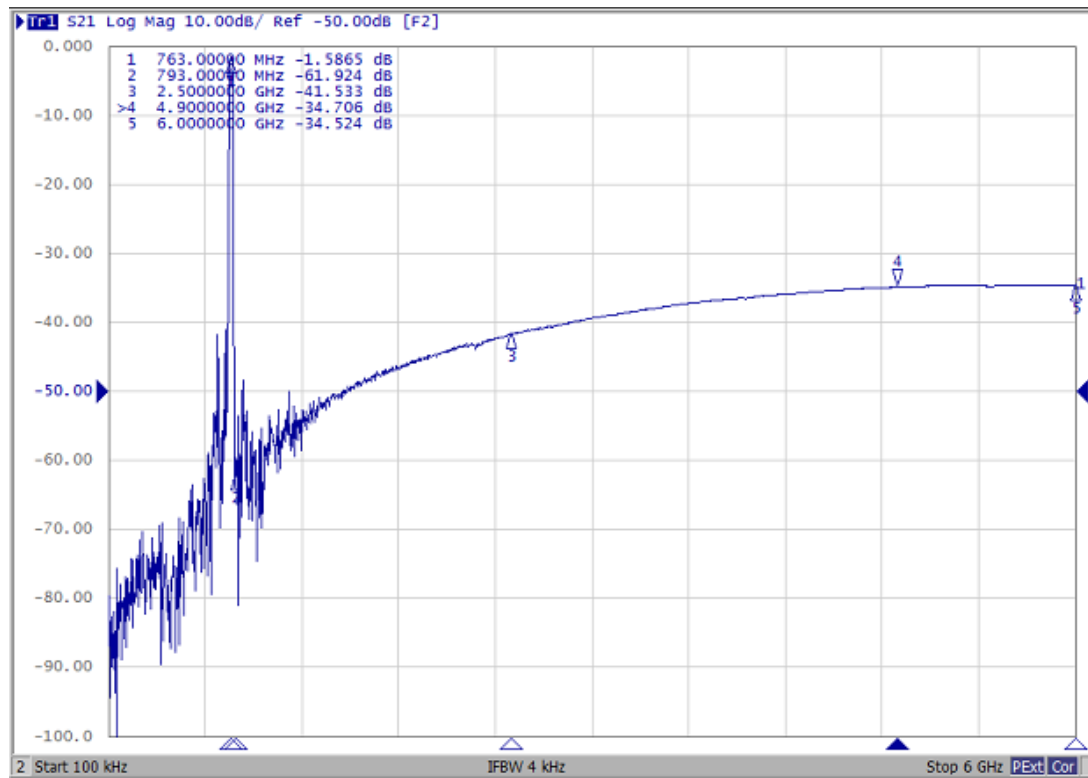
PCB Footprint



## Frequency Characteristics

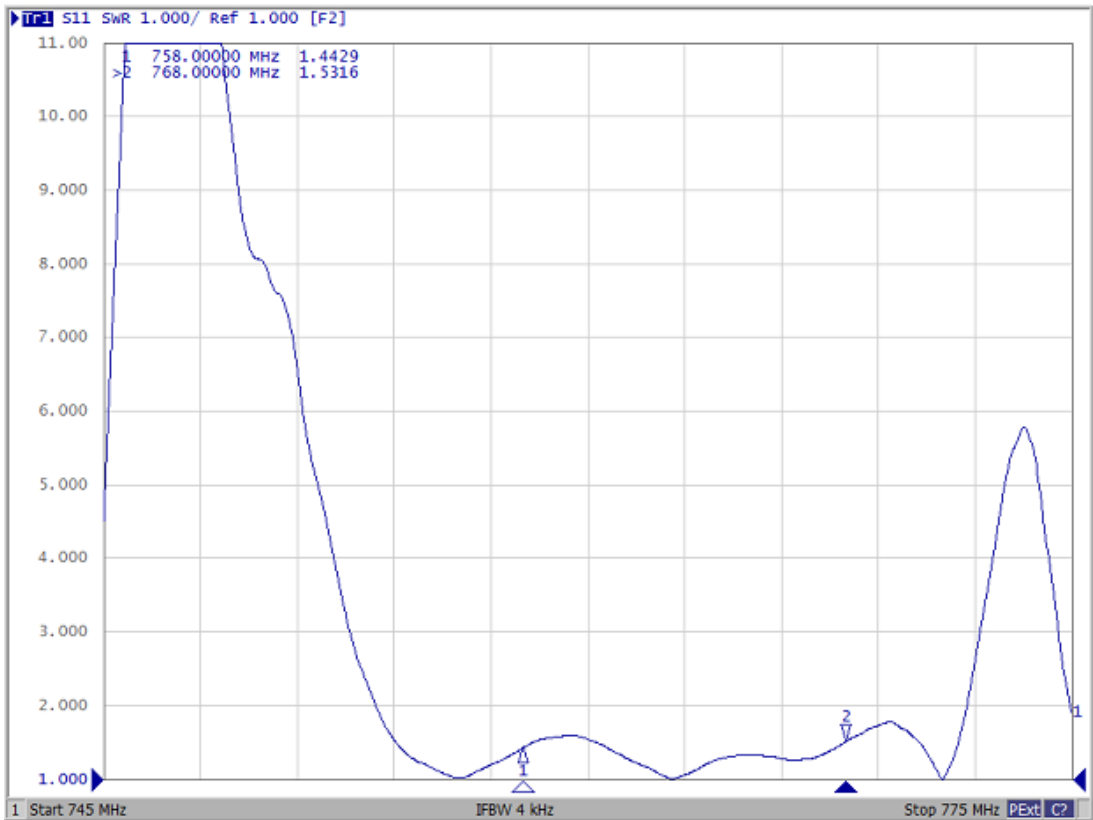
### Passband



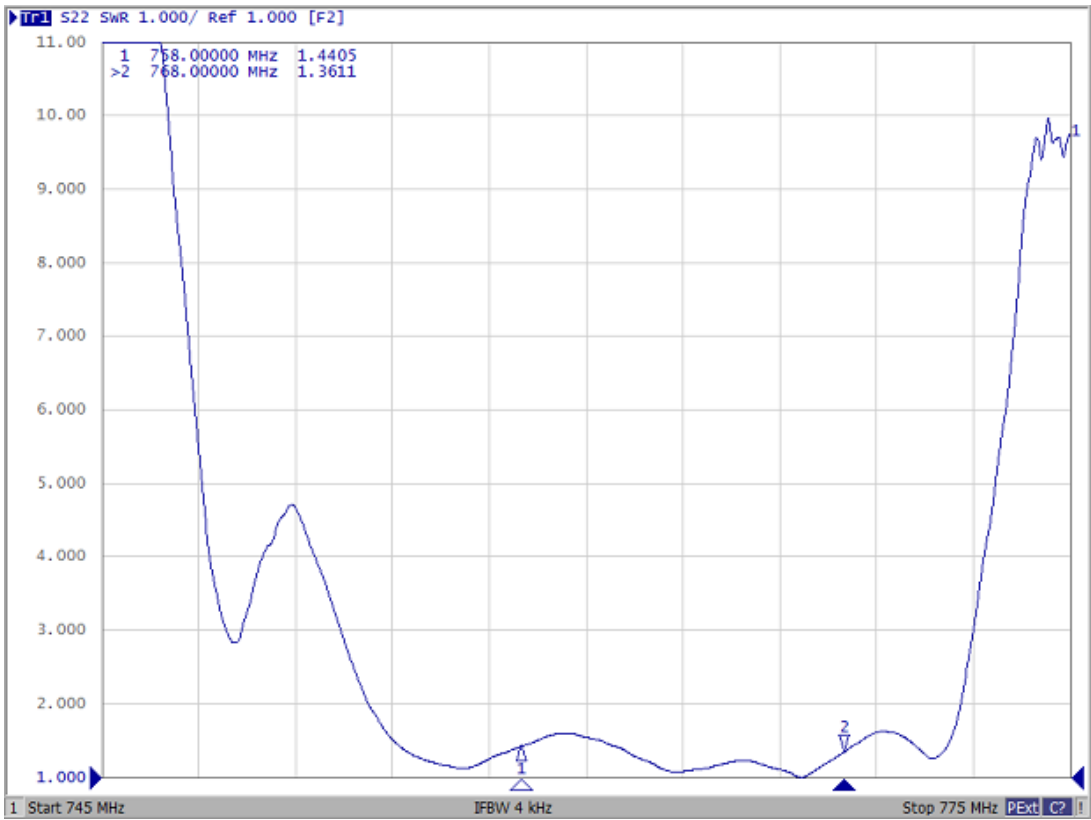


Reflection Functions :

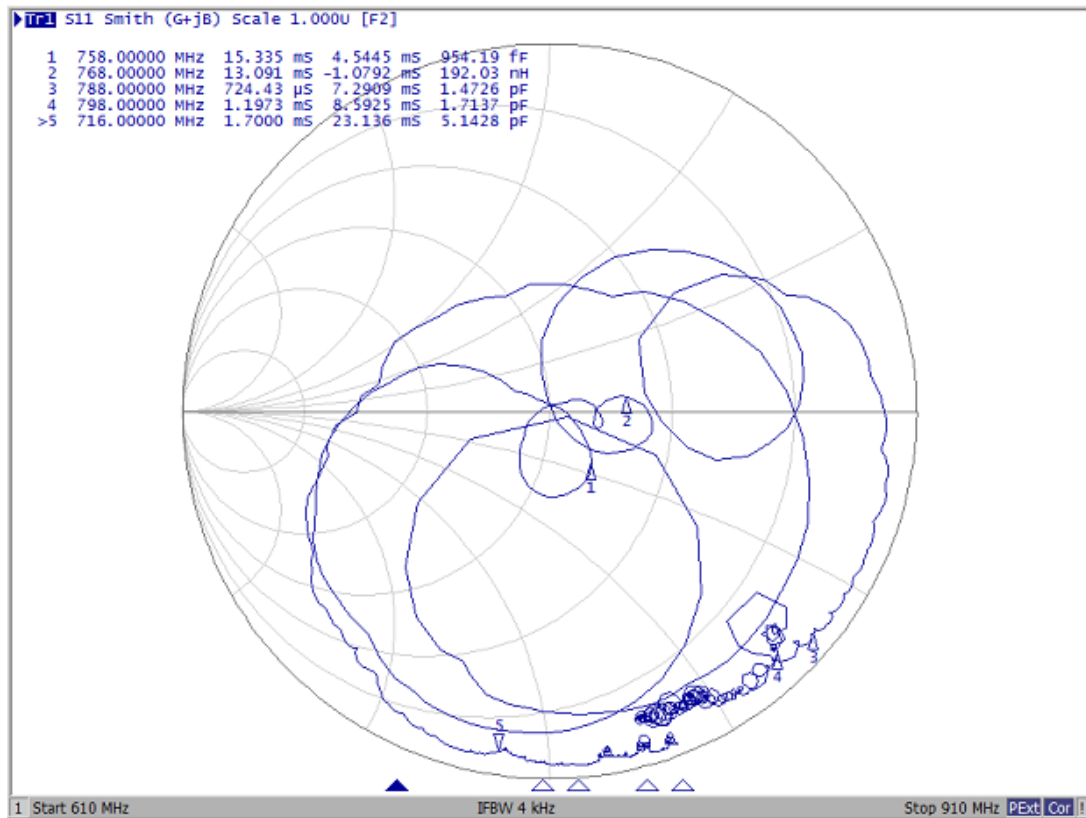
S11 VSWR



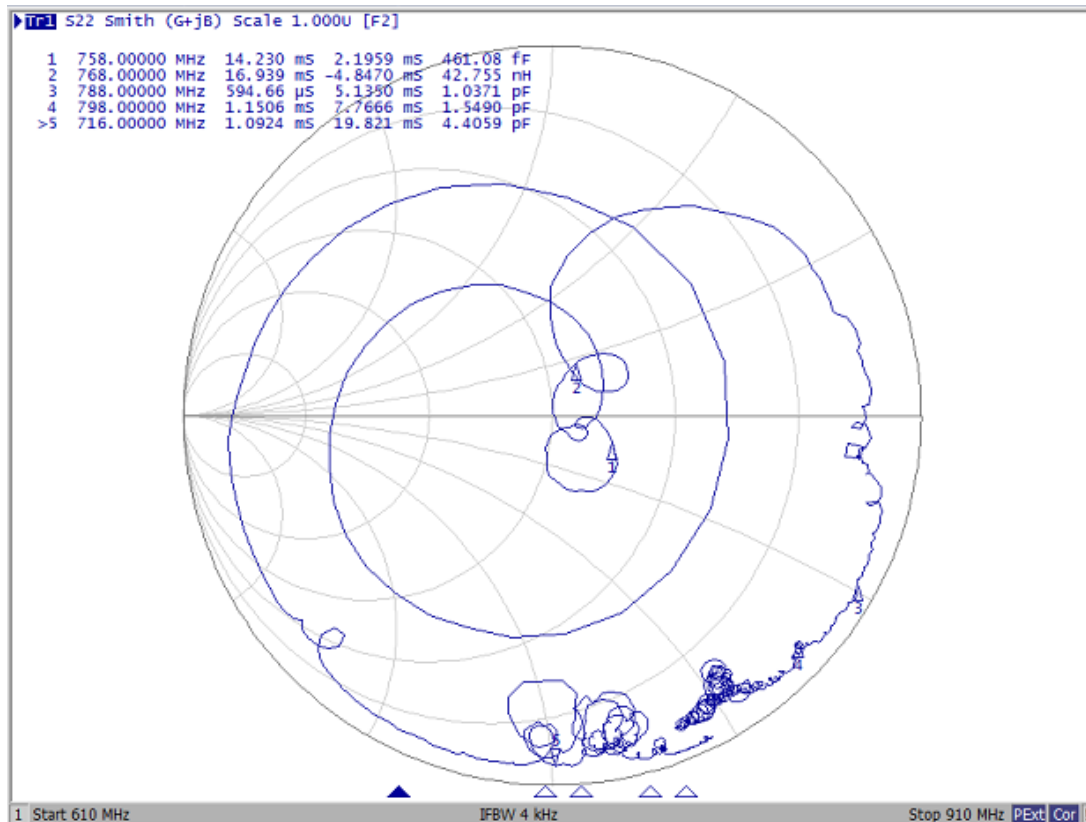
S22 VSWR



## S11 Smith Chart

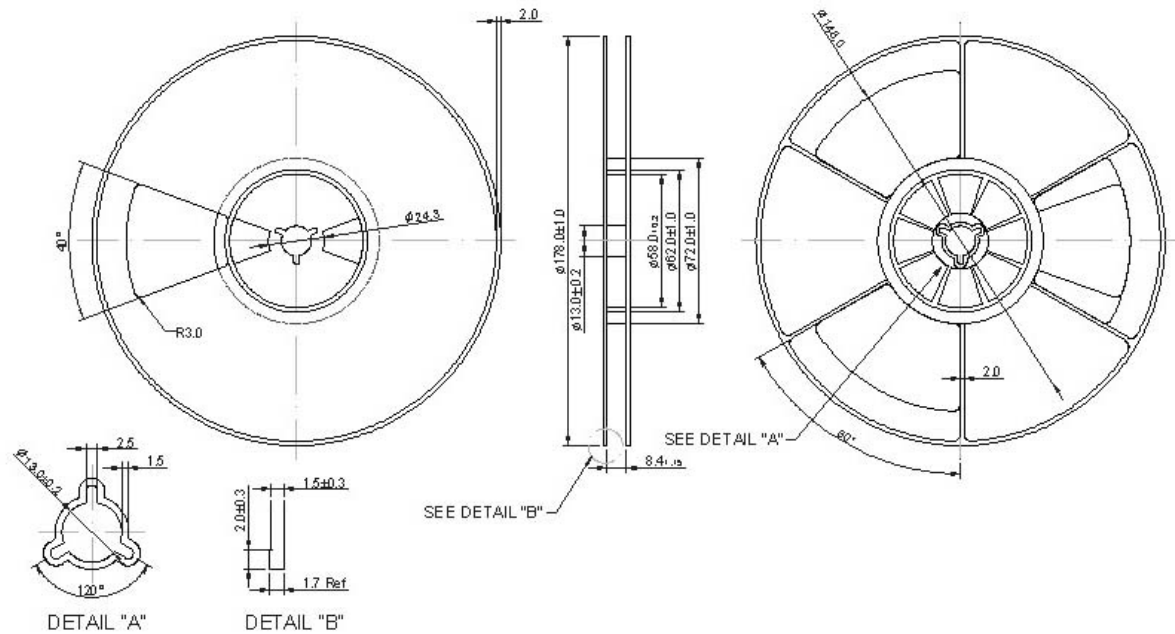


## S22 Smith Chart

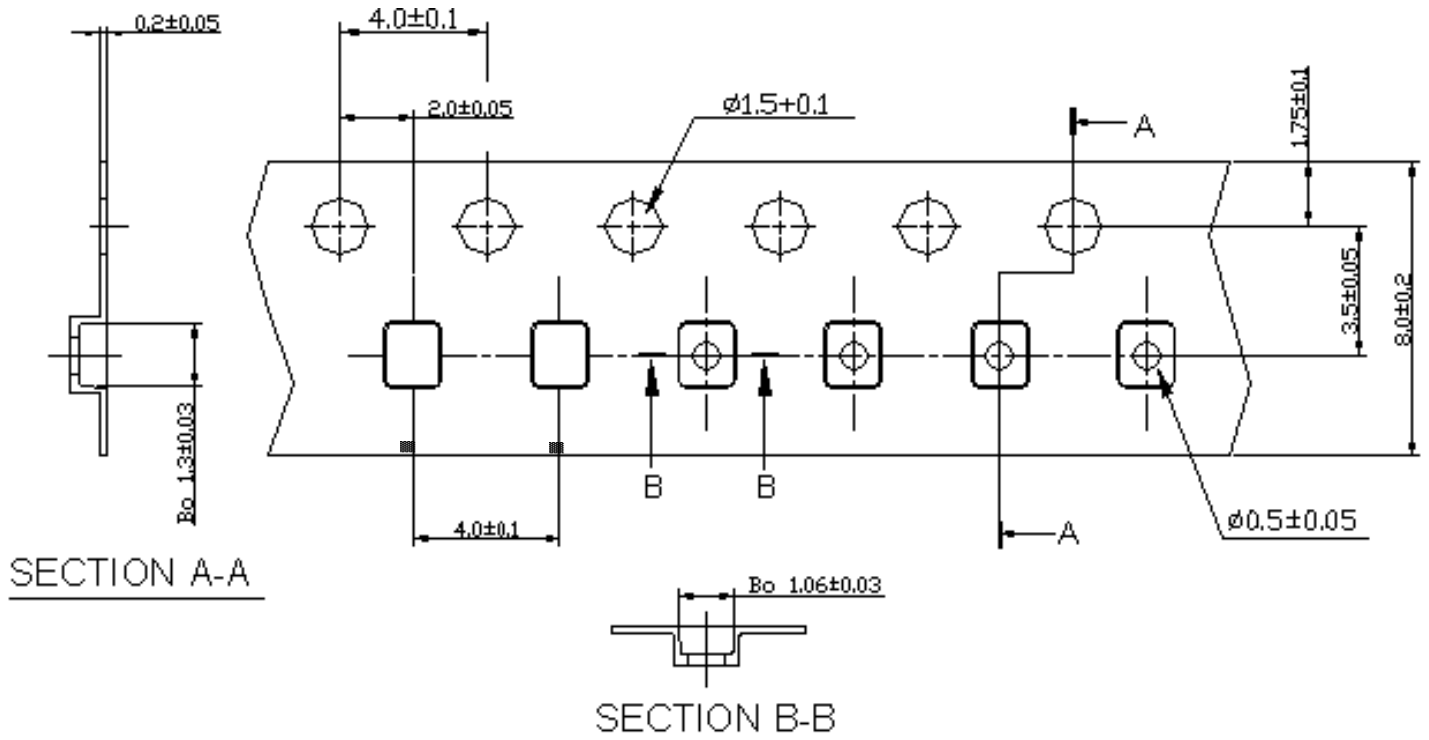


# PACKING REEL DIMENSION

Reel Count  
7" = 3000  
13" = 10,000



## TAPE DIMENSION



Direction of Feed

## RECOMMENDED REFLOW PROFILE

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 245~260°C peak (min. 10sec).
4. Time : 2 times.

