



TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,
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Product Specifications Approval Sheet

Product Name: SAW Rx Filter 1582.47 MHz GPS+GLONASS+Compass

SMD 1.1x0.9mm (BW=46.84 MHz)

TST Parts No.: TA1954E (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: _____ 2018/11/20

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.: TA1954E

REV. No.: 1.0

A. MAXIMUM RATING:

1. Maximum Input Power: 15 dBm
2. Maximum DC Voltage: +/-5 V
3. Operating Temperature: -40 °C to +105 °C
4. Storage Temperature Range: -40°C to +105 °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:

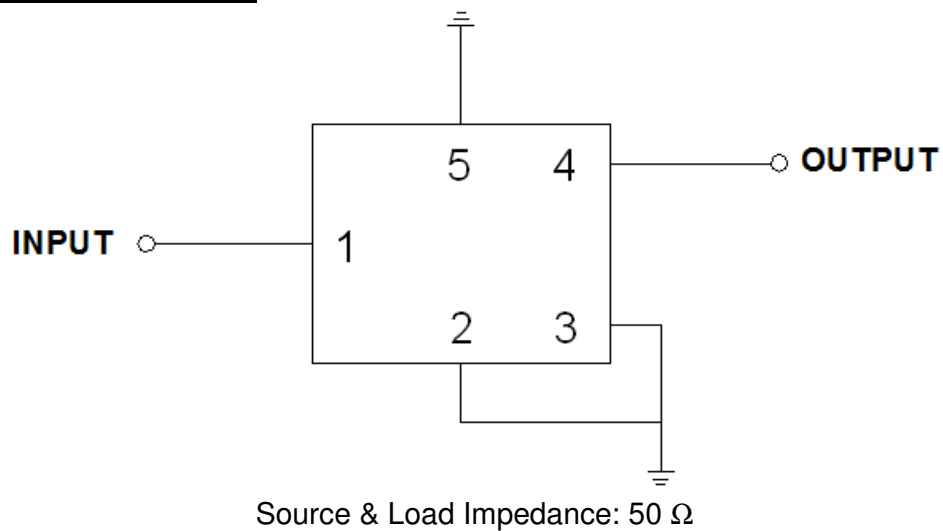
Terminating source impedance: $Z_s = 50 \Omega$ (Single-ended)

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

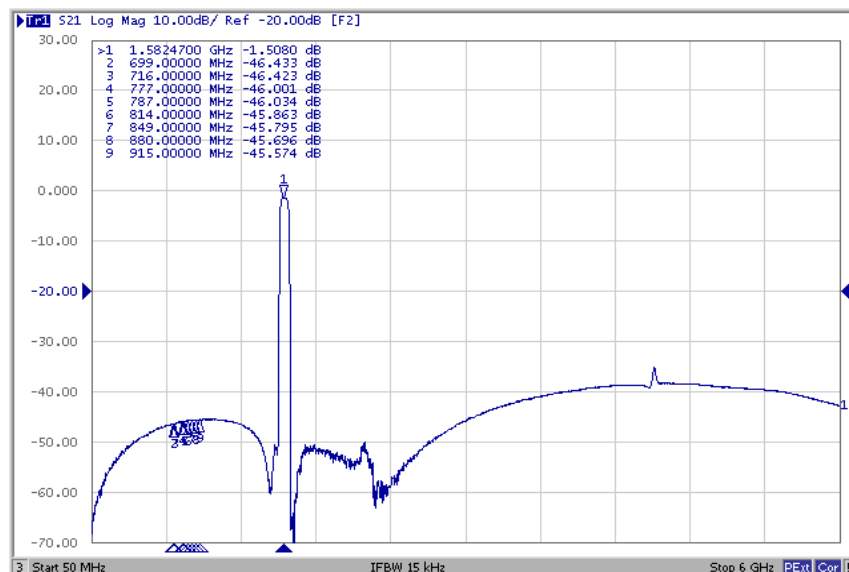
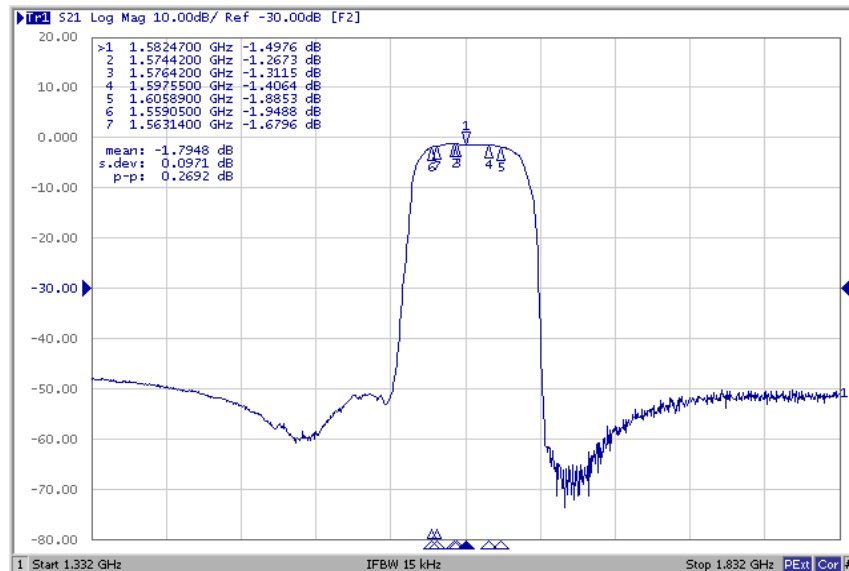
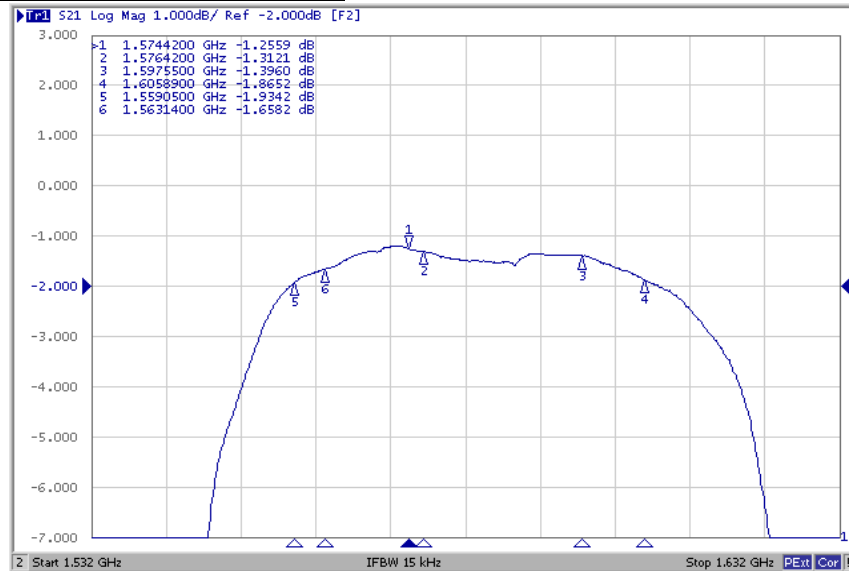
Parameters Description		Unit	Min.	Typ.	Max.	Note
Center Frequency		Fc	MHz	-	1582.47	-
Insertion Loss	1574.42 ~ 1576.42 MHz	dB	-	1.2	2.0	-
	1597.55 ~ 1605.89 MHz	dB	-	1.8	3.4	-
	1559.05 ~ 1563.14 MHz	dB	-	1.7	3.0	-
Amplitude Ripple	1574.42 ~ 1576.42 MHz	dB	-	0.1	1.0	-
	1597.55 ~ 1605.89 MHz	dB	-	0.55	2.2	-
	1559.05 ~ 1563.14 MHz	dB	-	0.2	1.8	-
Group Delay Ripple	1573 ~ 1578 MHz	ns	-	1.0	5.0	+25 °C
	1598 ~ 1606 MHz	ns	-	4.0	8.0	+25 °C
	1559 ~ 1563 MHz	ns	-	5.0	8.0	+25 °C
VSWR	1574.42 ~ 1576.42 MHz	-	-	1.5	2.3	-
	1597.55 ~ 1605.89 MHz	-	-	1.4	2.0	-
	1559.05 ~ 1563.14 MHz	-	-	1.5	2.0	-
Attenuation (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	-	-

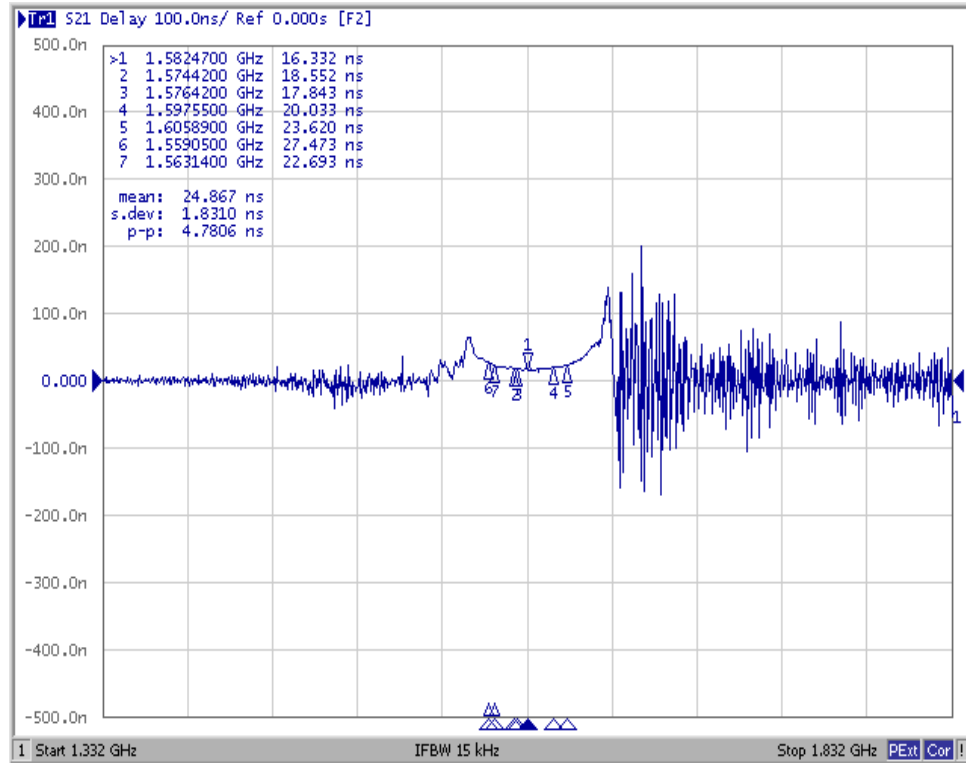
C. MEASUREMENT CIRCUIT:



D. FREQUENCY CHARACTERISTICS:

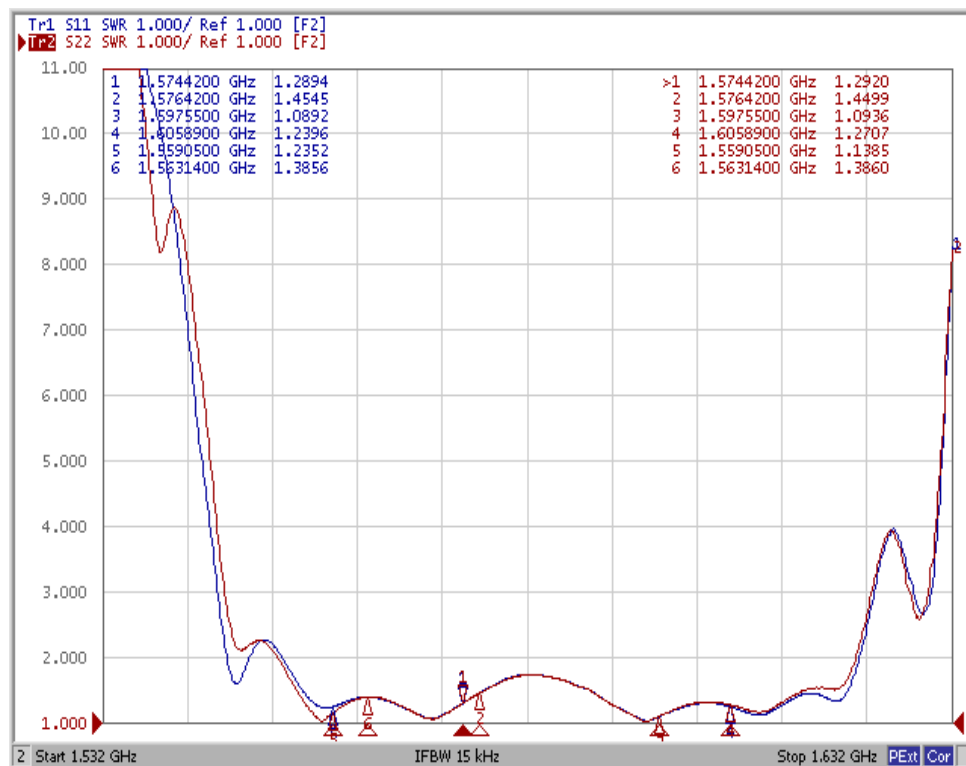


Group Delay Ripple

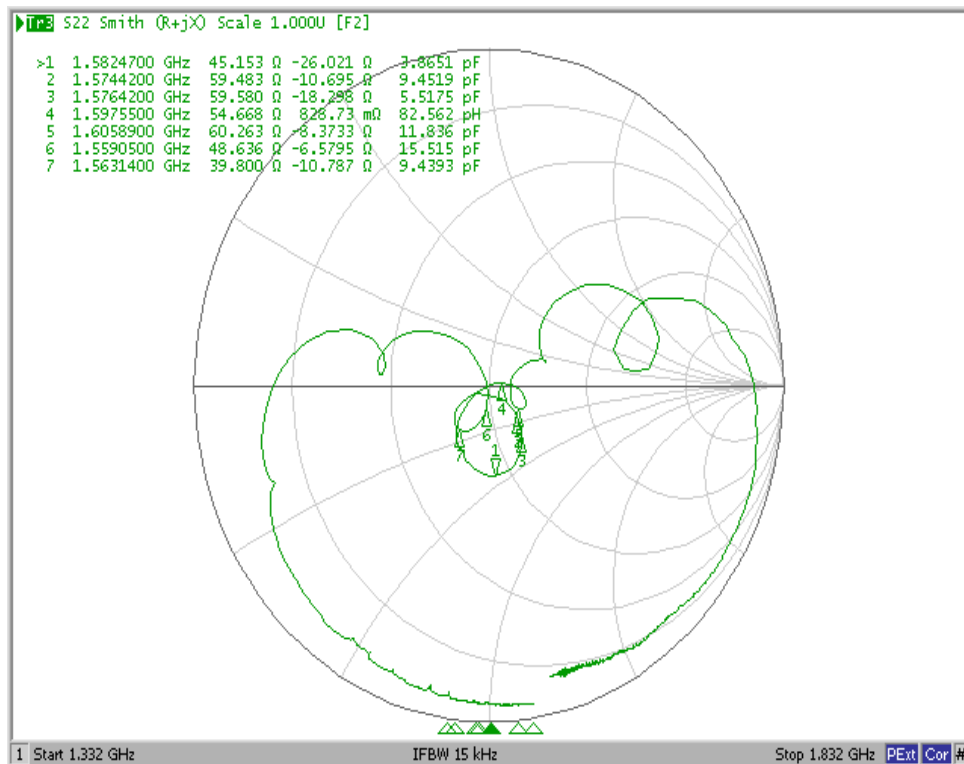
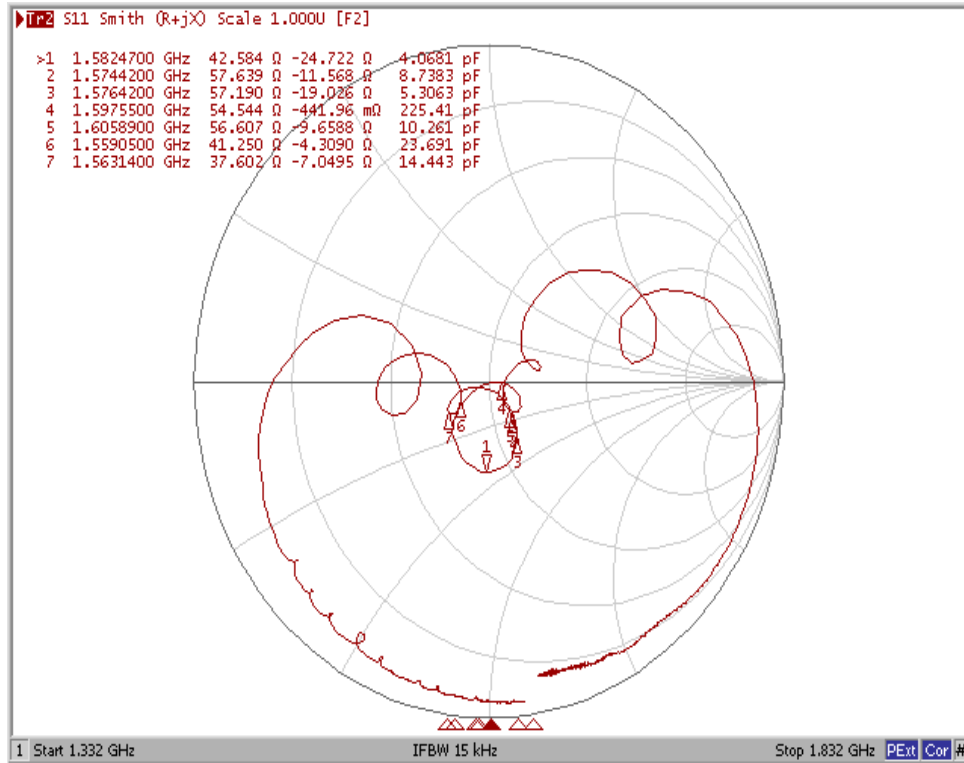


Reflection Functions:

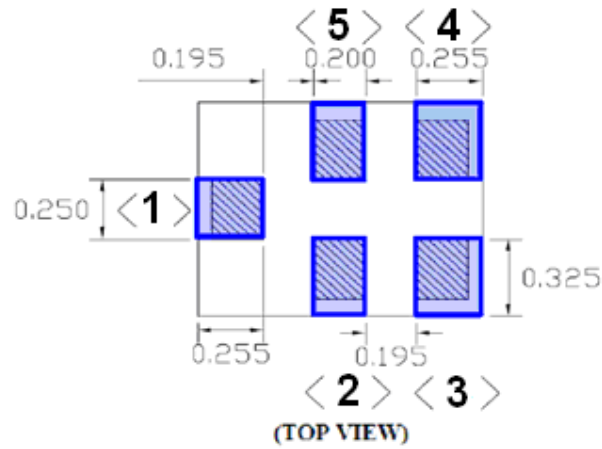
VSWR



Smith Chart

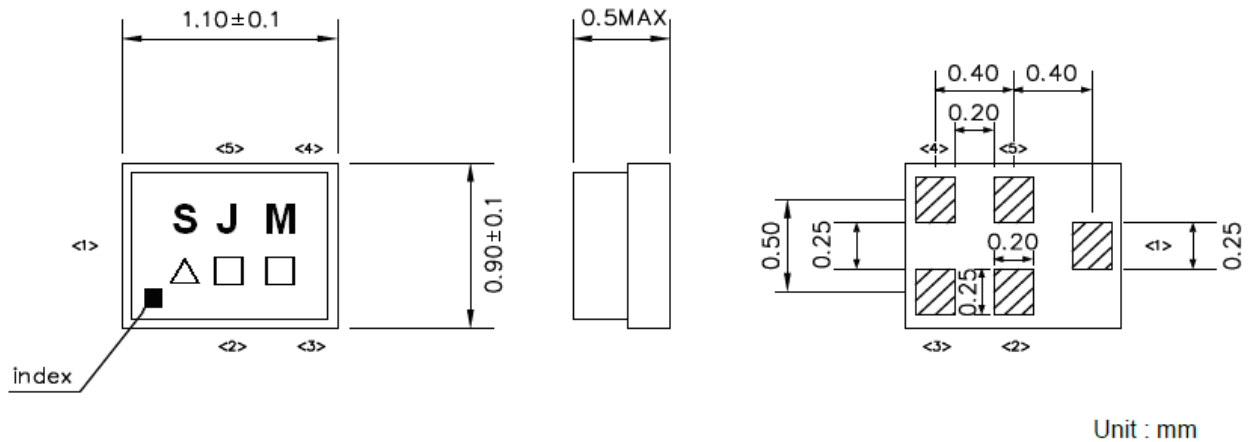


E. PCB Footprint:



F OUTLINE DRAWING:

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



Pin Configuration

Pin No.	Symbol	Function
1	IN	Unbalanced pin
2	GND	Ground
3	GND	Ground
4	OUT	Unbalanced pin
5	GND	Ground

△ : Date Code

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

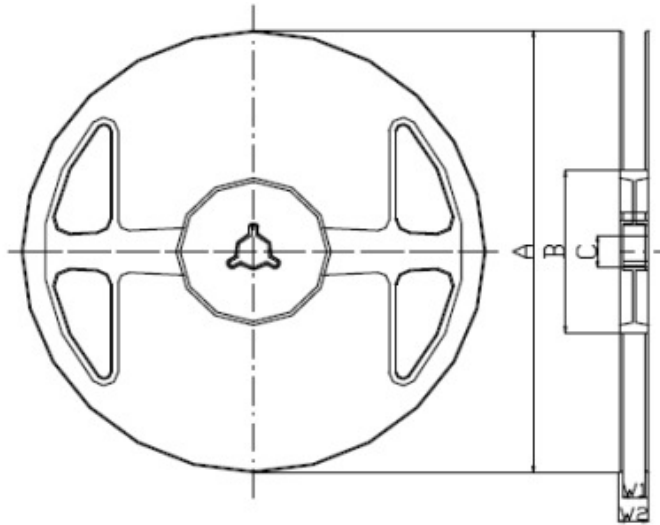
Date Code:

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

G PACKING: (Ref: WI-75M03)

1. REEL DIMENSION

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



Materials of Reel

Material : Polystyrene + Carbon

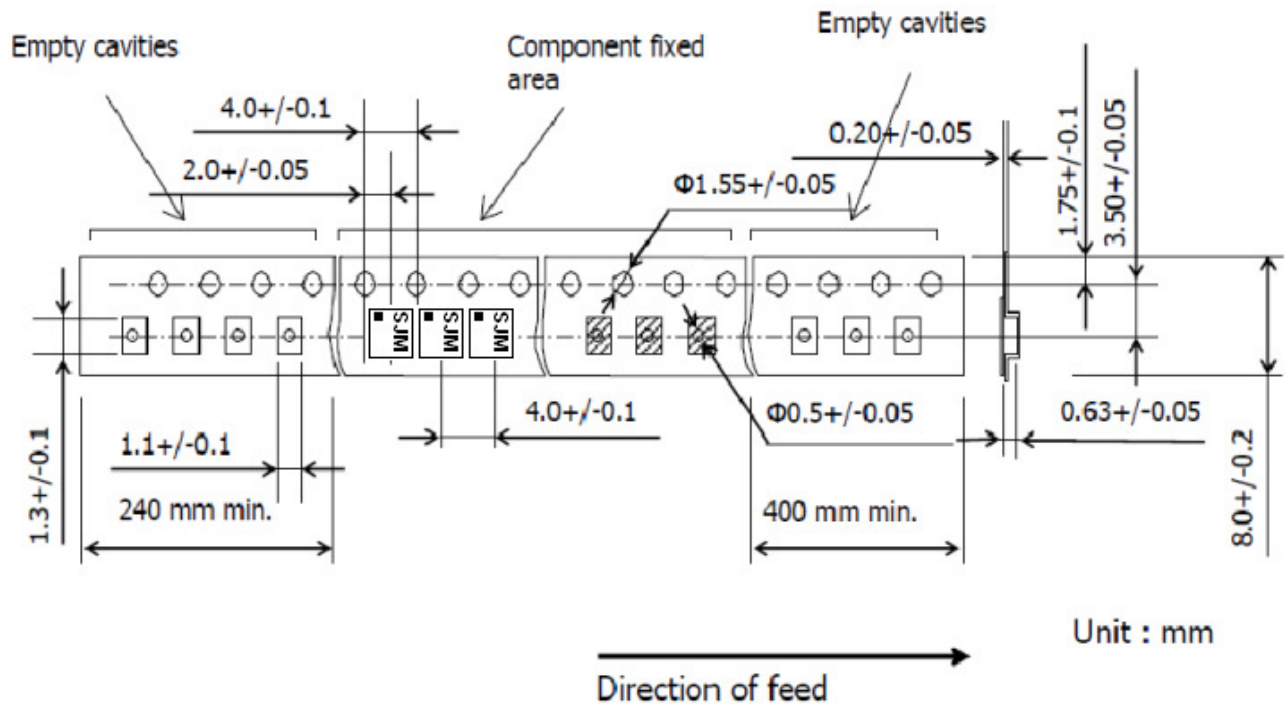
Color : Black

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

Unit : mm

Code	Quantity	A	B	C	W1	W2
J	5,000 pcs	$\phi 180.0 +0.0/-1.5$	$\phi 66.0 \pm 0.5$	$\phi 13.0 \pm 0.2$	$9.0 +1.0/-0.0$	11.4 ± 1.0

2. TAPE DIMENSION



Unit : mm

H. RECOMMENDED REFLOW PROFILE:

1. Preheating shall be fixed at $150\sim 180^{\circ}\text{C}$ 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 $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$ peak (20~40sec).
4. Time: 2 times.

