



SM1109

MAXIMUM RATING:

- Operating temperature range: -40 °C to +85 °C
- Storage temperature range: -40 °C to +100 °C
- Input power : 10dBm
- Maximum DC Voltage: +/-5 V
- Moisture Sensitivity Level: Level 1 (MSL 1)
- ESD 100V(MM) 200V(HBM)
- AEC-Q200 Qualified

ELECTRICAL CHARACTERISTICS:

Terminating source impedance : $Z_s = 50 \Omega$

Terminating load impedance : $Z_L = 50 \Omega$

Parameters Description		Unit	Min	Typ	Max	Remarks
Insertion Loss	791~ 821MHz	Db(*1)	-	2.7	3.8	
Amplitude ripple	791~ 821MHz	dB	-	1.4	2.6	
VSWR	Input	791~ 821MHz	-	-	2.1	2.4
	Output	791~ 821MHz	-	-	2.1	2.4
Attenuation:						
832 ~ 862 MHz		dB	37	41	-	
1559 ~ 1607 MHz		dB	40	45	-	
1582 ~ 1642 MHz		dB	40	45	-	
2373 ~ 2463 MHz		dB	30	37	-	
2400 ~ 2500 MHz		dB	30	37	-	
3164 ~ 3284 MHz		dB	25	34	-	
3955 ~ 4105 MHz		dB	20	31	-	
4746 ~ 4926 MHz		dB	20	29	-	
4900 ~ 5950 MHz		dB	20	26	-	
5537 ~ 5747 MHz		dB	20	27	-	
6328 ~ 6568 MHz		dB	20	25	-	
7119 ~ 7389 MHz		dB	15	23	-	
Input impedance		Ω	50			single-ended
Output impedance		Ω	50			single-ended

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

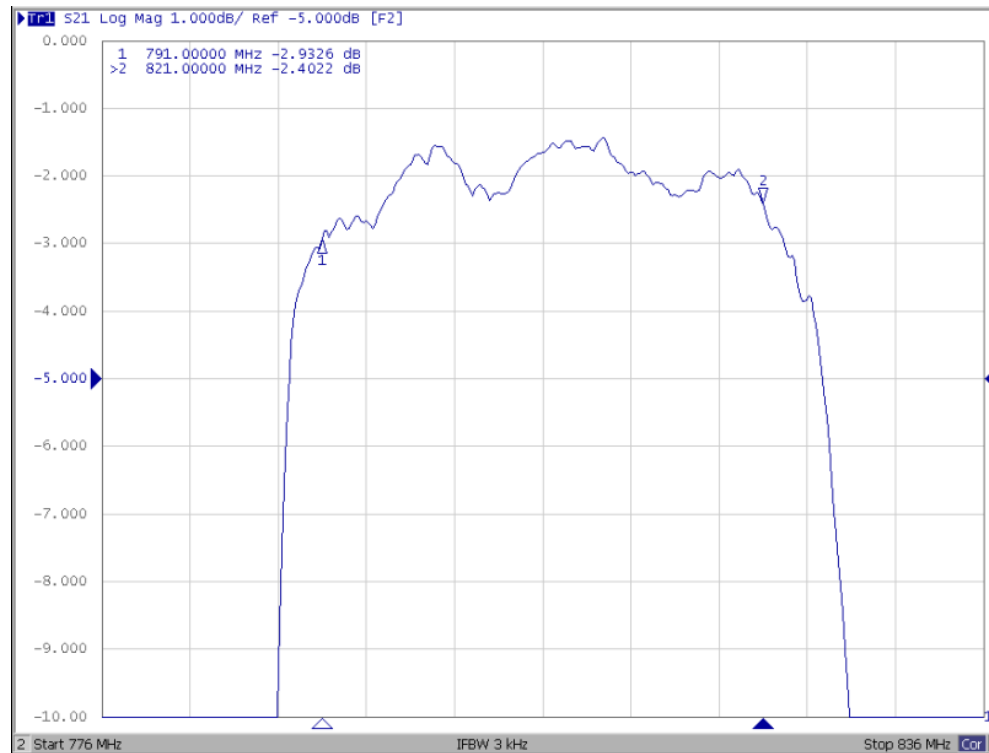
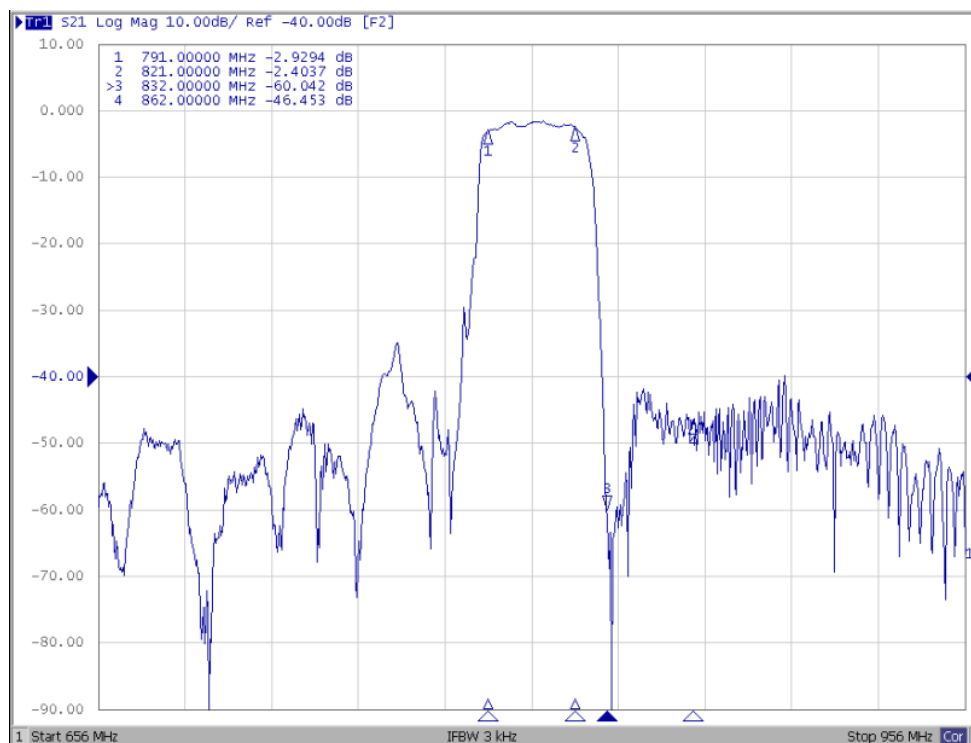
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling. NOTES:

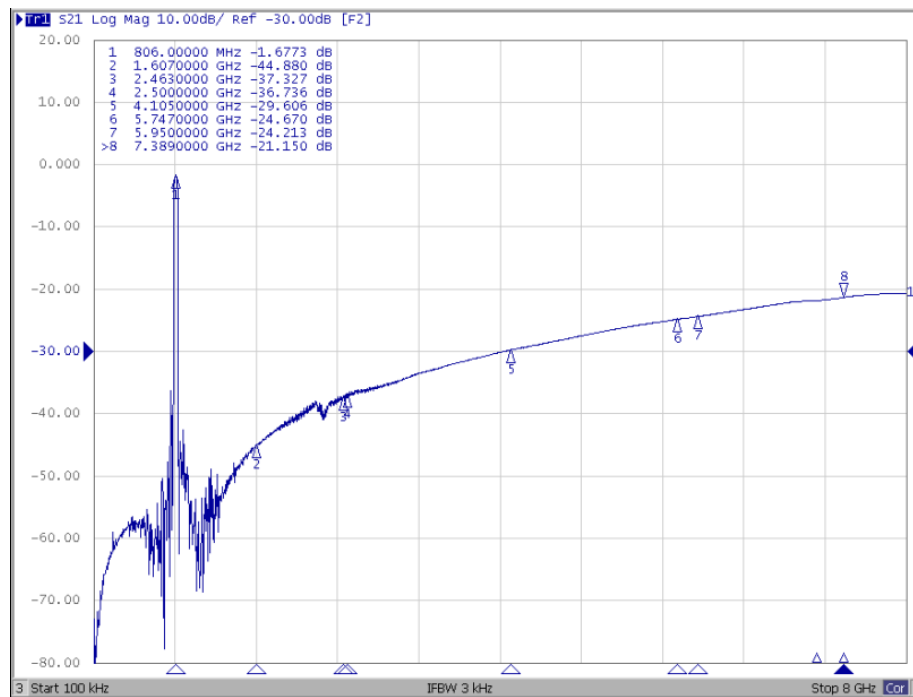


1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

FREQUENCY CHARACTERISTICS

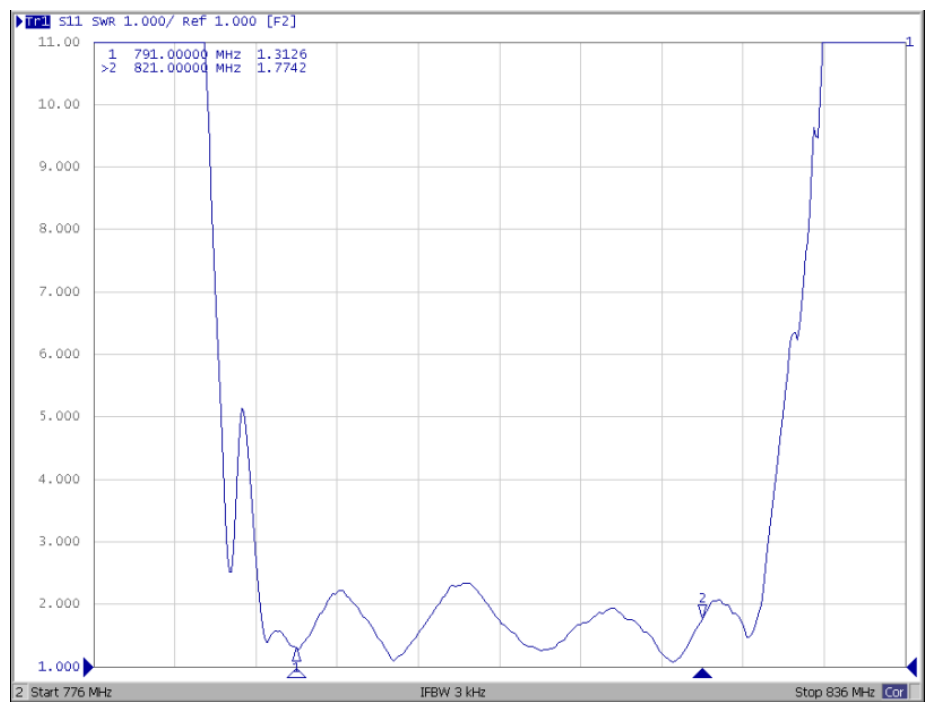
Passband



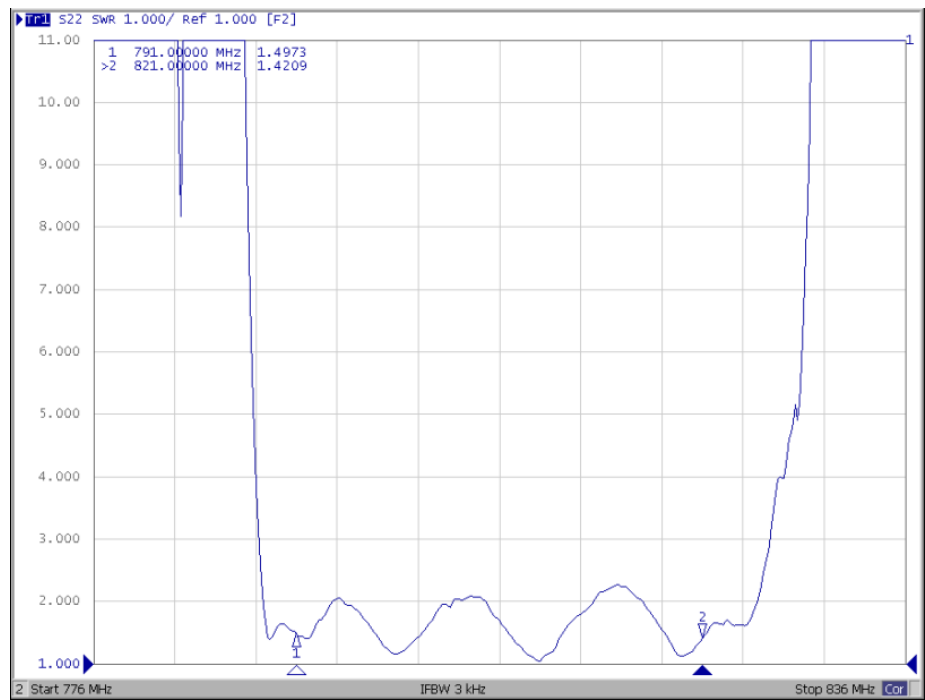


Reflection functions :

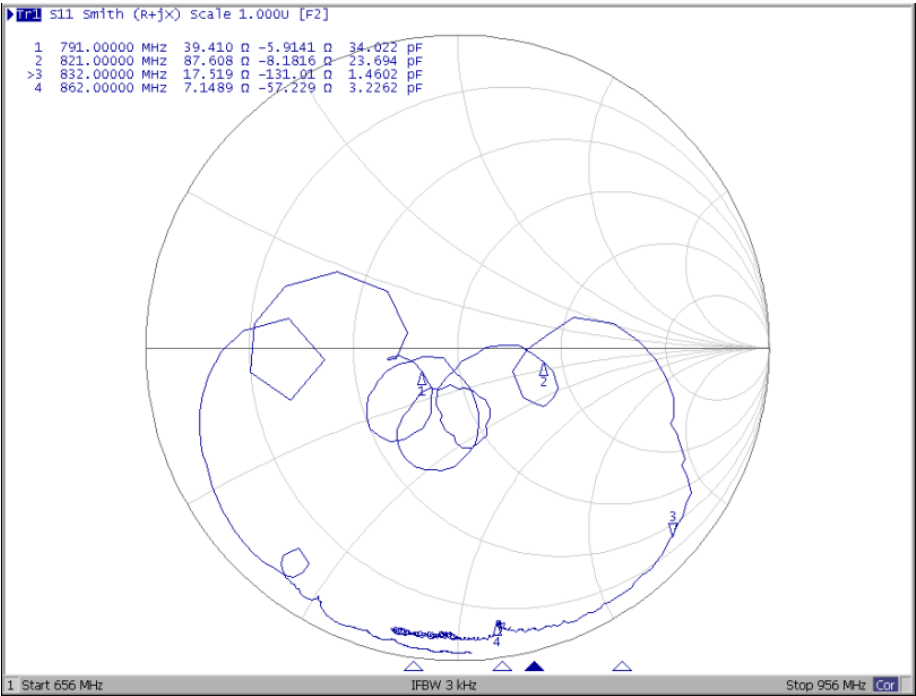
S11 VSWR



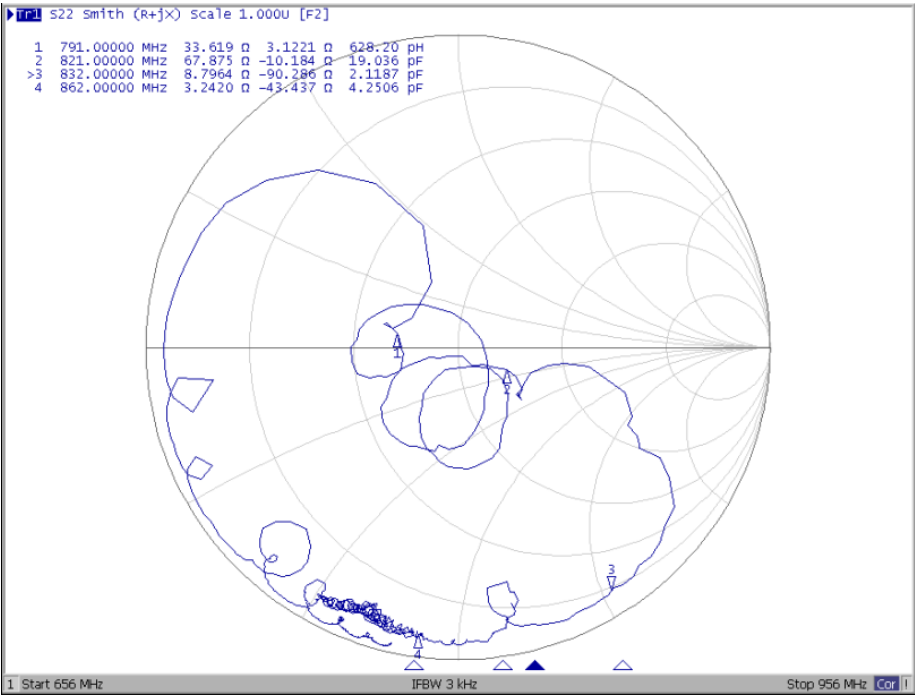
S22 VSWR



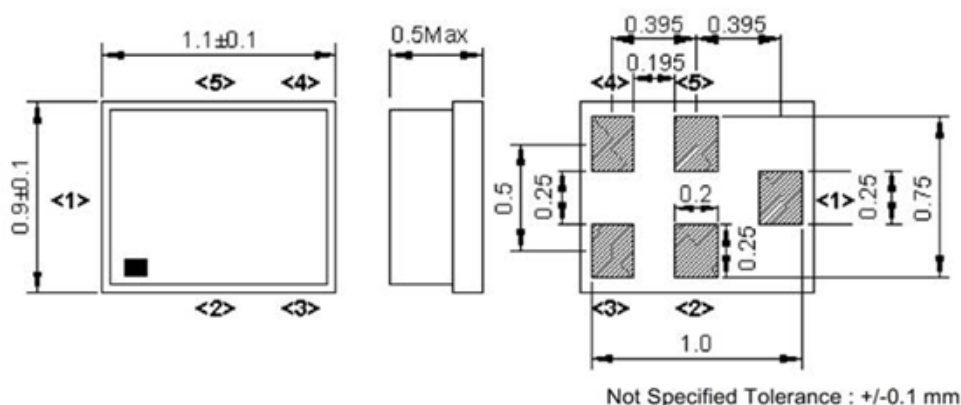
S11 Smith Chart



S22 Smith Chart



OUTLINE DRAWING



Unit: mm

Not Specified Tolerance : +/-0.1 mm

Pin Configuration

Pin No.	Symbol	Function
1	IN	Single-ended pin
2	GND	Ground
3	GND	Ground
4	OUT	Single-ended pin
5	GND	Ground

Top View (Sample Production):



Top View (Mass Production):



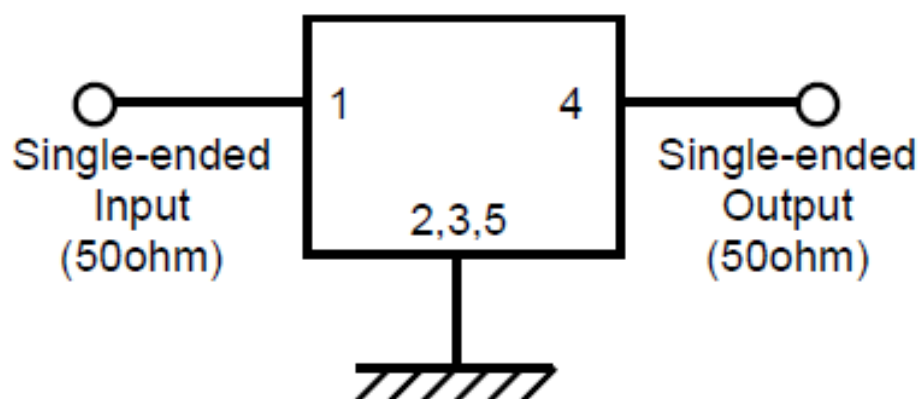
Δ : Date Code

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

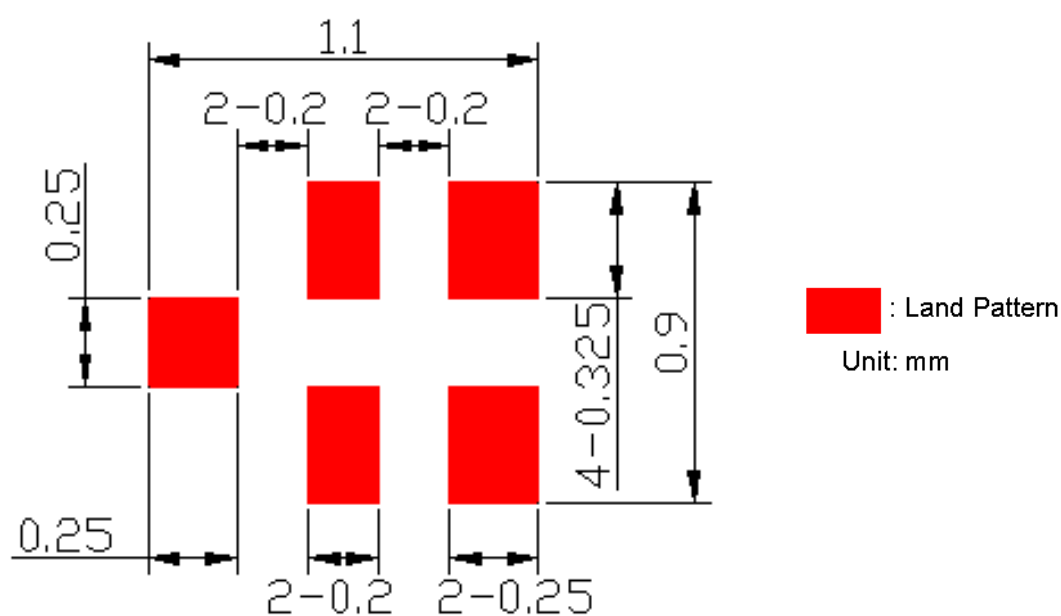
Date Code: Follow below table. (4-year cycle)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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
2021 / 2025	A	B	C	D	E	F	G	H	J	K	L	M
2022 / 2026	N	P	Q	R	S	T	U	V	W	X	Y	Z

Evaluation Circuit

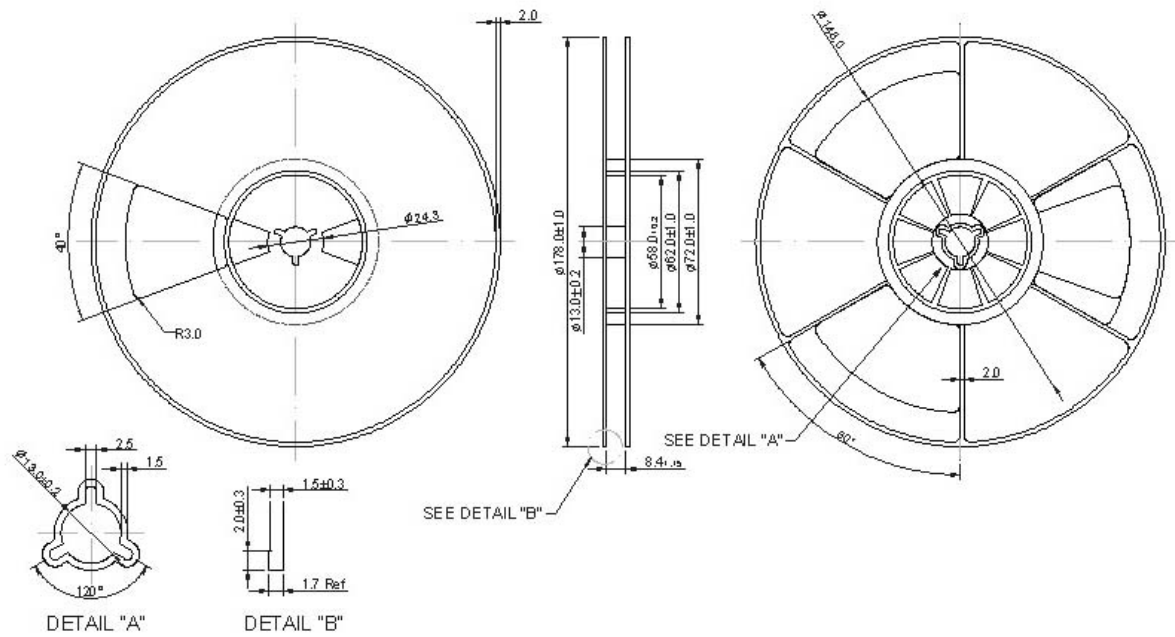


PCB Footprint

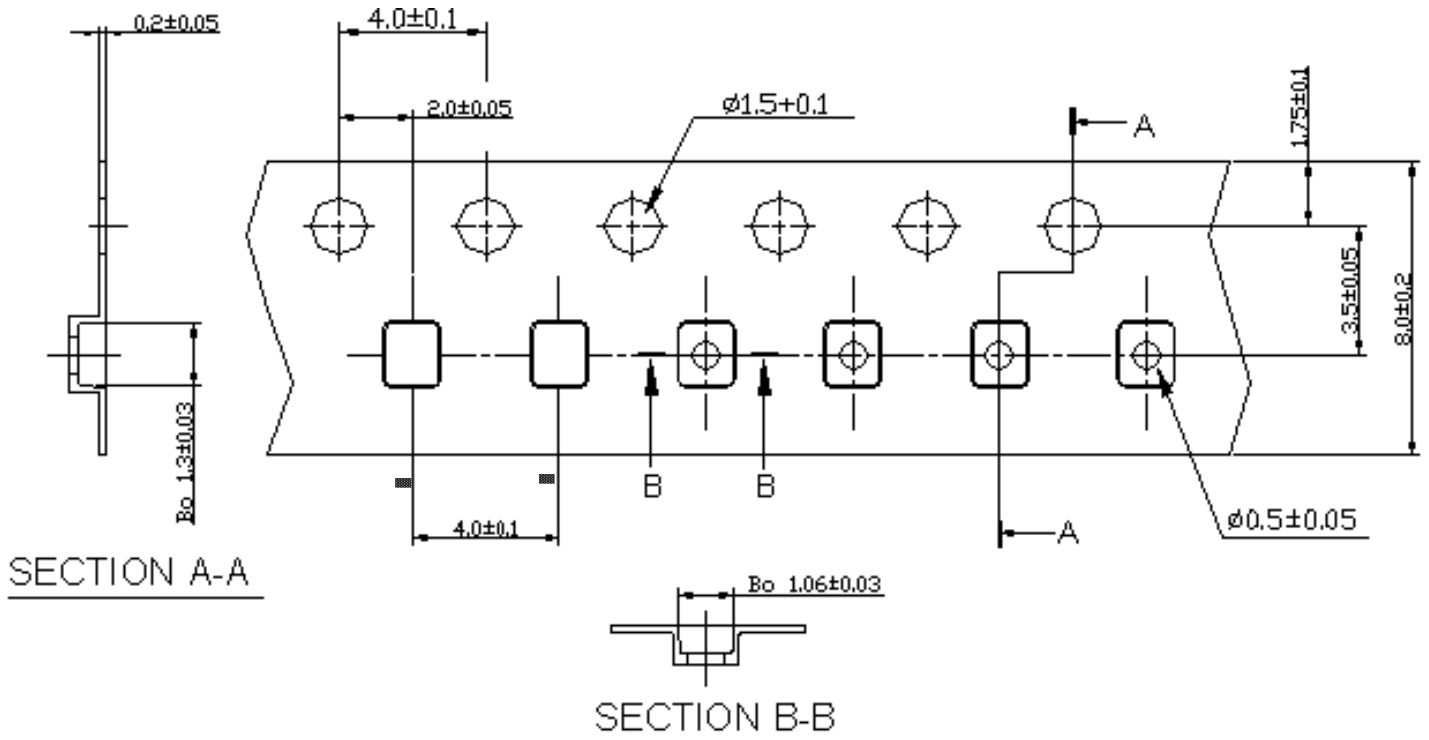


PACKING REEL DIMENSION

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.

