



# TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,  
Taoyuan, 324, Taiwan, R.O.C.

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## Product Specifications Approval Sheet

Product Name: SAW Rx Filter 1582.47 MHz GPS+GLONASS+Compass SMD 1.1x0.9 mm (BW=46.84 MHz)

TST Parts No.: TA1954D

Customer Part No.: \_\_\_\_\_

Customer signature required
Company: _____
Division: _____
Approved by : _____
Date: _____

Checked by: \_\_\_\_\_ Hayley Chou *Hayley Chou*

Approved by: \_\_\_\_\_ Andy Yu *Andy Yu*

Date: \_\_\_\_\_ 2020/07/22

1. Customer signed back is required before TST can proceed with sample build and receive orders.
2. Orders received without customer signed back will be regarded as agreement on the specifications.
3. Any specifications changes must be approved upon by both parties and a new revision of specifications shall be released to reflect the changes



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## SAW Filter 1582.47 MHz

MODEL NO.: TA1954D

REV. No.: 2.0

### A. MAXIMUM RATING:

1. Maximum Input Power Level: 15 dBm
2. DC Voltage: 3 V
3. Operating Temperature Range: -30 °C to +85 °C
4. Storage Temperature Range: -40 °C to +85 °C
5. Moisture Sensitivity Level: Level 3 (MSL 3)
6. ESD: 50 V(MM), 100 V(HBM)

RoHS Compliant  
Lead-free soldering

Electrostatic Sensitive Device (ESD)

### B. ELECTRICAL CHARACTERISTICS:

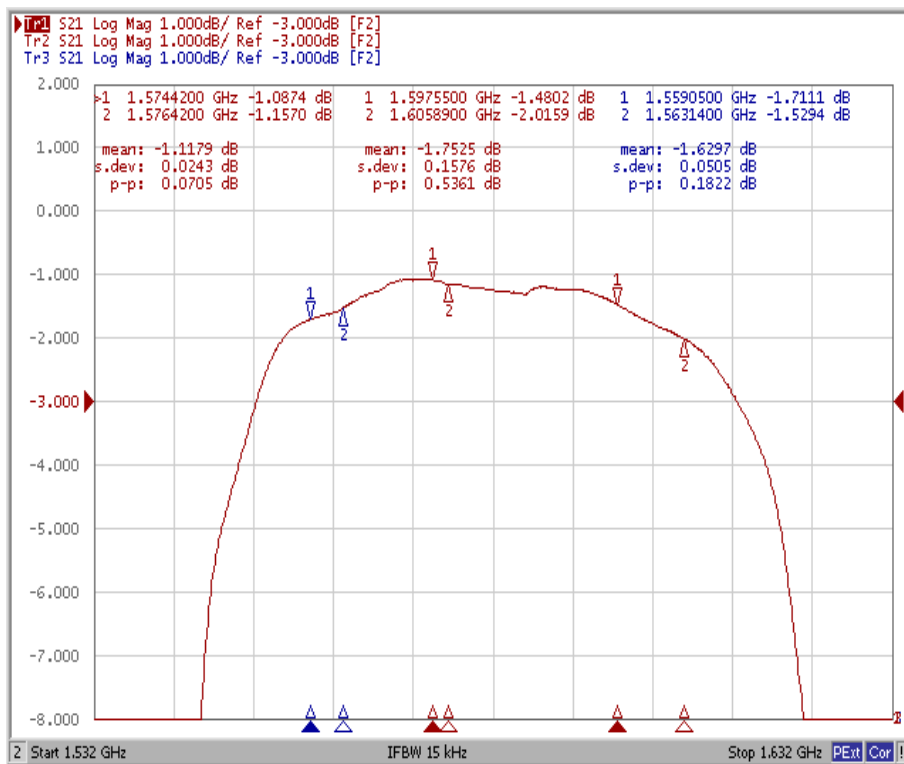
Terminating source impedance:  $Z_s = 50 \Omega$  (Single-ended)

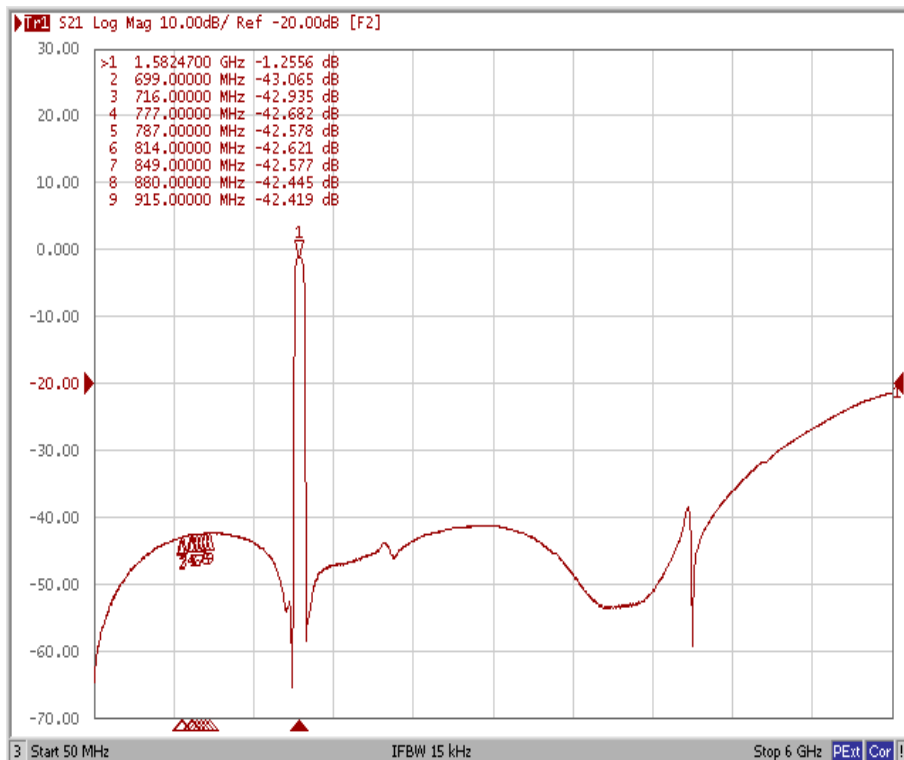
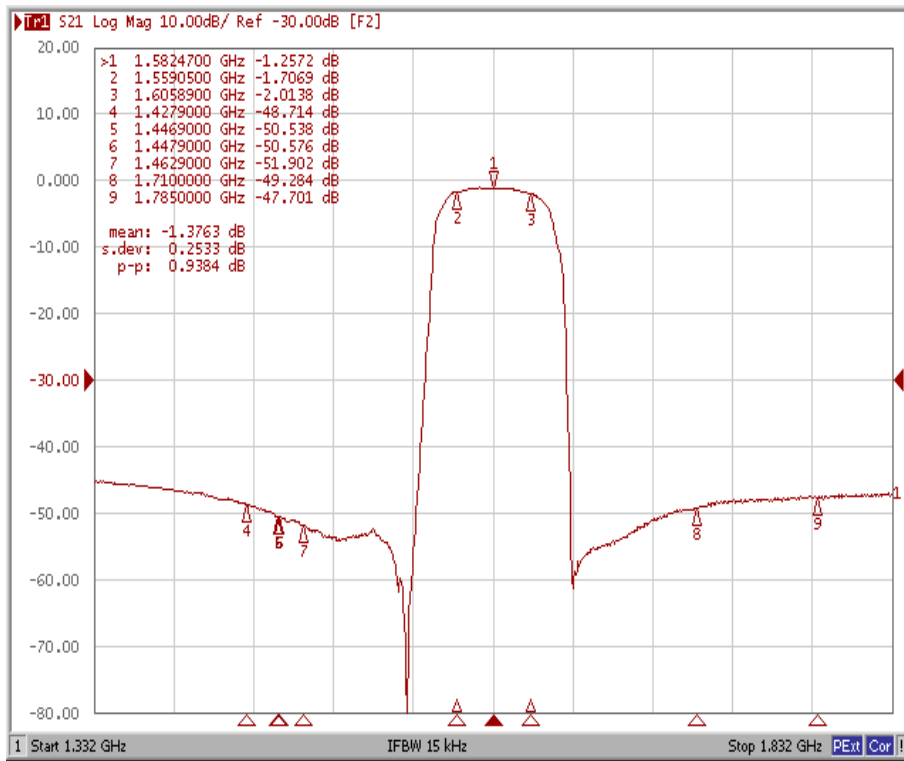
Terminating load impedance:  $Z_L = 50 \Omega$  (Single-ended)

Parameters Description		Unit	Min.	Typ.	Max.
<b>Center Frequency</b> <span style="float: right;"><b>F<sub>c</sub></b></span>		MHz	-	1582.47	-
<b>Insertion Loss</b>	1574.42 ~ 1576.42 MHz	dB	-	1.2	1.7
	1597.55 ~ 1605.89 MHz	dB	-	2.0	2.5
	1559.05 ~ 1563.14 MHz	dB	-	1.7	2.5
<b>Amplitude Ripple</b>	1574.42 ~ 1576.42 MHz	dB <sub>p-p</sub>	-	0.1	0.8
	1597.55 ~ 1605.89 MHz	dB <sub>p-p</sub>	-	0.55	1.4
	1559.05 ~ 1563.14 MHz	dB <sub>p-p</sub>	-	0.2	1.2
<b>Group Delay Ripple</b>	1574.42 ~ 1576.42 MHz	nsec	-	1.0	6.0
	1597.55 ~ 1605.89 MHz	nsec	-	6.0	12.5
	1559.05 ~ 1563.14 MHz	nsec	-	5.0	16.0
<b>VSWR</b>	1574.42 ~ 1576.42 MHz	-	-	1.5	2.1
	1597.55 ~ 1605.89 MHz	-	-	1.4	2.0
	1559.05 ~ 1563.14 MHz	-	-	1.5	2.0
<b>Attenuation</b> (Reference level from 0 dB)					

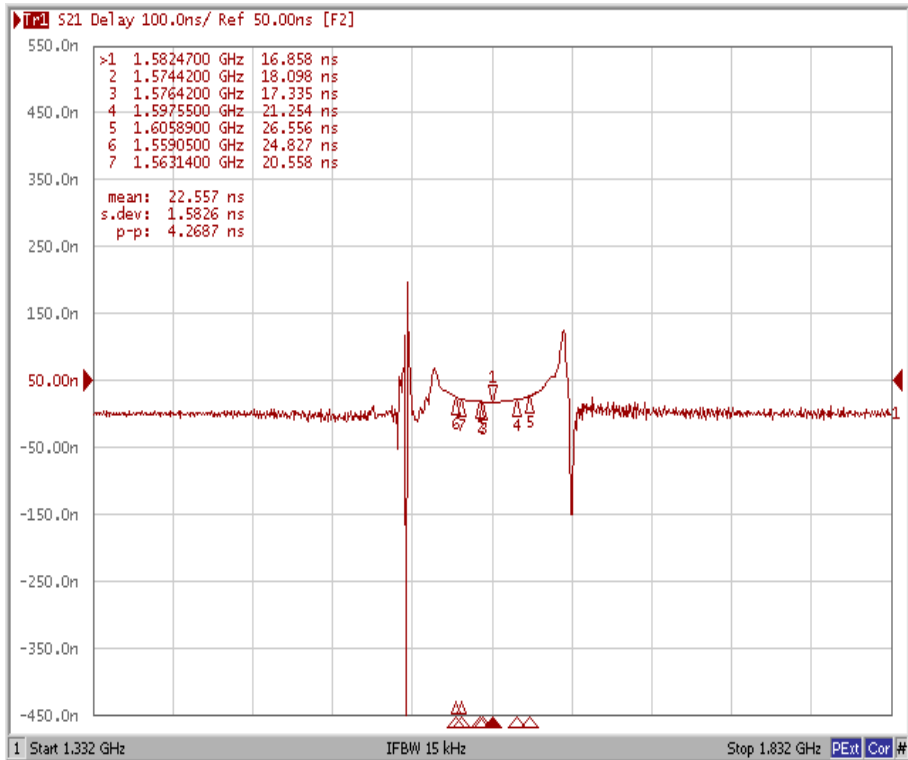
699 ~ 716 MHz	dB	37	42	-
777 ~ 787 MHz	dB	37	42	-
814 ~ 849 MHz	dB	37	42	-
880 ~ 915 MHz	dB	37	42	-
1427.9 ~ 1446.9 MHz	dB	43	48	-
1447.9 ~ 1462.9 MHz	dB	45	50	-
1710 ~ 1785 MHz	dB	40	47	-
1850 ~ 1915 MHz	dB	40	46	-
1920 ~ 1980 MHz	dB	40	46	-
2400 ~ 2500 MHz	dB	37	42	-
2500 ~ 2570 MHz	dB	37	42	-

**C. FREQUENCY CHARACTERISTICS:**



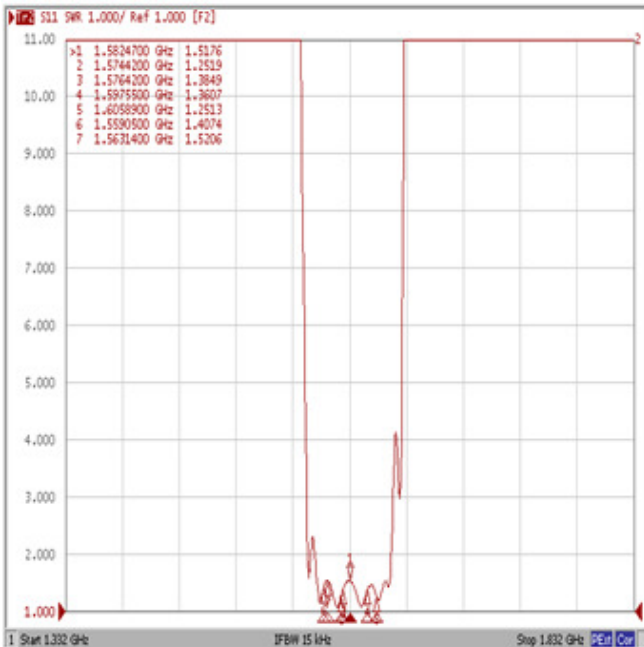


## Group Delay Ripple

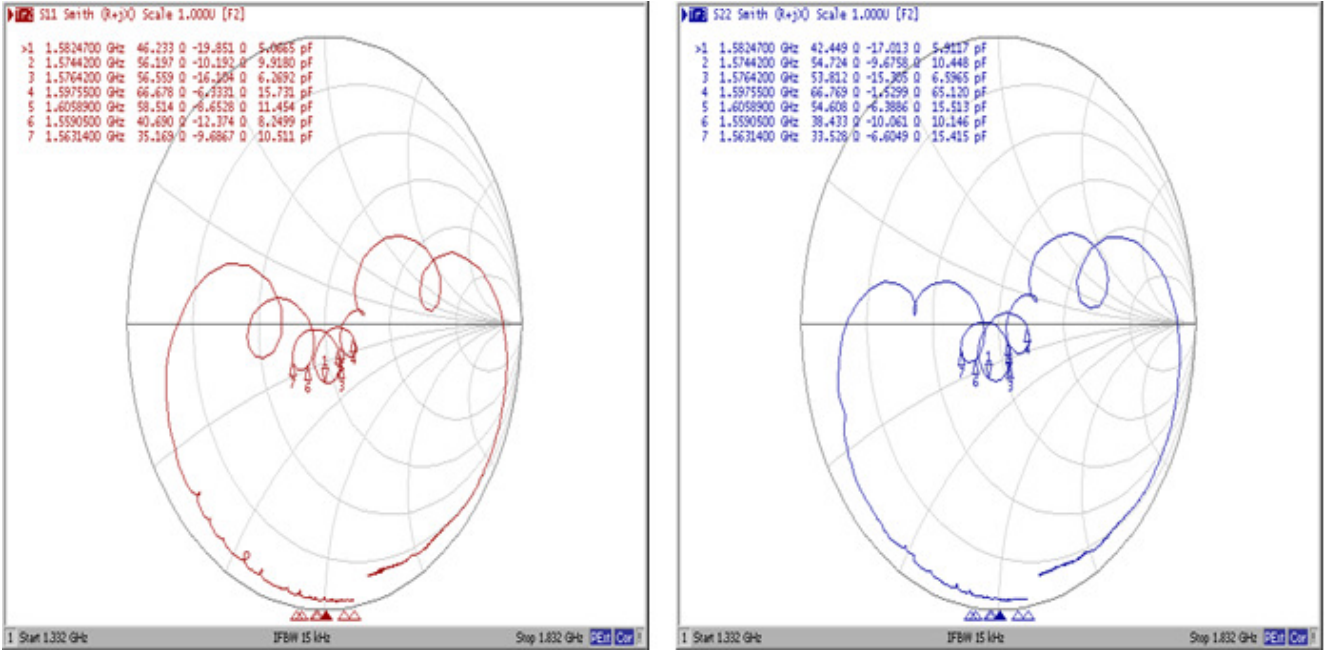


## Reflection Functions:

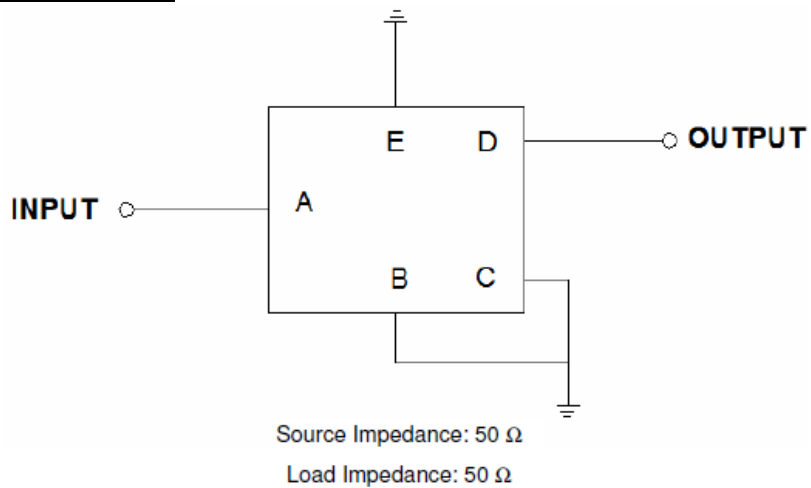
### VSWR



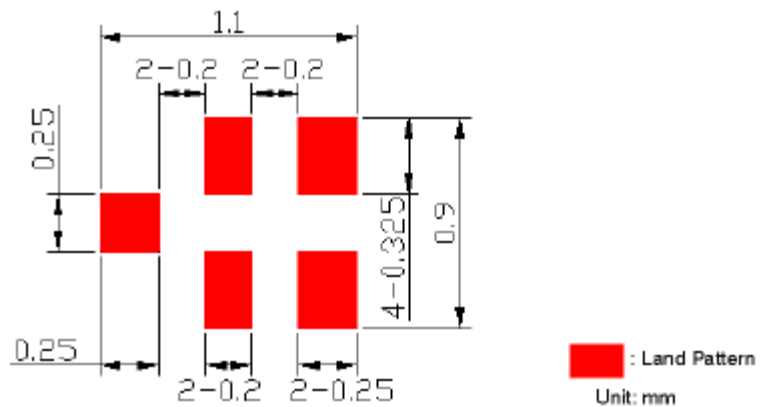
## Smith Chart



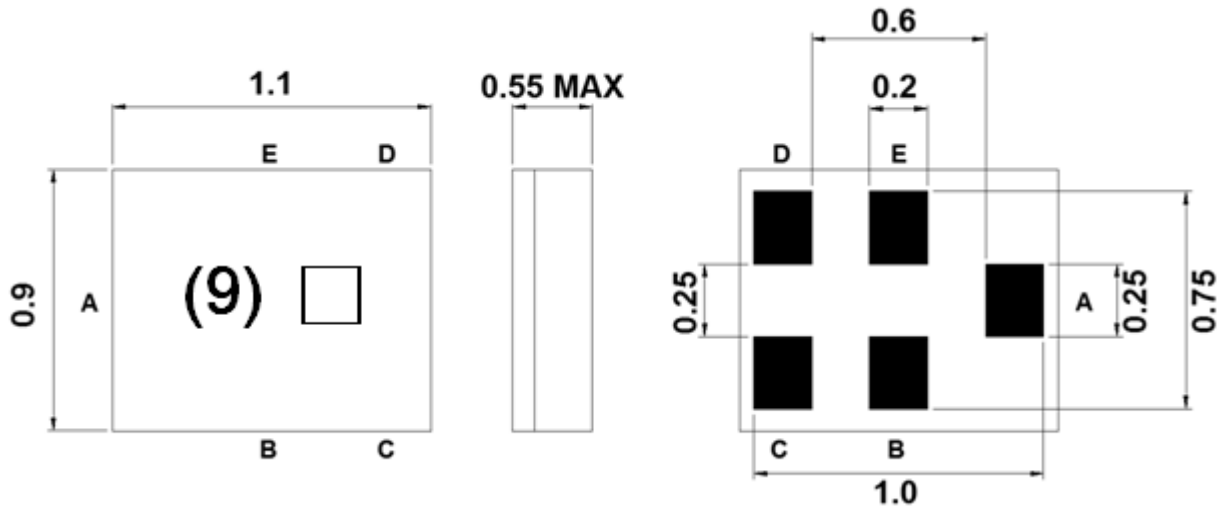
### D. MEASUREMENT CIRCUIT:



### E. PCB FOOTPRINT:



**F. OUTLINE DRAWING:**



All tolerances are +/-0.1 mm unless otherwise specified.

Unit: mm

Marking Descriptions	
(9)	Series Number
□	Date Code(Year+Month)

Pin Description	
B, C, E	Ground
A	Input
D	Output

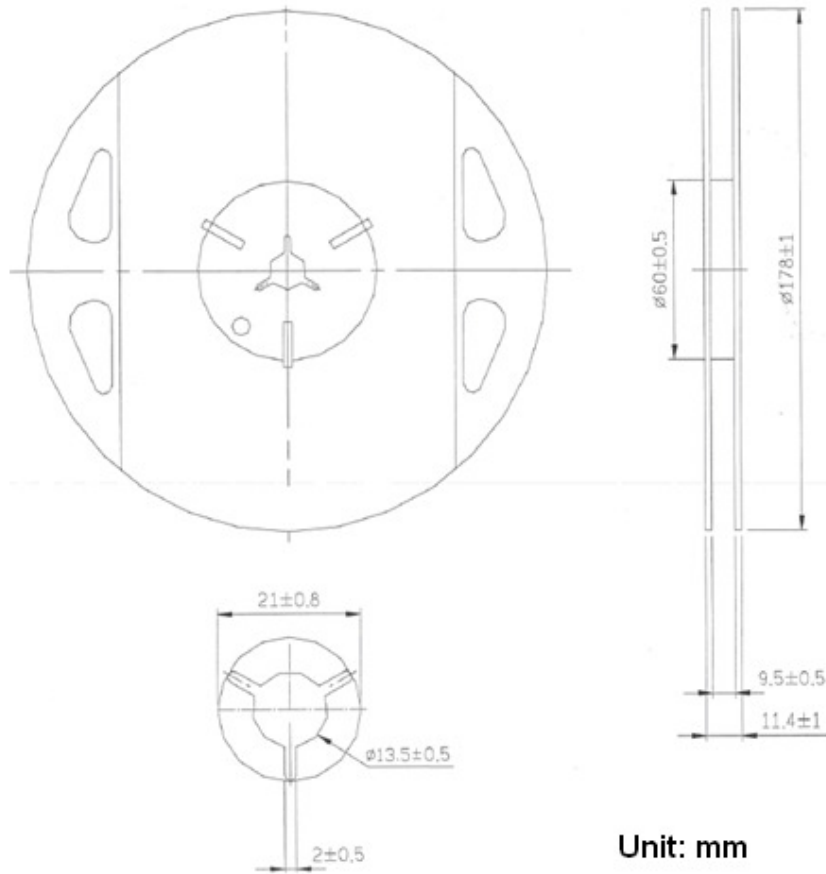
**Date code:**

Year/Month	1	2	3	4	5	6	7	8	9	10	11	12
2019	<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	<u>h</u>	<u>j</u>	<u>k</u>	<u>l</u>	<u>m</u>
2020	<u>n</u>	<u>p</u>	<u>q</u>	<u>r</u>	<u>s</u>	<u>t</u>	<u>u</u>	<u>v</u>	<u>w</u>	<u>x</u>	<u>y</u>	<u>z</u>
2021	A	B	C	D	E	F	G	H	J	K	L	M
2022	N	P	Q	R	S	T	U	V	W	X	Y	Z
2023	a	b	c	d	e	f	g	h	j	k	l	m
2024	n	p	q	r	s	t	u	v	w	x	y	z
2025	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>J</u>	<u>K</u>	<u>L</u>	<u>M</u>
2026	<u>N</u>	<u>P</u>	<u>Q</u>	<u>R</u>	<u>S</u>	<u>T</u>	<u>U</u>	<u>V</u>	<u>W</u>	<u>X</u>	<u>Y</u>	<u>Z</u>

**G. PACKING:** (Ref: WI-75M03)

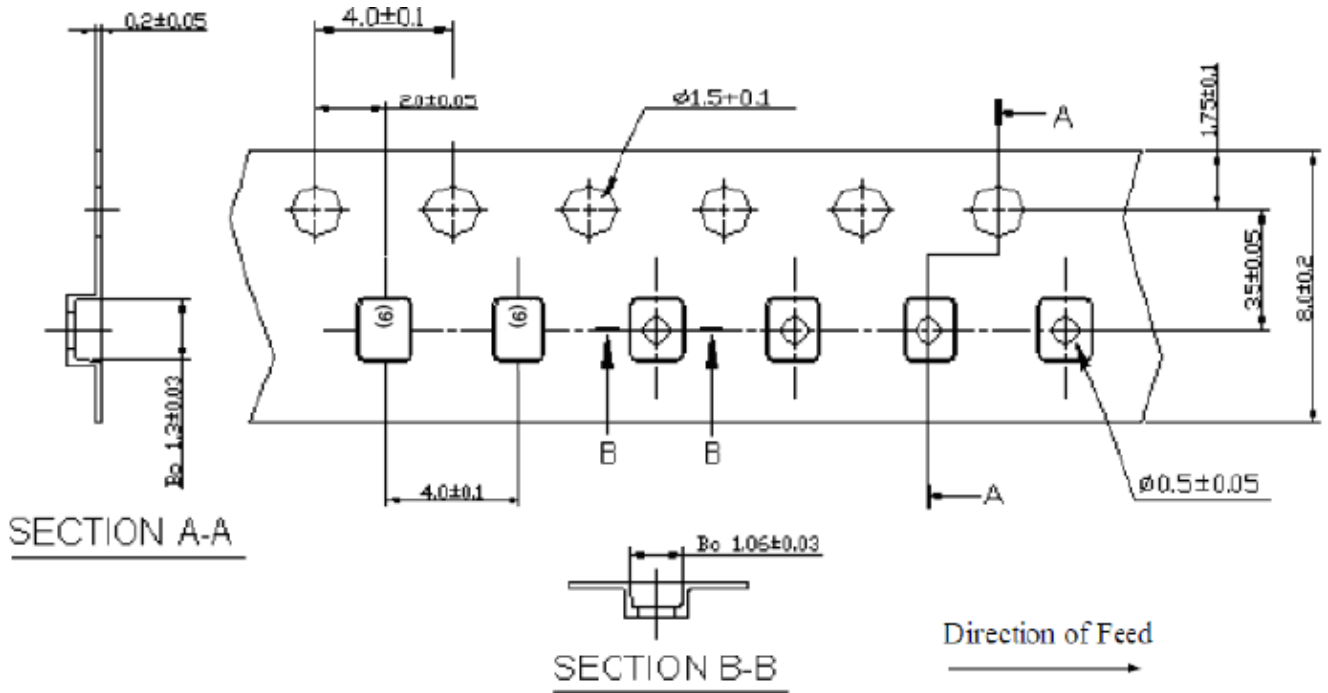
**1. REEL DIMENSION**

(Please refer to FR-75D10 for packing quantity)



Unit: mm

**2. TAPE DIMENSION**



Unit: mm



## H. 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 260°C +0/-5°C peak (20~40sec).
4. Time: 2 times.

