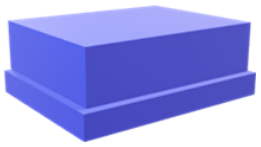
RFMi
BRAND OF AKOUSTIS

RoHS compliant

BF2004LA

2350 MHz BAW Filter



SM1109

MAXIMUM RATING

- Input Power Level:

@ Input Power(2300~2400MHz): 29dBm,CW , +50°C, 5000H
@ Input Power(2300~2390MHz): 29dBm,LTE QPSK 5MHz full RB(50% duty cycle),50°C, 5000H

- DC Voltage : 0V
- Operating Temperature: -40°C to +85°C
- Storage Temperature: -55°C to +125°C
- Moisture Sensitivity Level: Level 1
- ESD 50V(MM) 100V(HBM)
- AEC-Q200 Qualified

ELECTRICAL CHARACTERISTICS

Terminating source impedance : Zs = 50 // 5.1nH Ω(Single-ended)
Terminating load impedance : Z_L = 50 // 5.1nH Ω(Single-ended)

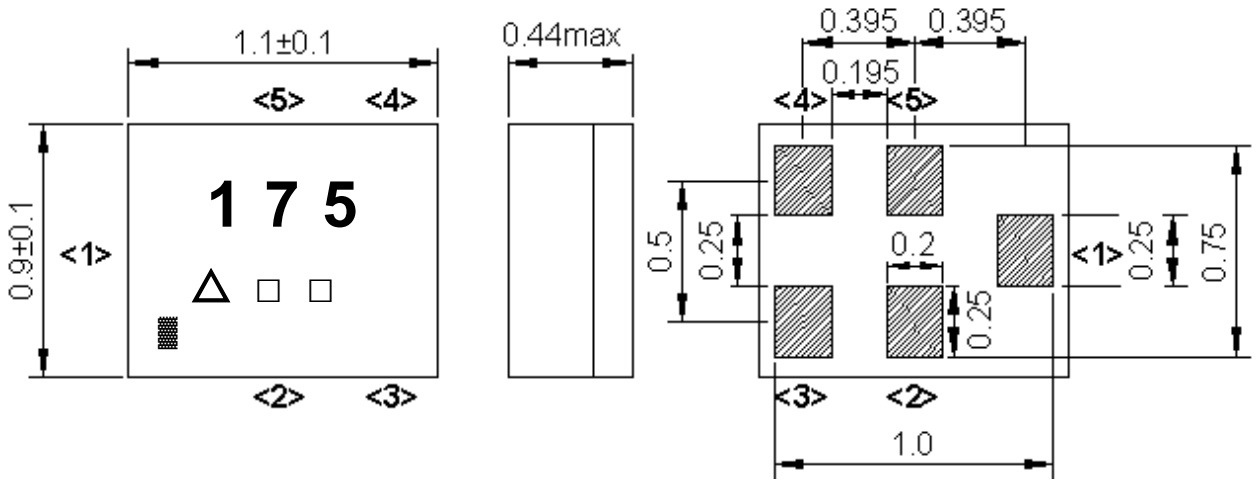
Item		Unit	Min.	Typ.	Max.	Note
Center Frequency	**Fc**	MHz	-	2350	-	-
Insertion Loss (2300~2400MHz)	**IL**	dB	-	1.4	2.0(*1)	Ta=+25°C
Insertion Loss (2300~2400MHz)	**IL**	dB	-	1.4	2.3(*1)	
Input VSWR (2300~2400MHz)			-	1.6	2.2	-
Output VSWR (2300~2400MHz)				1.6	2.2	
Attenuation (reference level from 0 dB)						

10 ~ 1565 MHz	dB	22	25	-	-
1565~ 1606 MHz	dB	22	25	-	-
2426 ~ 2463 MHz	dB	27	49	-	Ta=-20to+25°C-
	dB	45	49		Ta=-25to+85°C
4600 ~ 4800 MHz	dB	30	42	-	-
2423 ~ 2441 MHz	dB	30	56	-	Ta=-20to+25°C WiFi CH5(*2)
	dB	45	56	-	Ta=-25to+85°C WiFi CH5(*2)
2428 ~ 2446 MHz	dB	45	59	-	Ta=-25to+85°C WiFi CH6(*2)
2433 ~ 2451 MHz	dB	49	60	-	WiFi CH7(*2)
2438 ~ 2456 MHz	dB	45	60	-	WiFi CH8(*2)
2443 ~ 2461 MHz	dB	45	60	-	WiFi CH9(*2)
2448 ~ 2466 MHz	dB	45	59	-	WiFi CH10(*2)
2453 ~ 2471 MHz	dB	43	55	-	WiFi CH11(*2)
2458 ~ 2476 MHz	dB	40	50	-	WiFi CH12(*2)
2463 ~ 2481 MHz	dB	38	46		WiFi CH13(*2)

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

(*2) Integrated attenuation over 18MHz CH BW.

OUTLINE



Not Specified Tolerance : +/-0.1 mm

Marking Descriptions

Marking name : 175

△ : Date Code

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

DateCode: Follow below table. (4-year cycle)

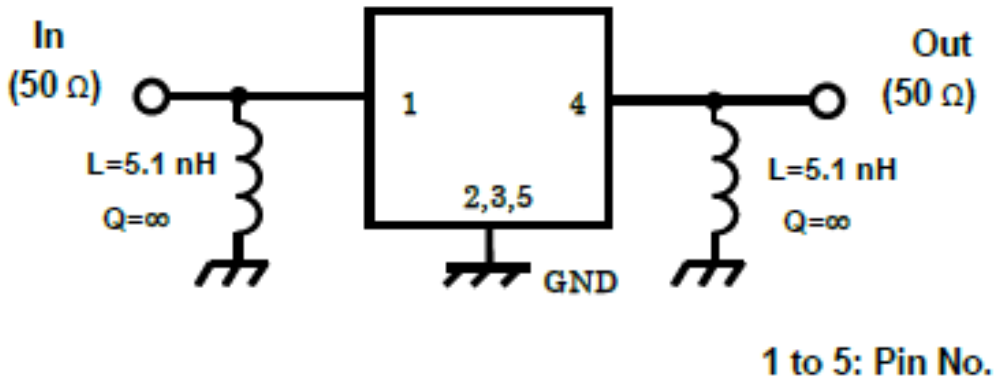
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017 / 2021	A	B	C	D	E	F	G	H	J	K	L	M
2018 / 2022	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019 / 2023	a	b	c	d	e	f	g	h	j	k	l	m
2020 / 2024	n	p	q	r	s	t	u	v	w	x	y	z

Pin assignment

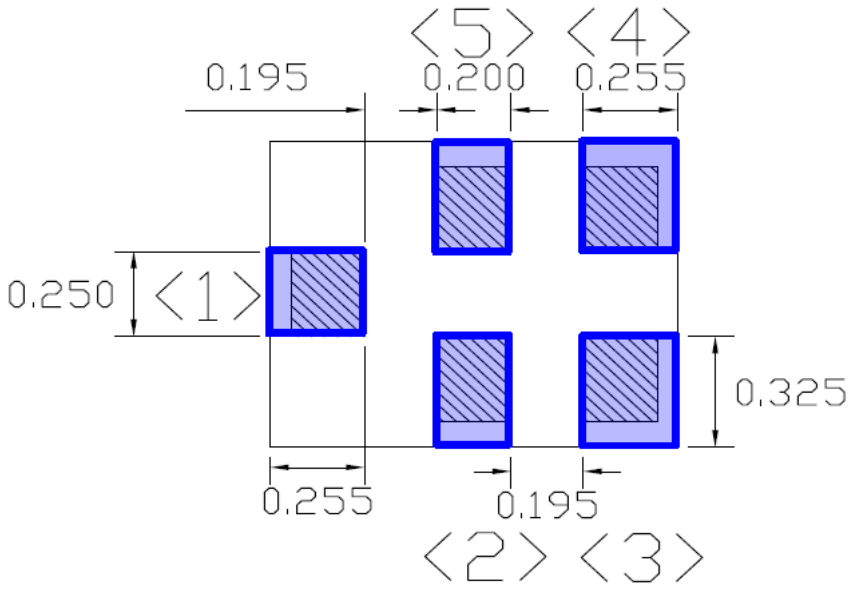
Pin No.	Pin name	Description
1	In	Input
2	GND	Ground
3	GND	Ground
4	Out	Output
5	GND	Ground

Figure 1. Dimensions and Pin assignment

MEASUREMENT CIRCUIT

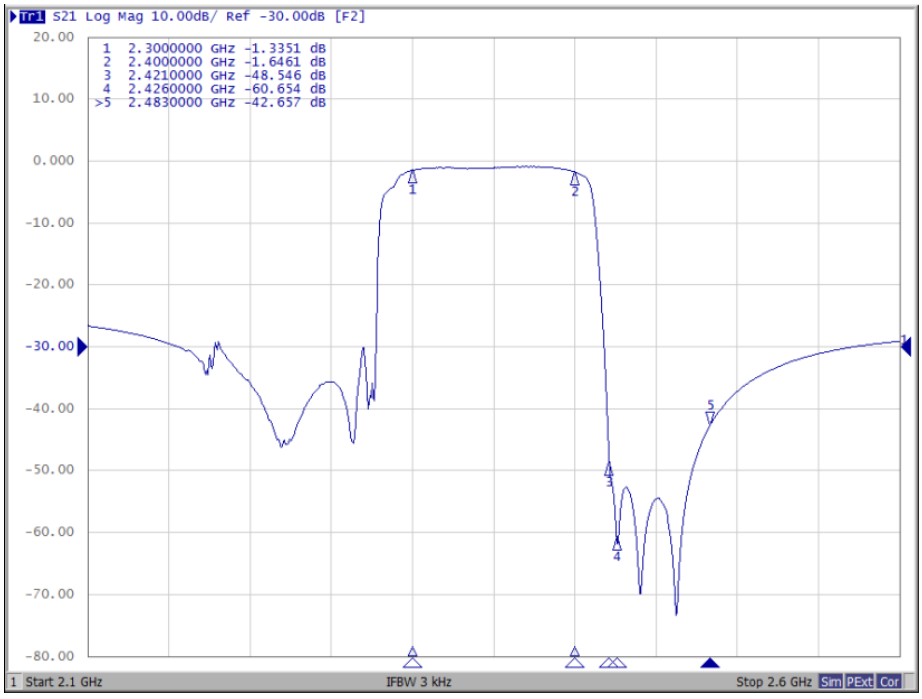


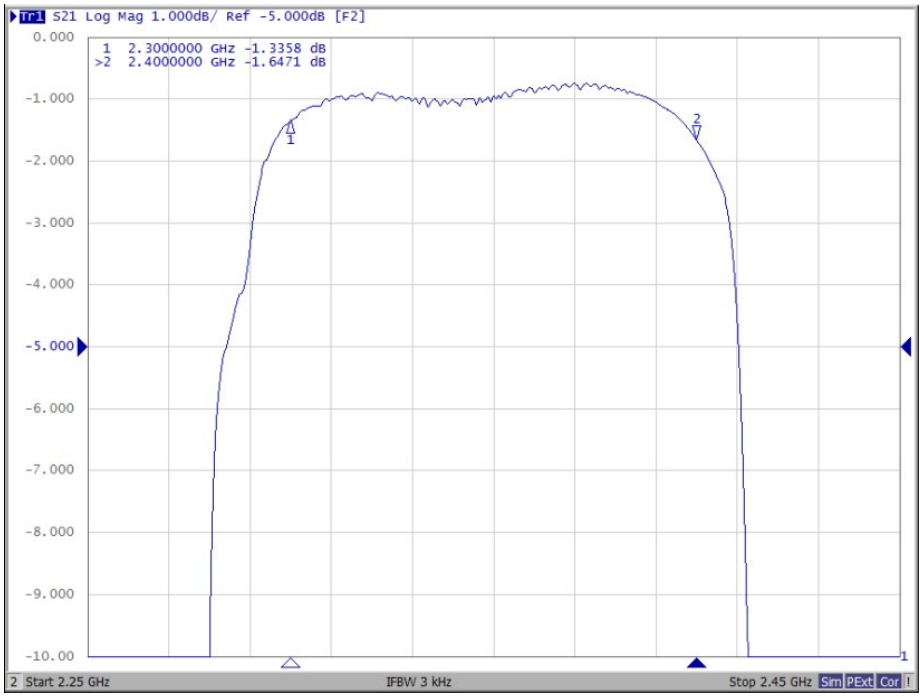
PCB Footprint

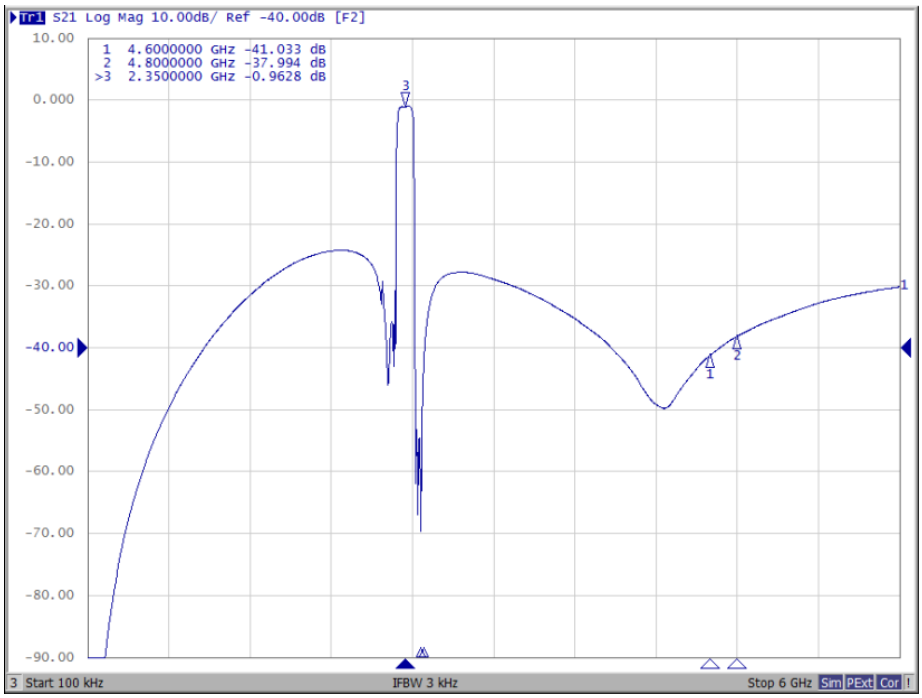


Frequency Characteristics

Passband

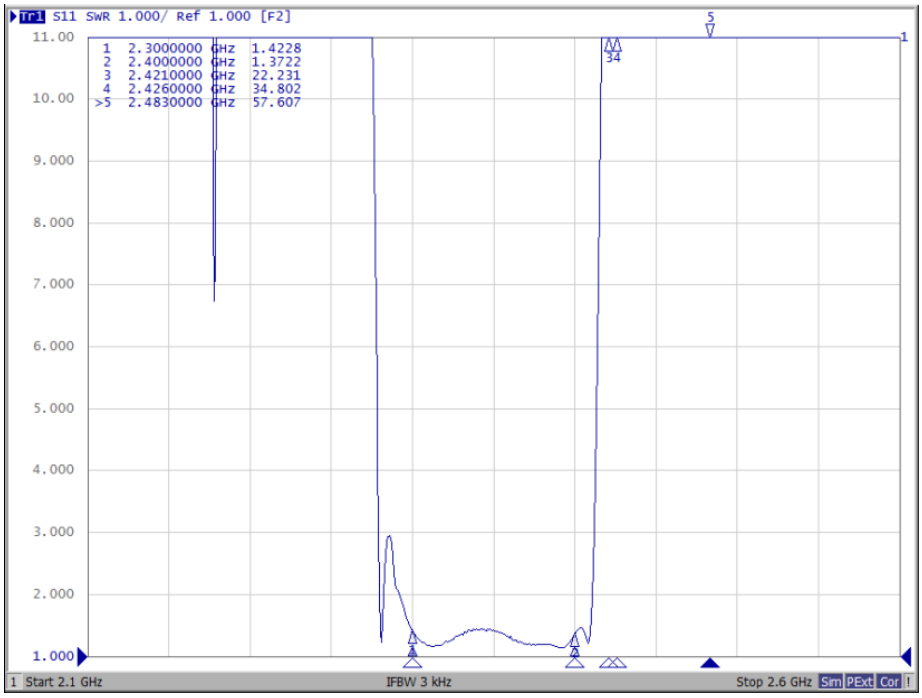




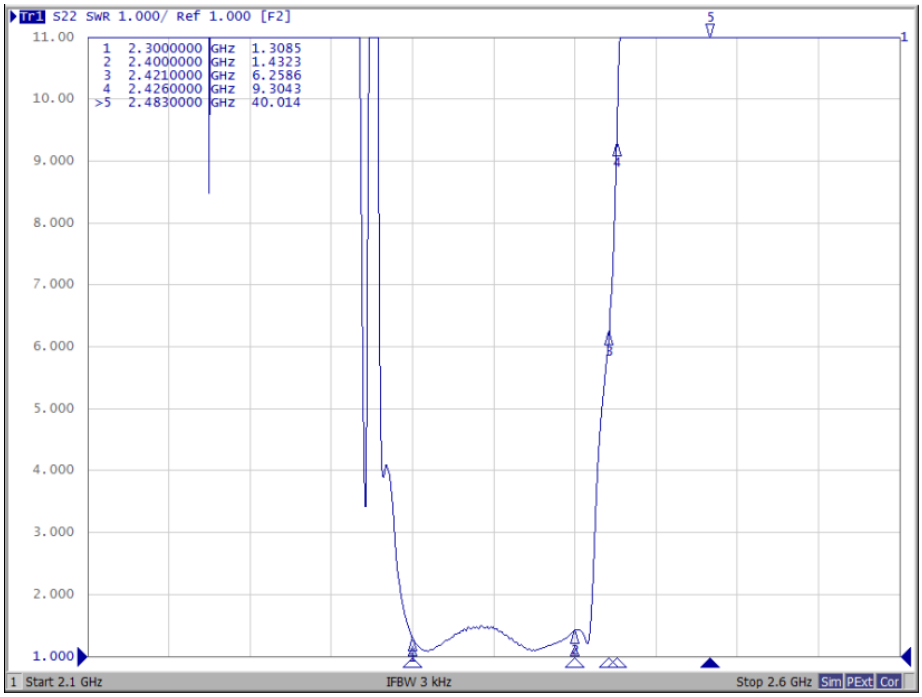

Tr1 S21 Log Mag 10.00dB/ Ref -40.00dB [F2]
1 4.6000000 GHz -41.033 dB
2 4.8000000 GHz -37.994 dB
>3 2.3500000 GHz -0.9628 dB
10.00
0.000
-10.00
-20.00
-30.00
-40.00
-50.00
-60.00
-70.00
-80.00
-90.00
3 Start 100 kHz
IFBW 3 kHz
Stop 6 GHz
Sim PExt Cor

Reflection functions :

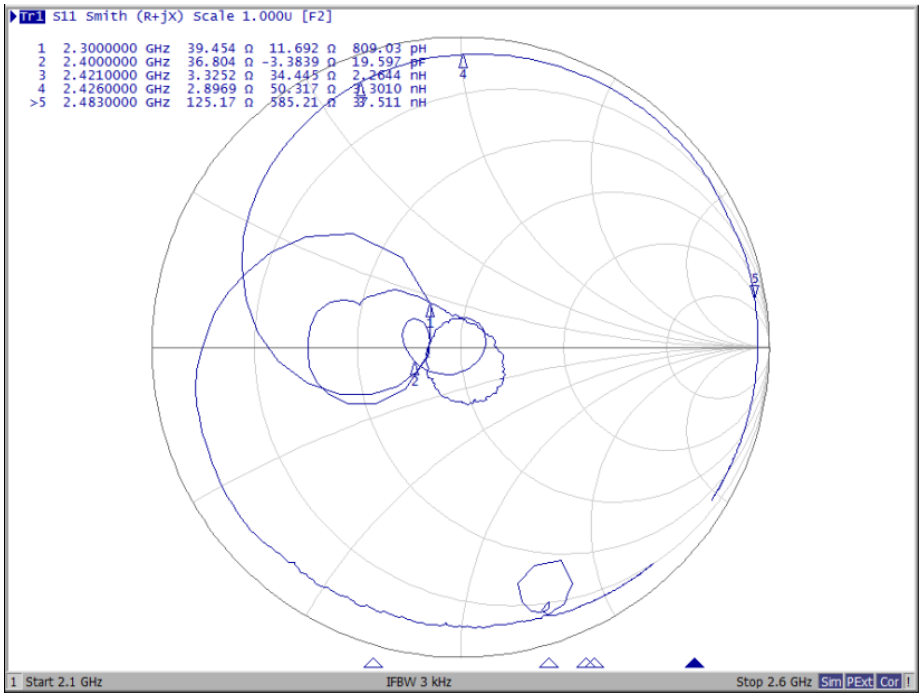
S11 VSWR



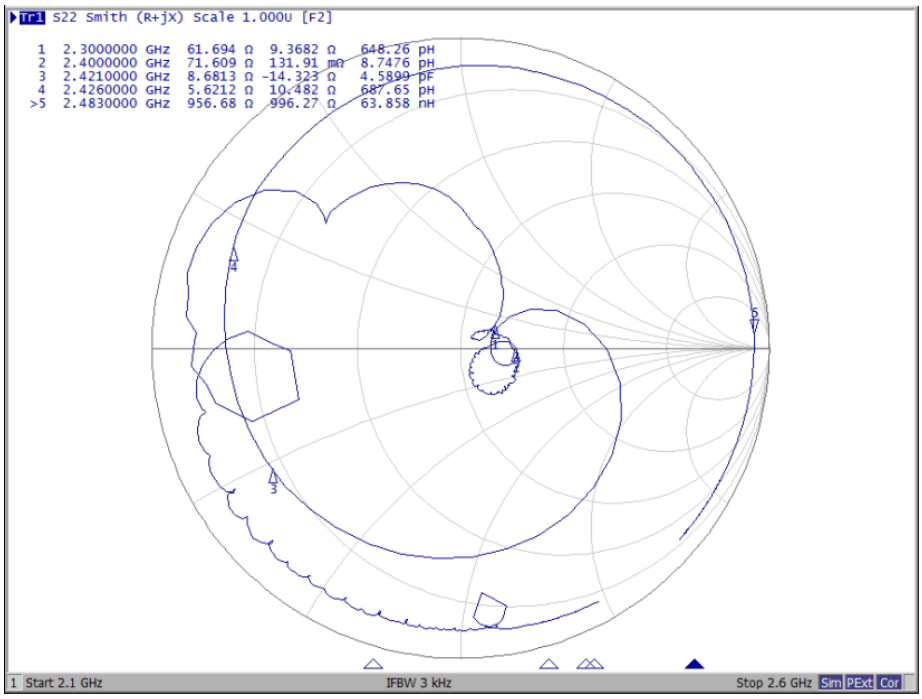
S22 VSWR



S11 Smith Chart



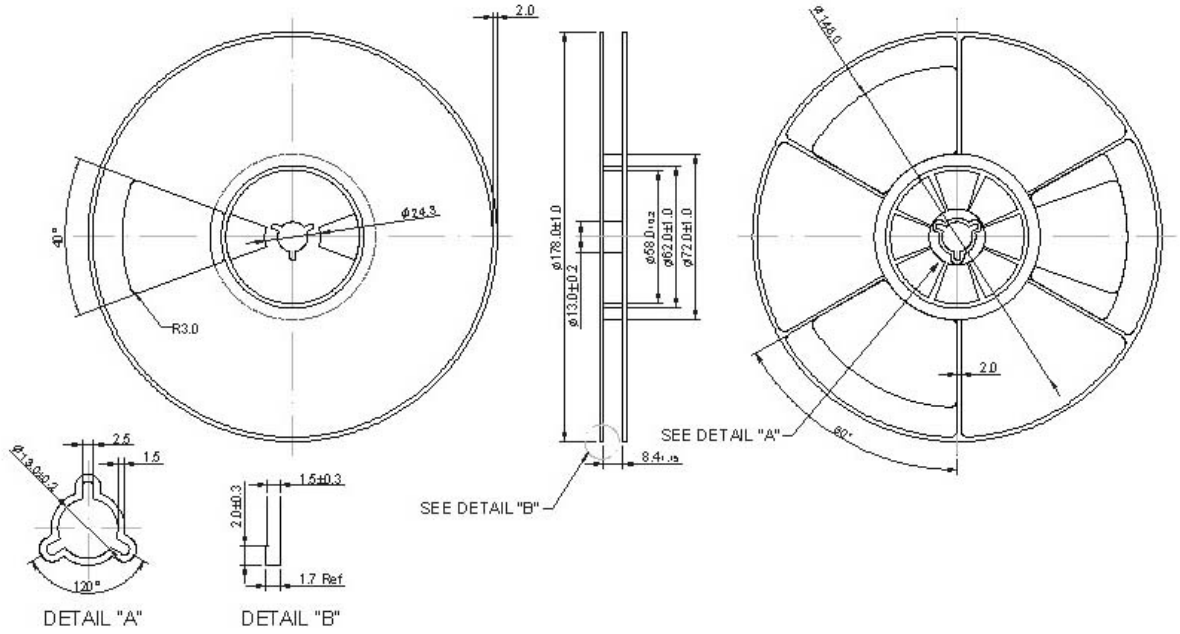
S22 Smith Chart



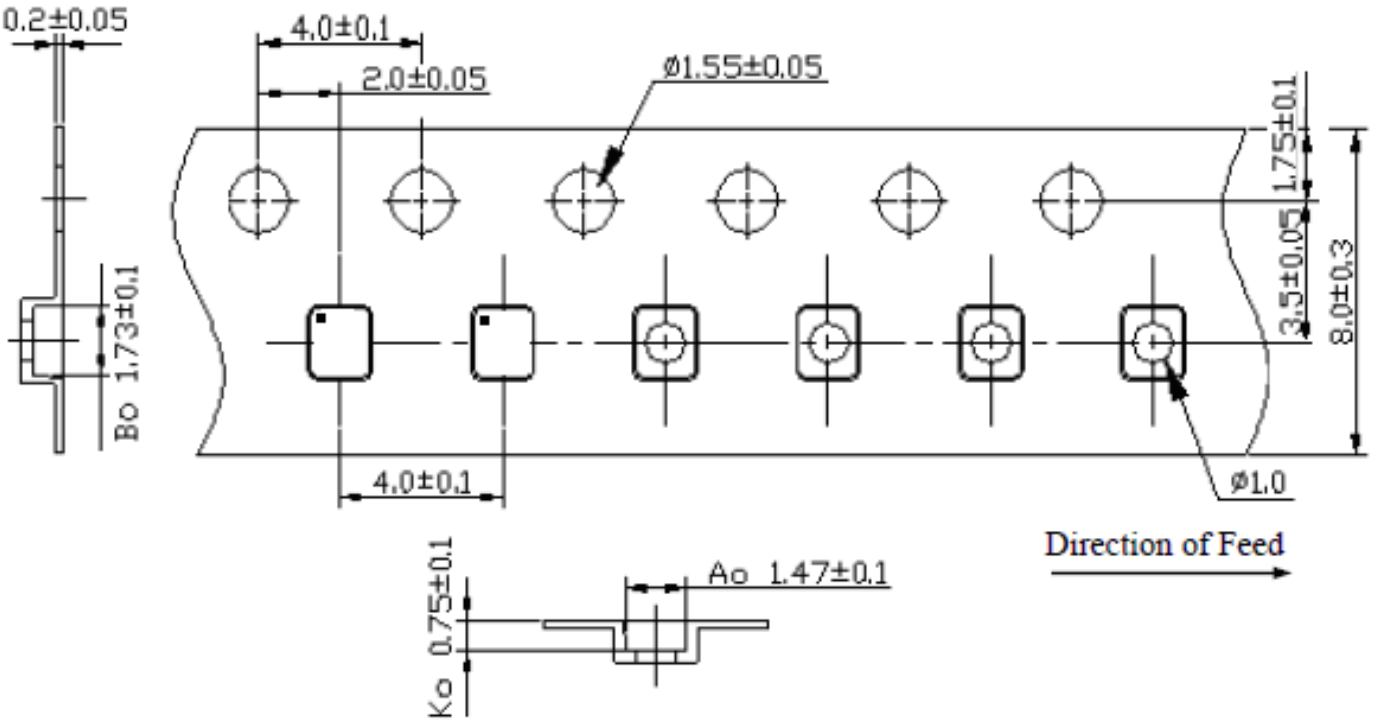
PACKING

REEL DIMENSION

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



TAPE DIMENSION



RECOMMENDED REFLOW PROFILE

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