



# 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.: TA1954C (This part is compliant by AEC-Q200)

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.: TA1954C

REV. No.: 2.0

### A. MAXIMUM RATING:

1. Maximum Input Power Level: 15 dBm (In passband)
2. DC Voltage: +/-5 V
3. Operating Temperature Rang: -40 °C to +85 °C
4. Storage Temperature Range: -40 °C to +100 °C
5. Moisture Sensitivity Level: Level 1 (MSL 1)
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)

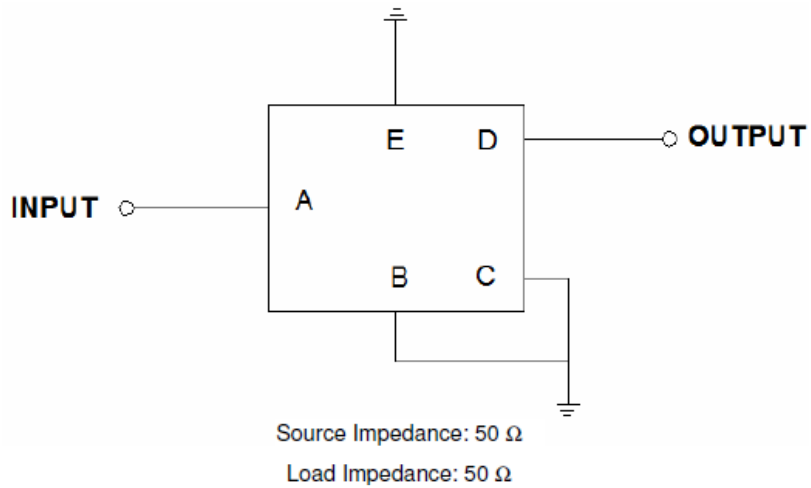
Terminating load impedance:  $Z_L = 50 \Omega$  (Single-ended)

Parameters Description		Unit	Min.	Typ.	Max.
<b>Center Frequency</b> <span style="float: right;"><b>Fc</b></span>		MHz	-	1582.47	-
<b>Insertion Loss</b>	1574.42 ~ 1576.42 MHz	dB(*1)	-	1.2	1.7
	1597.55 ~ 1605.89 MHz	dB(*1)	-	1.8	2.5
	1559.05 ~ 1563.14 MHz	dB(*1)	-	1.7	3.0
<b>Amplitude Ripple</b>	1574.42 ~ 1576.42 MHz	dB	-	0.1	0.8
	1597.55 ~ 1605.89 MHz	dB	-	0.55	1.4
	1559.05 ~ 1563.14 MHz	dB	-	0.2	1.8
<b>Group Delay Ripple</b>	1574.42 ~ 1576.42 MHz	nsec	-	1.0	6.0
	1597.55 ~ 1605.89 MHz	nsec	-	4.0	12.5
	1559.05 ~ 1563.14 MHz	nsec	-	5.0	20.0
<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)					

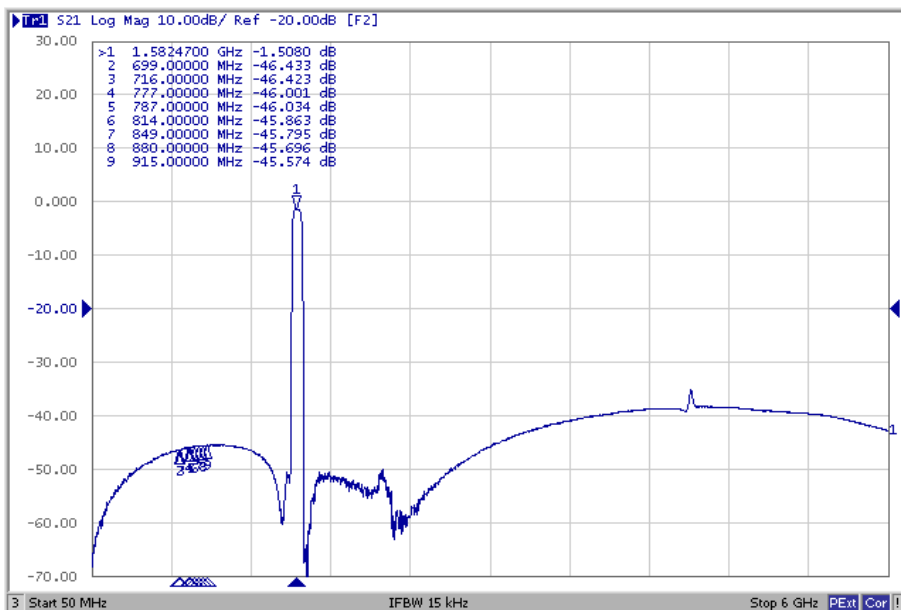
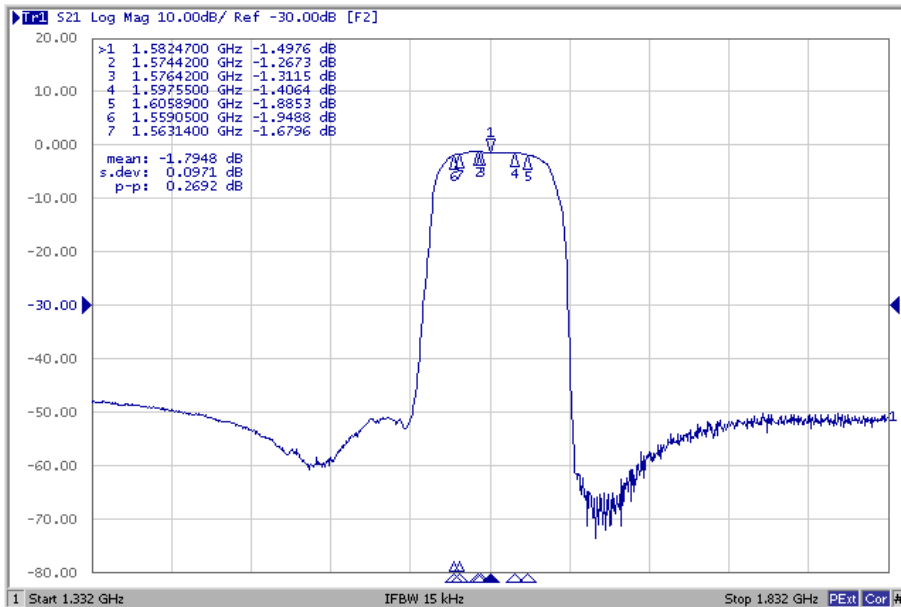
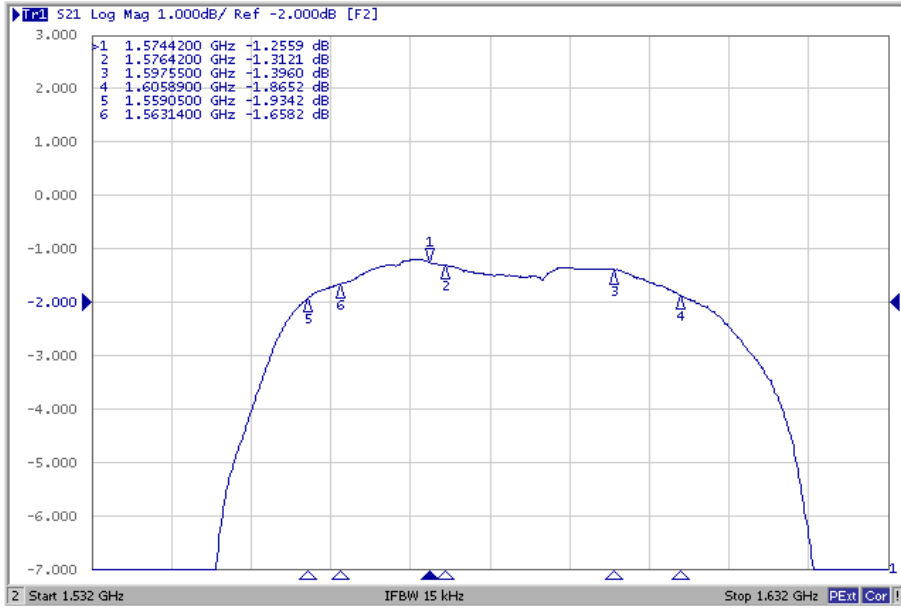
699 ~ 716 MHz	dB	43	47	-
777 ~ 787 MHz	dB	45	46.5	-
814 ~ 849 MHz	dB	45	46.5	-
880 ~ 915 MHz	dB	45	46.5	-
1427.9 ~ 1446.9 MHz	dB	45	53	-
1447.9 ~ 1462.9 MHz	dB	45	54	-
1710 ~ 1785 MHz	dB	47	54	-
1850 ~ 1915 MHz	dB	47	54	-
1920 ~ 1980 MHz	dB	47	54	-
2400 ~ 2500 MHz	dB	45	50	-
2500 ~ 2570 MHz	dB	45	50	-

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

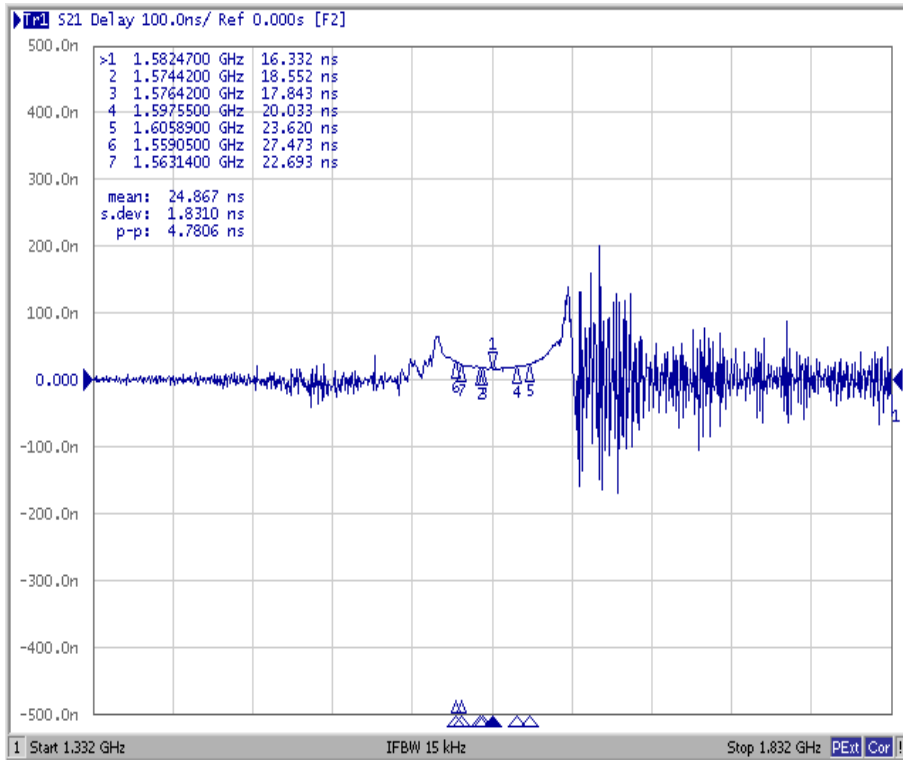
### C. MEASUREMENT CIRCUIT:



## D. FREQUENCY CHARACTERISTICS:

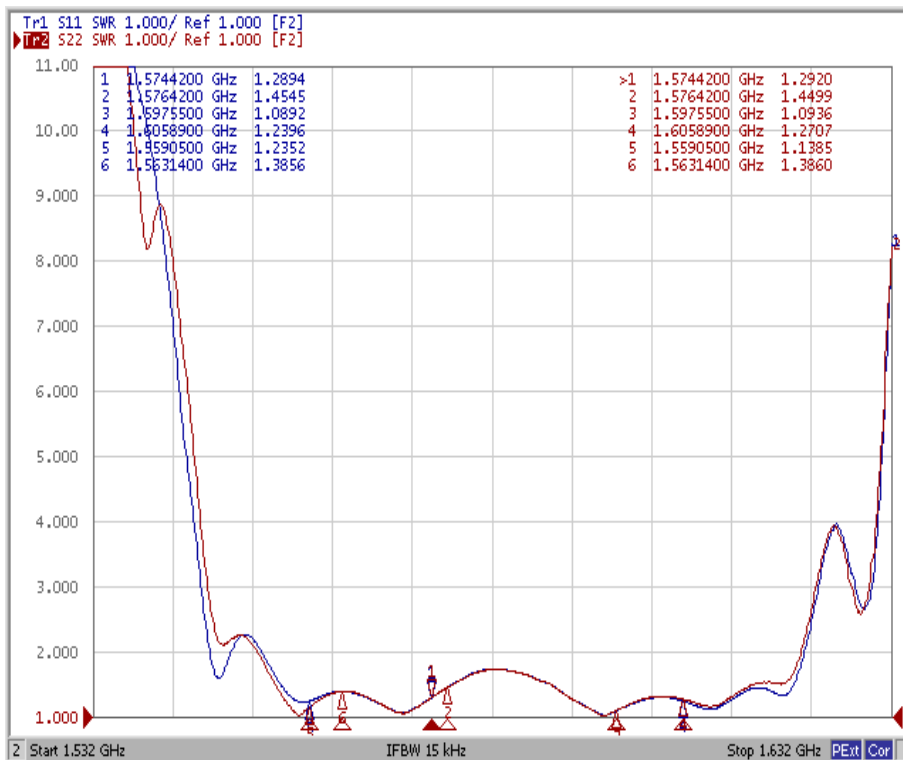


## Group Delay Ripple

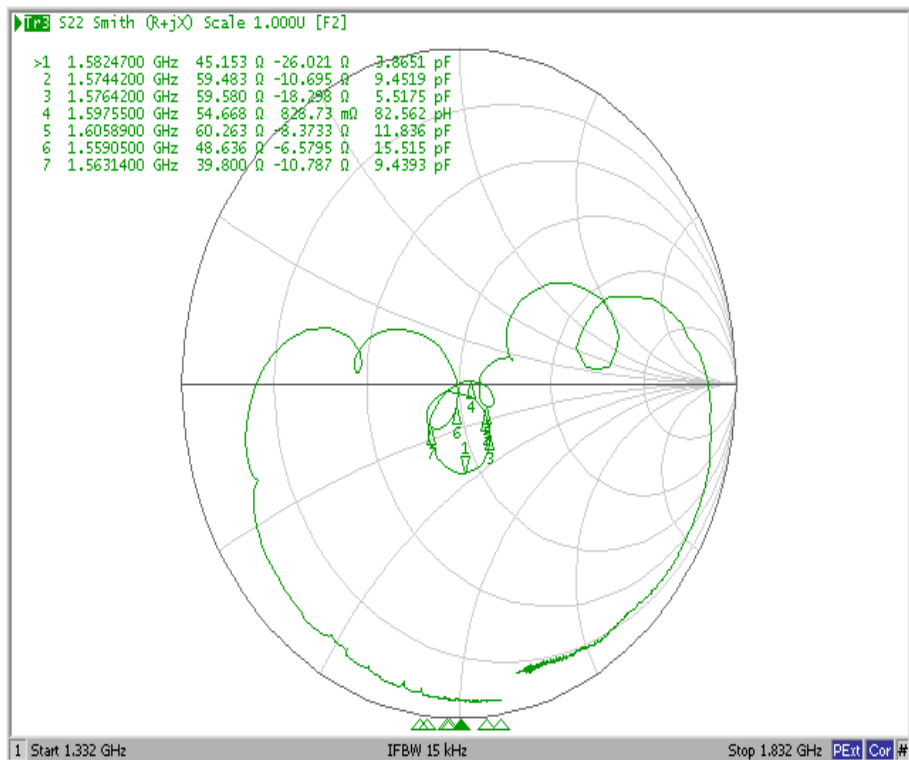
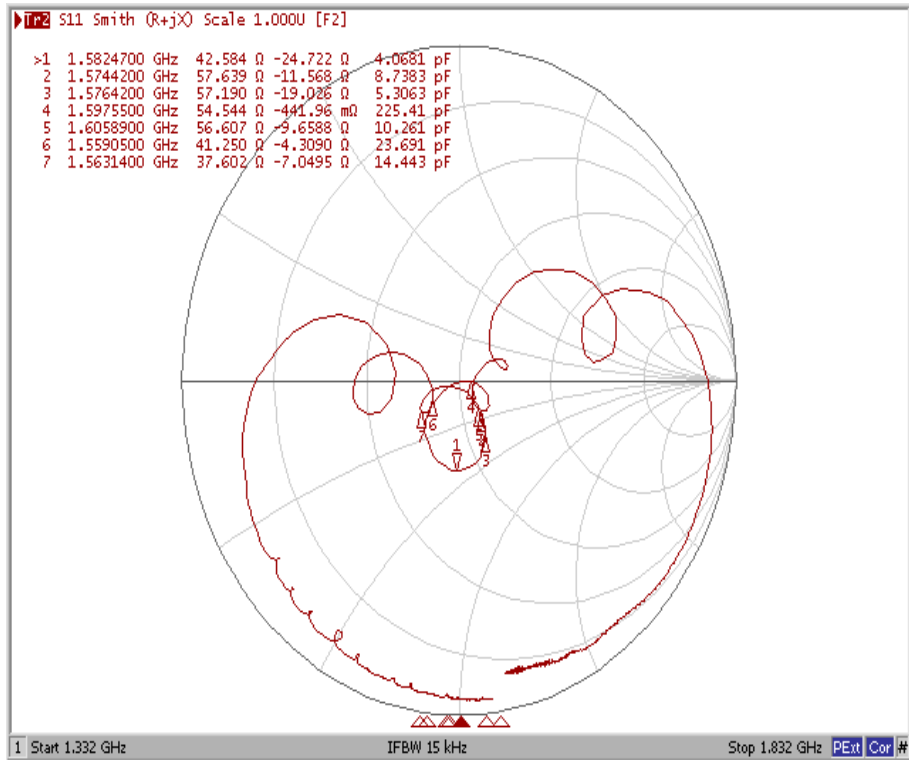


## Reflection Functions:

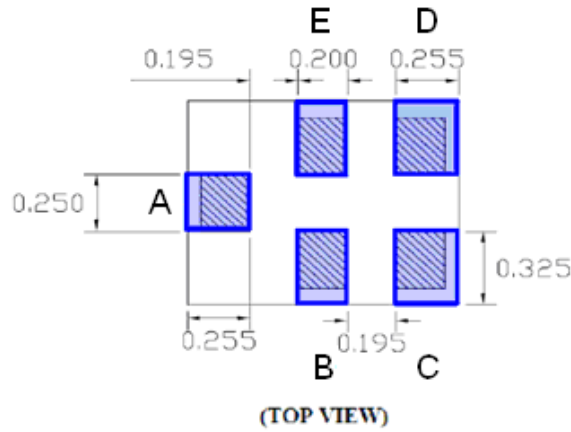
### VSWR



## Smith Chart

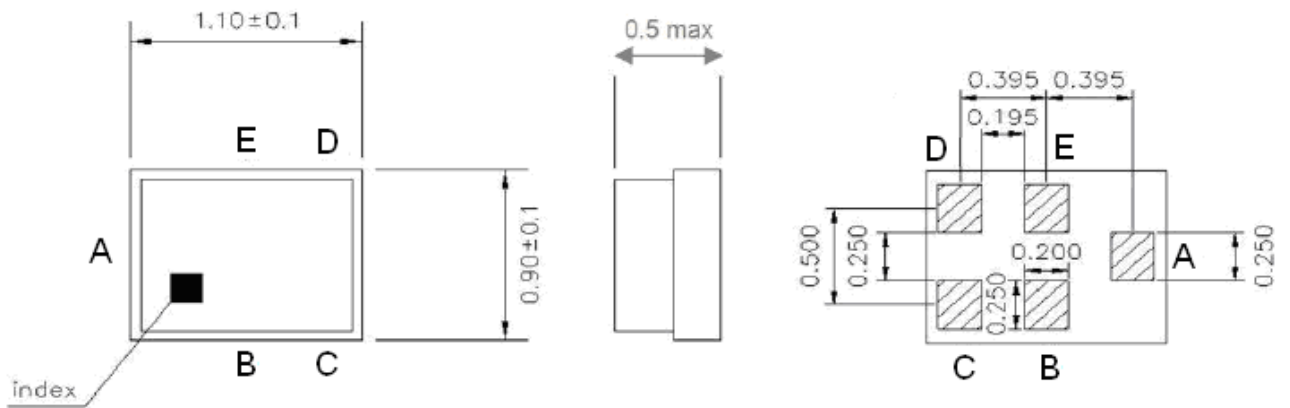


**E. PCB FOOTPRINT:**



**F. OUTLINE DRAWING:**

Device size: 1.1typ. x 0.9typ. x 0.5max.

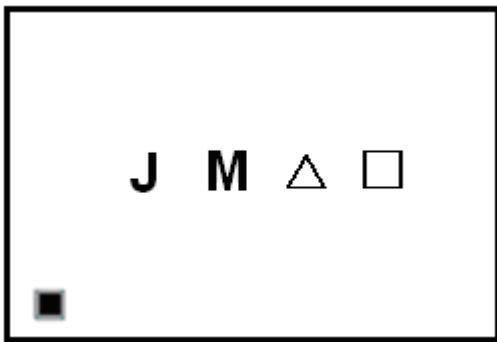


All tolerances are +/-0.1 mm unless otherwise specified.  
Unit: mm

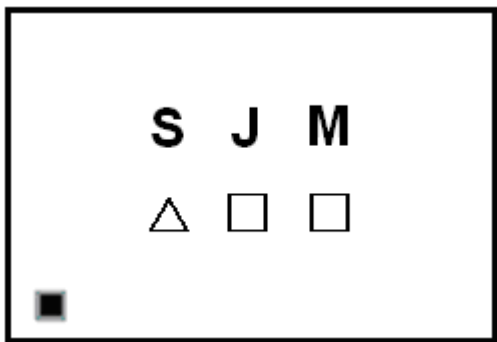
**Pin Configuration**

Pin No.	Symbol	Function
A	IN	Unbalanced input
B	GND	Ground
C	GND	Ground
D	OUT	Unbalanced output
E	GND	Ground

**Top View (Sample Production):**



**Top View (Mass Production):**



△ : 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:**

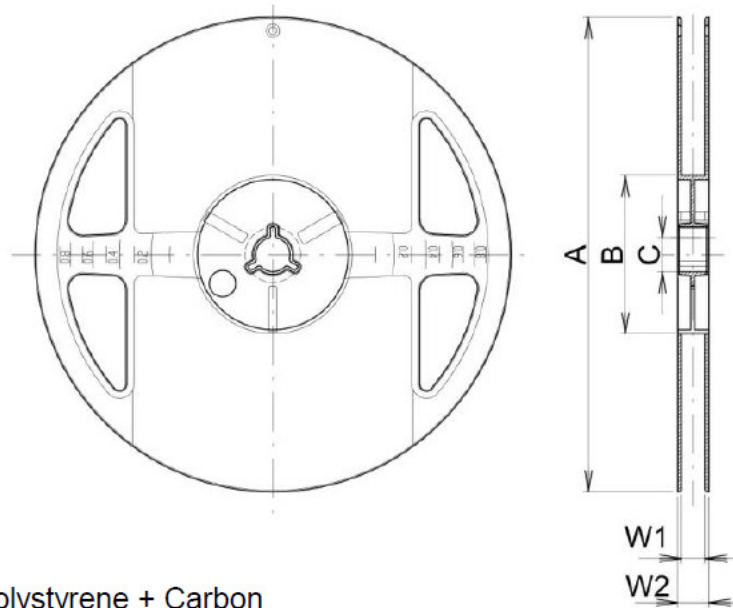
Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2020	n	p	q	r	s	t	u	v	w	x	y	z
2021	A	B	C	Đ	E	F	G	H	J	K	L	M
2022	N	P	Q	R	S	T	U	V	W	X	Y	Z
2023	a	b	c	d	e	f	g	h	j	k	l	m



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

1. REEL DIMENSION

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



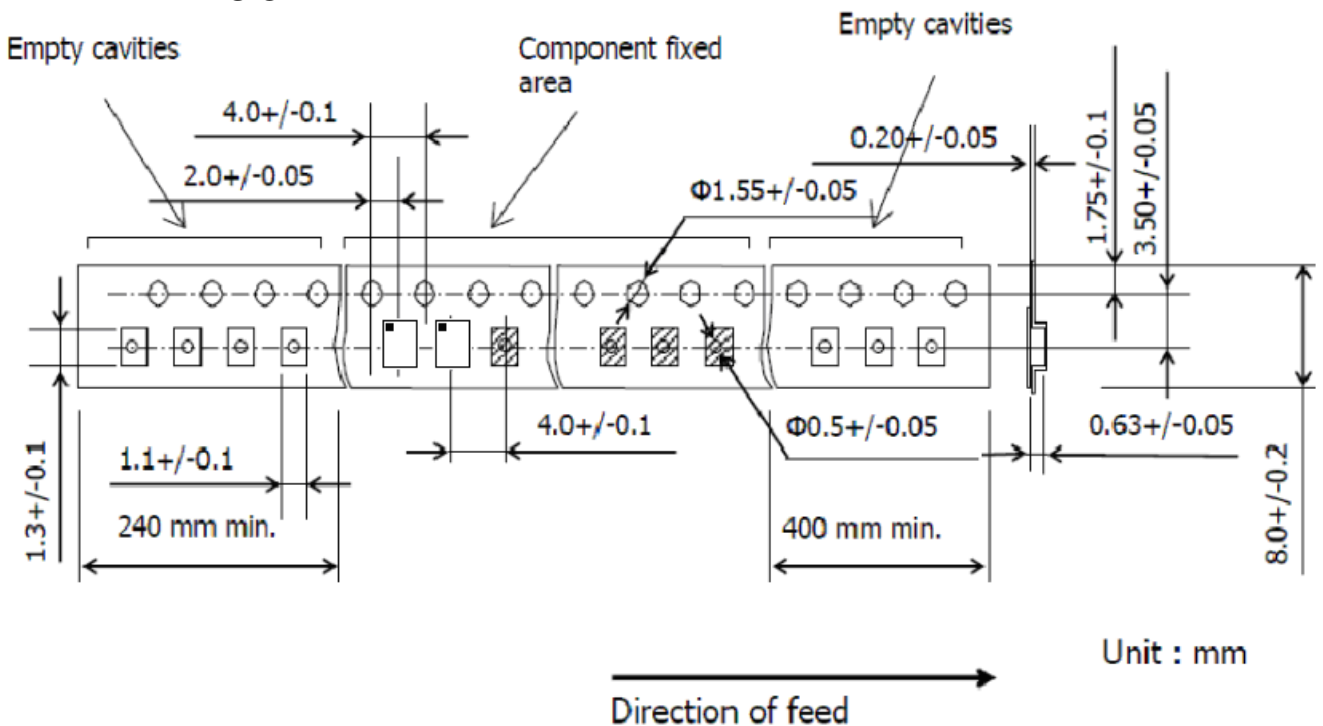
Material : Polystyrene + Carbon

Color : Black

Surface resistance (reference value) :  $10^9 \Omega/\text{sq}$  max.

Unit : mm				
A	B	C	W1	W2
180.0 $+0.0/-1.5$	60.0 $+1.0/-0.0$	13.0 $\pm 0.2$	9.0 $+1.0/-0.0$	11.4 $\pm 1.0$

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.

