

**SF2613LM**

**1880 MHz  
SAW Filter**



**SM1109**

### MAXIMUM RATING:

- Input Power Level: 10 dBm (in passband)
- DC Voltage : +/-5 V
- Operating Temperature: -30 °C to +85 °C
- Storage Temperature: -40 °C to +100 °C
- Moisture Sensitive Level: Level 1 (MSL1)
- ESD: 50 V(MM), 100 V(HBM)

### ELECTRICAL CHARACTERISTICS:

Terminating source impedance:  $Z_s = 50 \Omega$

Terminating load impedance:  $Z_L = 50//10nH \Omega$

Item	Unit	Min.	Typ.	Max.	Remark
<b>Center Frequency</b> <b>F<sub>c</sub></b>	MHz	-	1880	-	-
<b>Insertion Loss</b> (1850~1910 MHz) <b>IL</b>	dB(*1)	-	1.7	2.0	at 25 °C
	dB(*1)	-	-	2.8	-
<b>Amplitude Ripple</b> (1850~1910 MHz)	dB	-	0.7	1.1	at 25 °C
	dB	-	-	1.9	-
<b>VSWR</b> (1850~1910 MHz)	-	-	1.8	2.2	-
<b>Attenuation</b> (Reference level from 0 dB)					
DC ~ 1570 MHz	dB	20	32	-	-
1570 ~ 1580 MHz	dB	20	34	-	-
1930 ~ 1990 MHz	dB	17	20	-	-
1990 ~ 2400 MHz	dB	20	26	-	-
2400 ~ 3000 MHz	dB	20	31	-	-
3000 ~ 4000 MHz	dB	15	30	-	-
4000 ~ 5550 MHz	dB	10	24	-	-
5550 ~ 5730 MHz	dB	10	24	-	-
5730 ~ 6000 MHz	dB	10	23	-	-

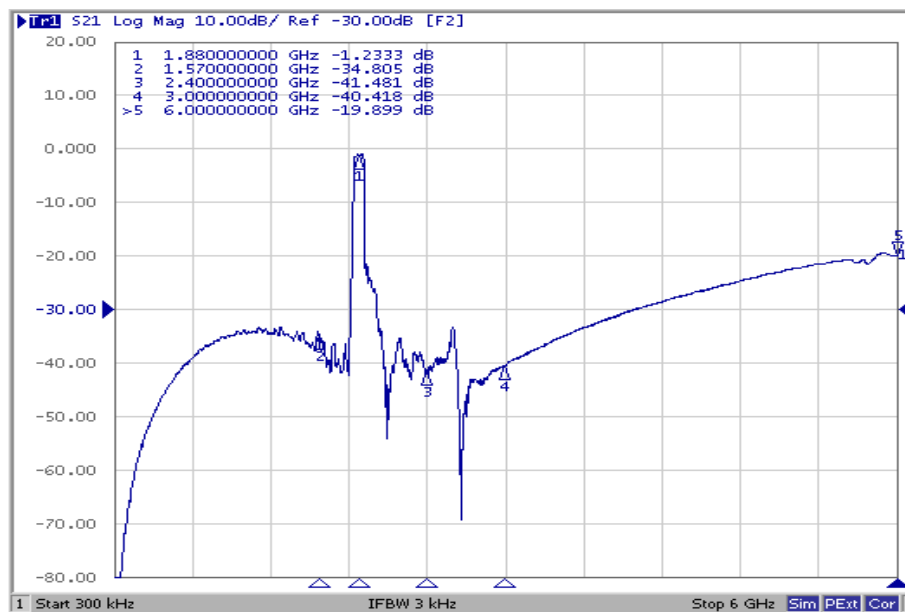
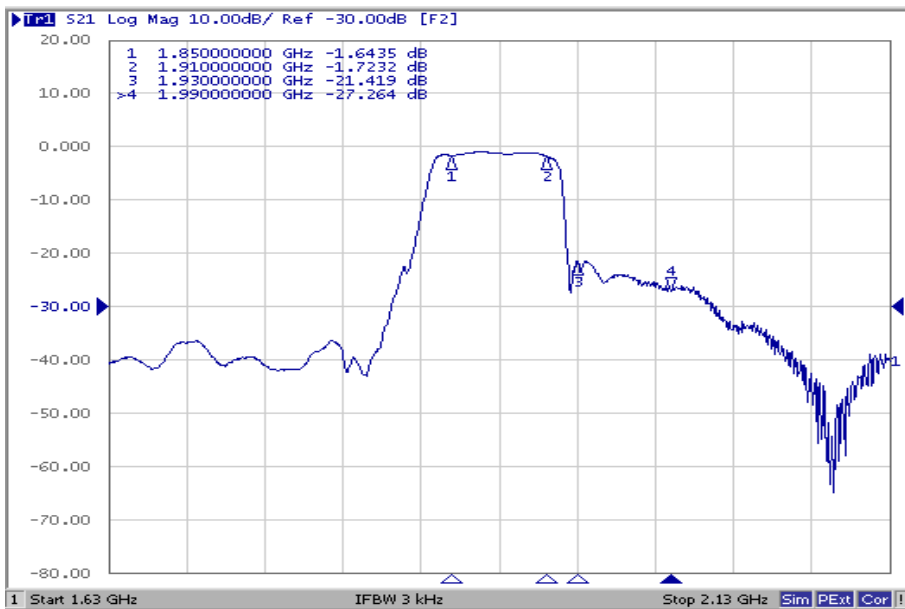
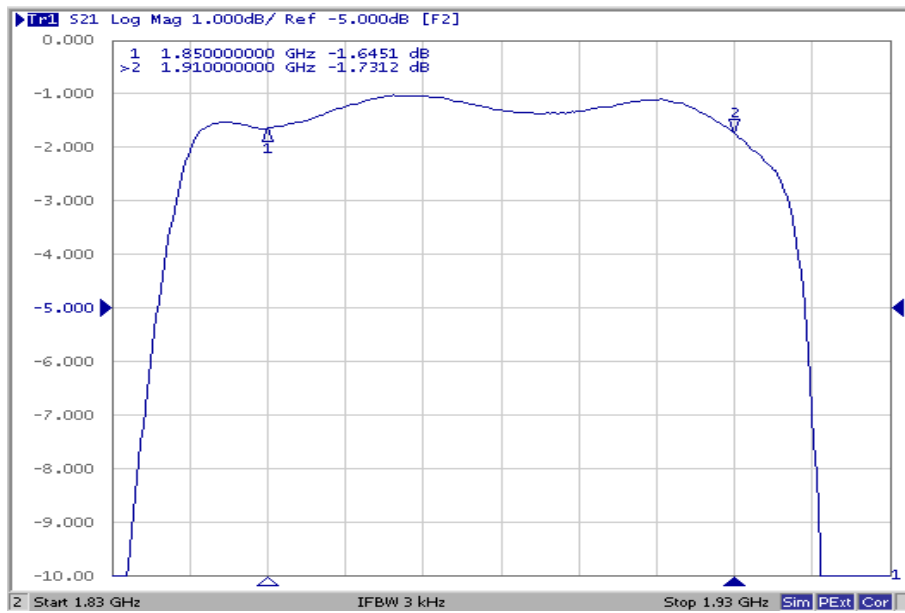
(\*1) Specification of insertion loss includes loss that comes from test board. (Approximately 0.15 dB)



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

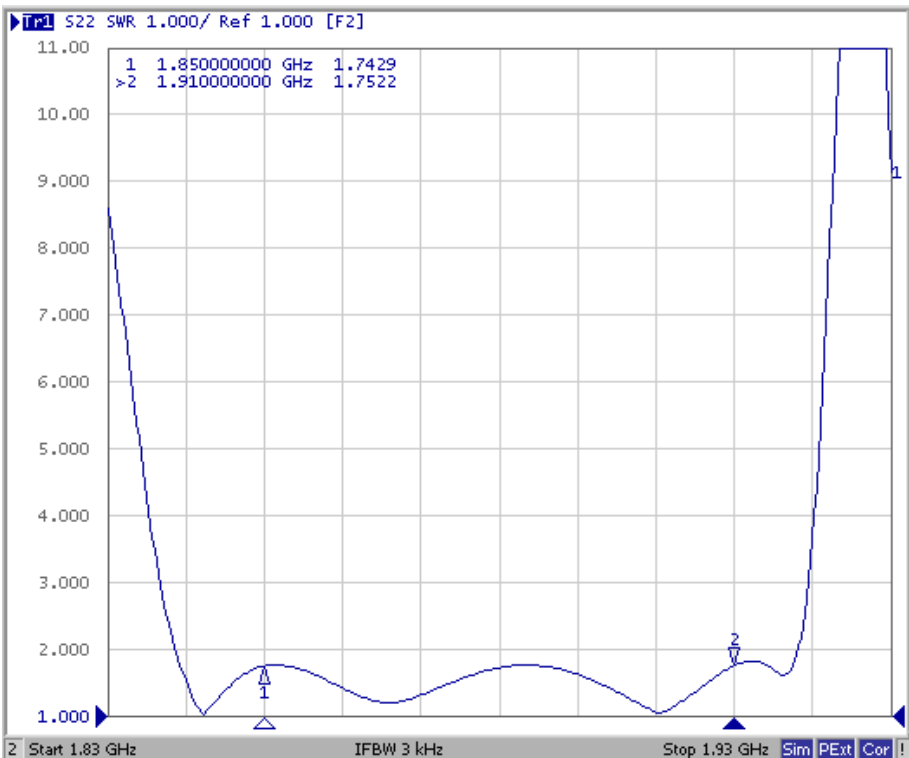
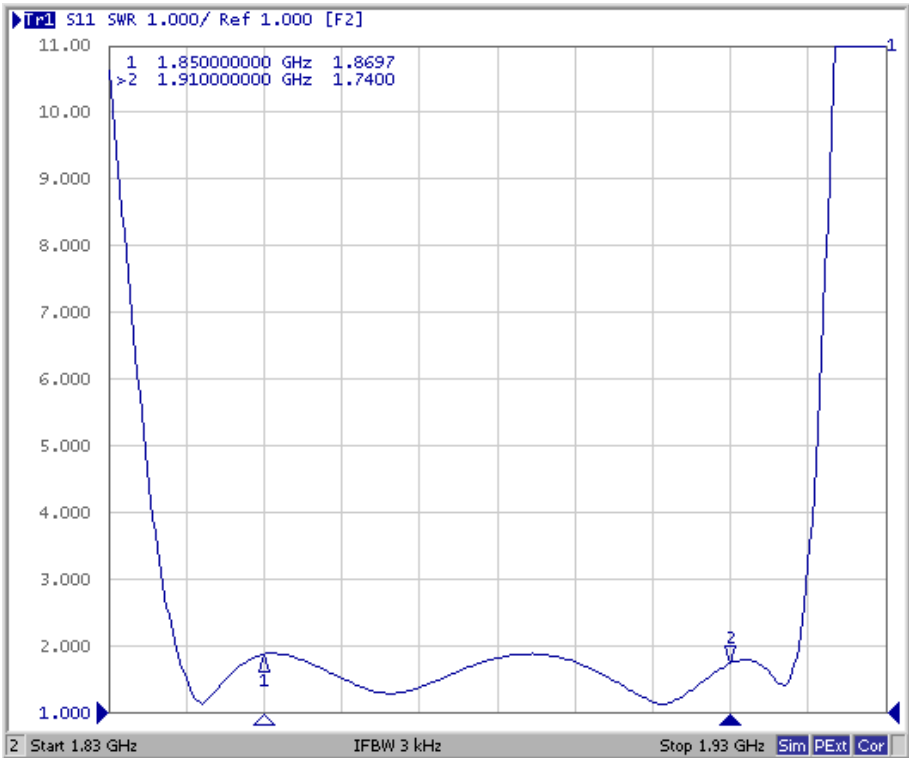
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

## FREQUENCY CHARACTERISTICS:

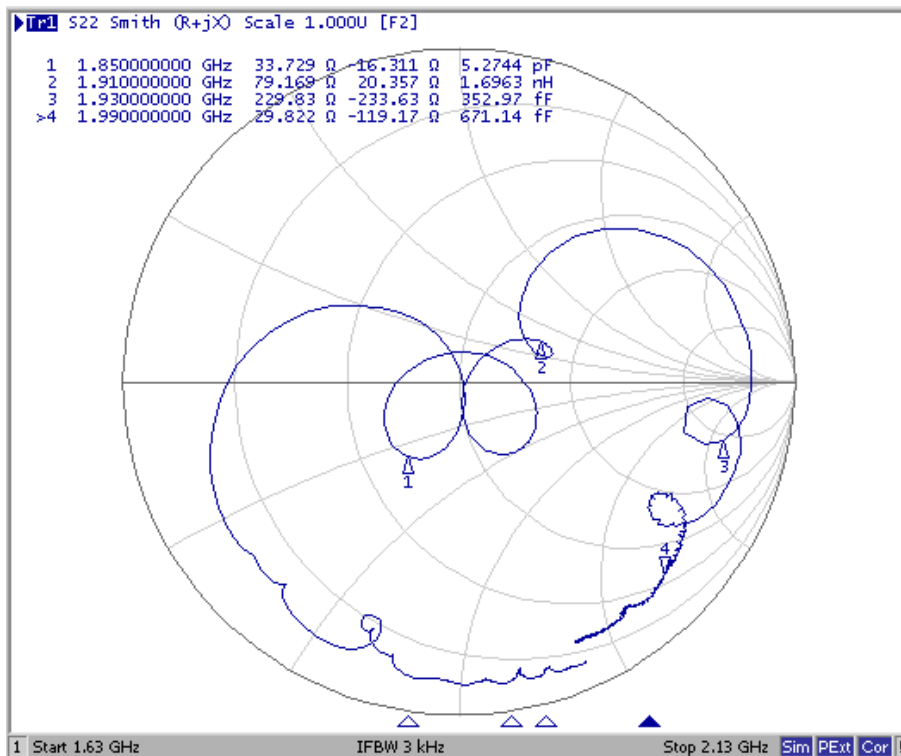
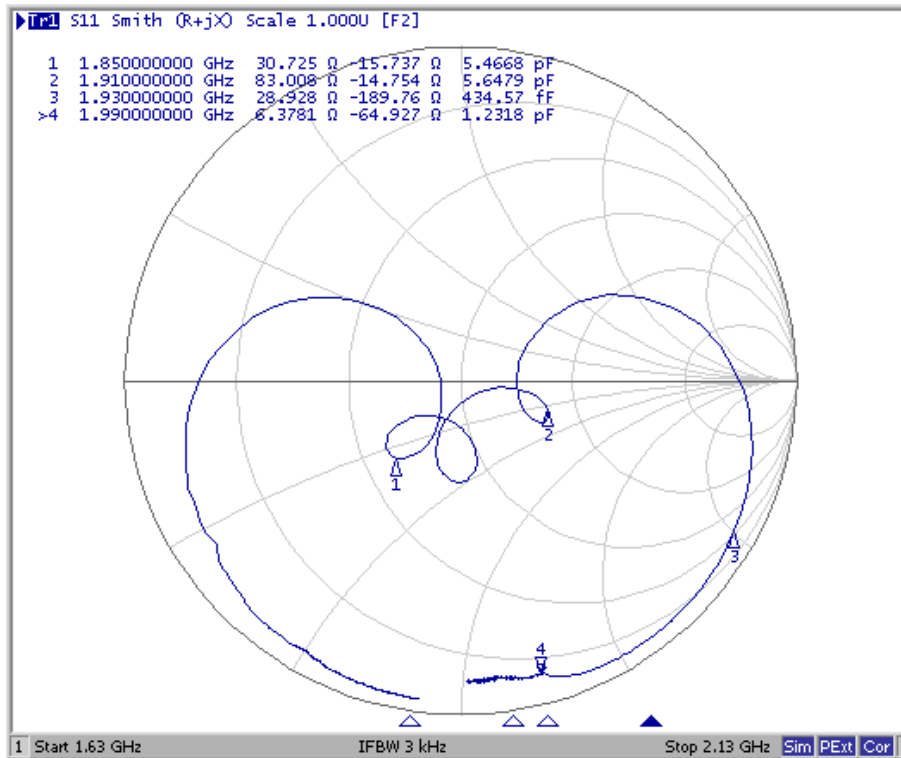


Reflection Functions:

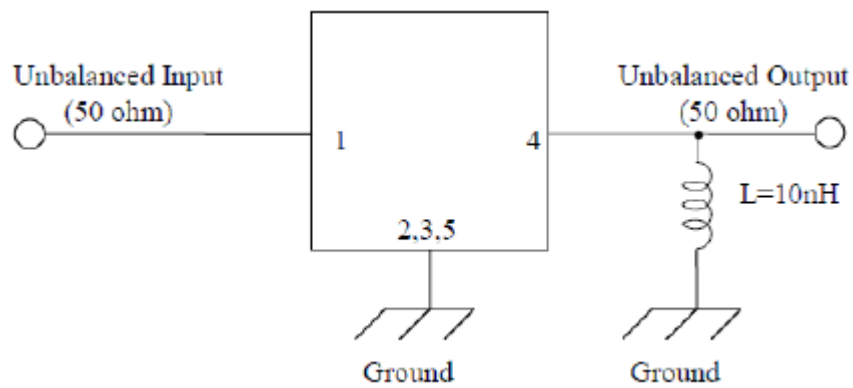
VSWR



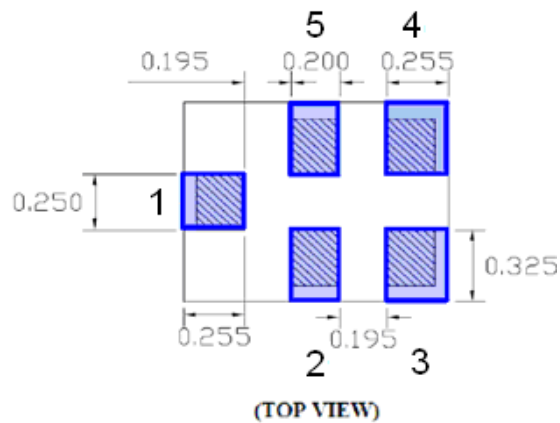
## Smith Chart



## MEASUREMENT CIRCUIT:

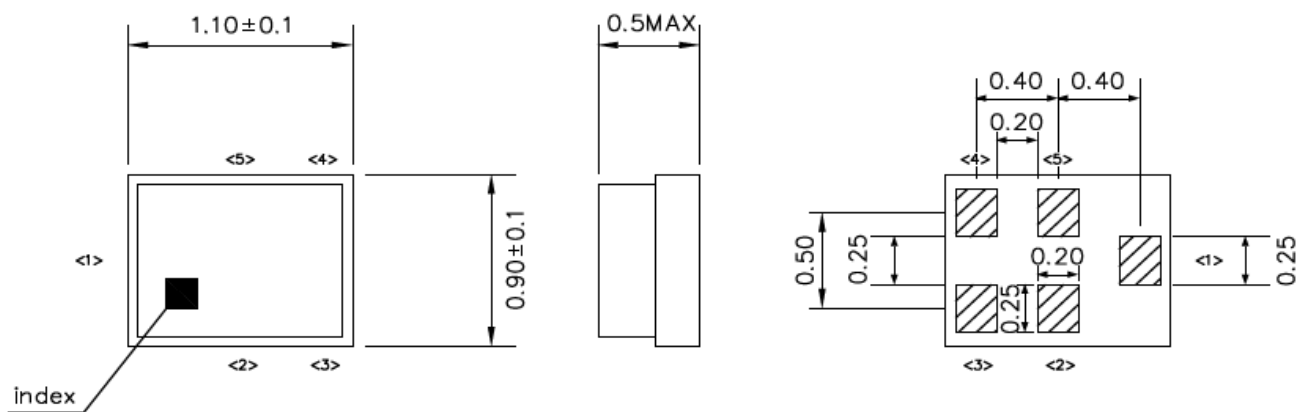


## PCB Footprint:



## OUTLINE DRAWING:

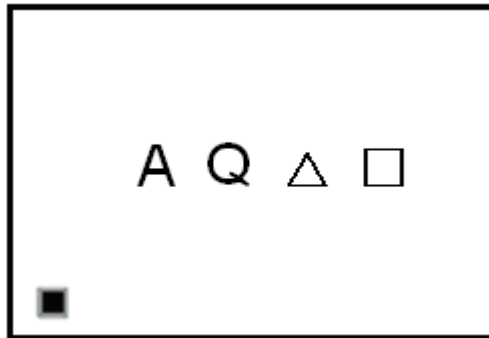
Device size: 1.1typ. x 0.9typ. x 0.5max.



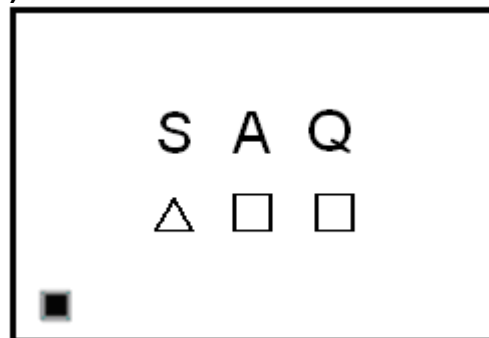
## Pin Configuration

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

**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:**

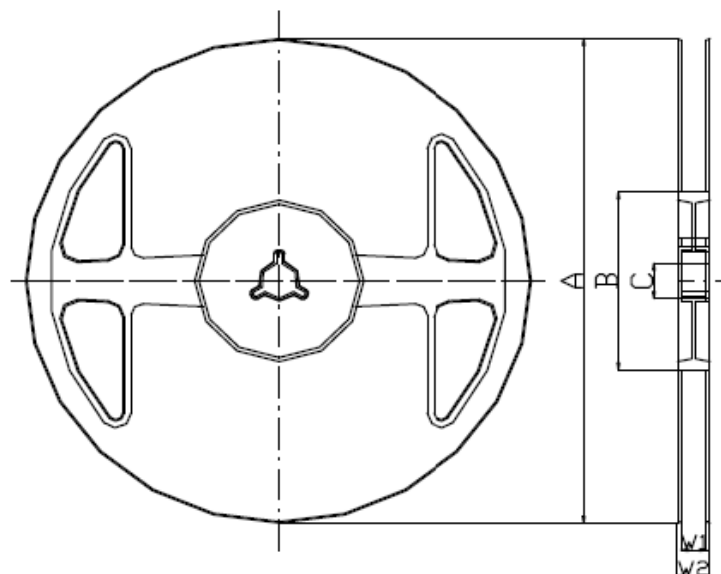
Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2017	A	B	C	D	E	F	G	H	J	K	L	M
2018	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019	a	b	c	d	e	f	g	h	j	k	l	m
2020	n	p	q	r	s	t	u	v	w	x	y	z

**PACKING:****REEL DIMENSION**

Reel Count:

7" = 3000

13" = 10,000

**Materials of Reel**

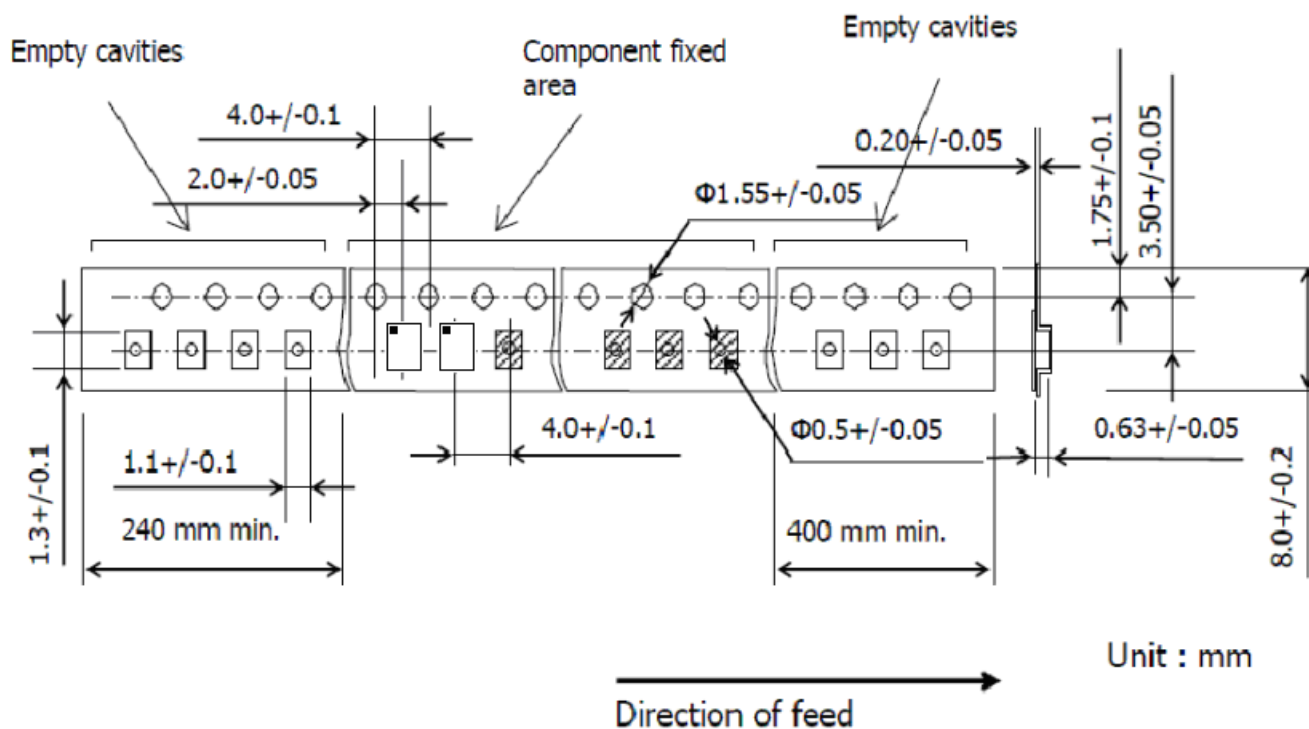
Material : Polystyrene + Carbon

Color : Black

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

Unit : mm

A	B	C	W1	W2
$\phi 180.0 +0.0/-1.5$	$\phi 66.0 +/0.5$	$\phi 13.0 +/0.2$	$9.0 +1.0/-0.0$	$11.4 +/1.0$

**TAPE DIMENSION**

### 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.

