

MAXIMUM RATING:

- Maximum Input Power: 10 dBm
- DC voltage: +/-5 V
- Operating Temperature: -40 °C to +85 °C
- Storage Temperature: -40 °C to +100 °C
- Moisture Sensitivity Level: Level 1 (MSL 1)
- ESD: 50 V(MM), 100 V(HBM)
- AEC-Q200 Qualified

**1950 MHz
SAW Filter**



SM1109

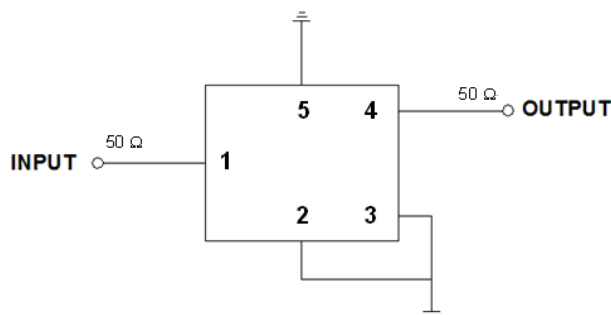
ELECTRICAL CHARACTERISTICS:

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

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

Parameters Description	Unit	Min.	Typ.	Max.
Center Frequency F_c	MHz	-	1950	-
Insertion Loss (1920~1980 MHz) IL	dB	-	1.8	2.5
Amplitude Ripple (1920~1980 MHz)	dB _{p-p}	-	0.8	2.0
VSWR (1920~1980 MHz)	-	-	1.8	2.3
Attenuation (Reference level from 0 dB)				
DC ~ 1577 MHz	dB	30	34	-
1577 ~ 1880 MHz	dB	22	29	-
2110 ~ 2170 MHz	dB	35	38	-
2500 ~ 3120 MHz	dB	28	33	-
3840 ~ 3960 MHz	dB	25	29	-
5760 ~ 5940 MHz	dB	15	22	-

MEASUREMENT CIRCUIT:

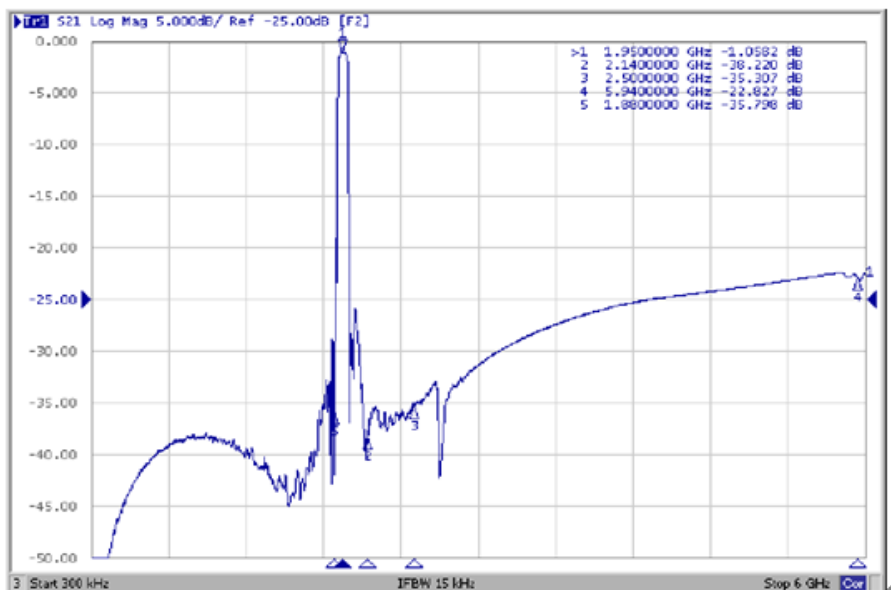
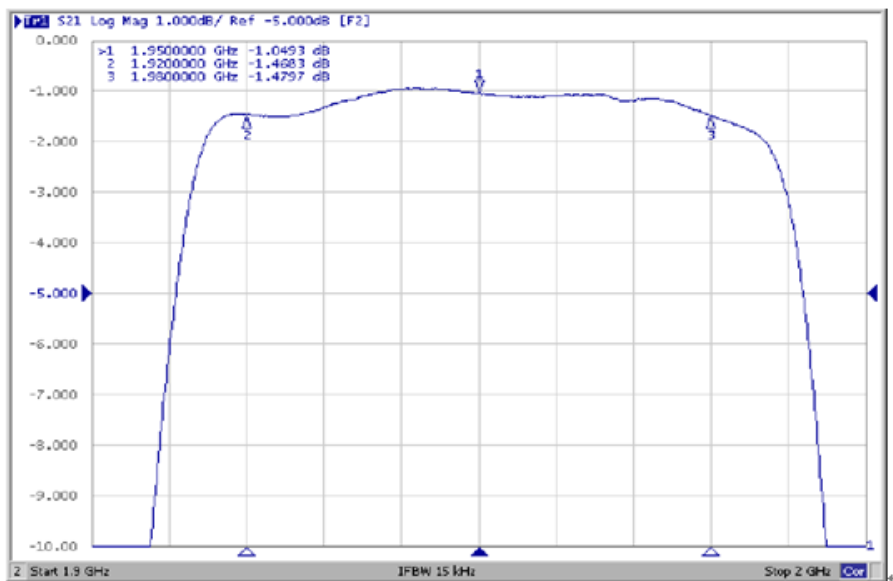


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.



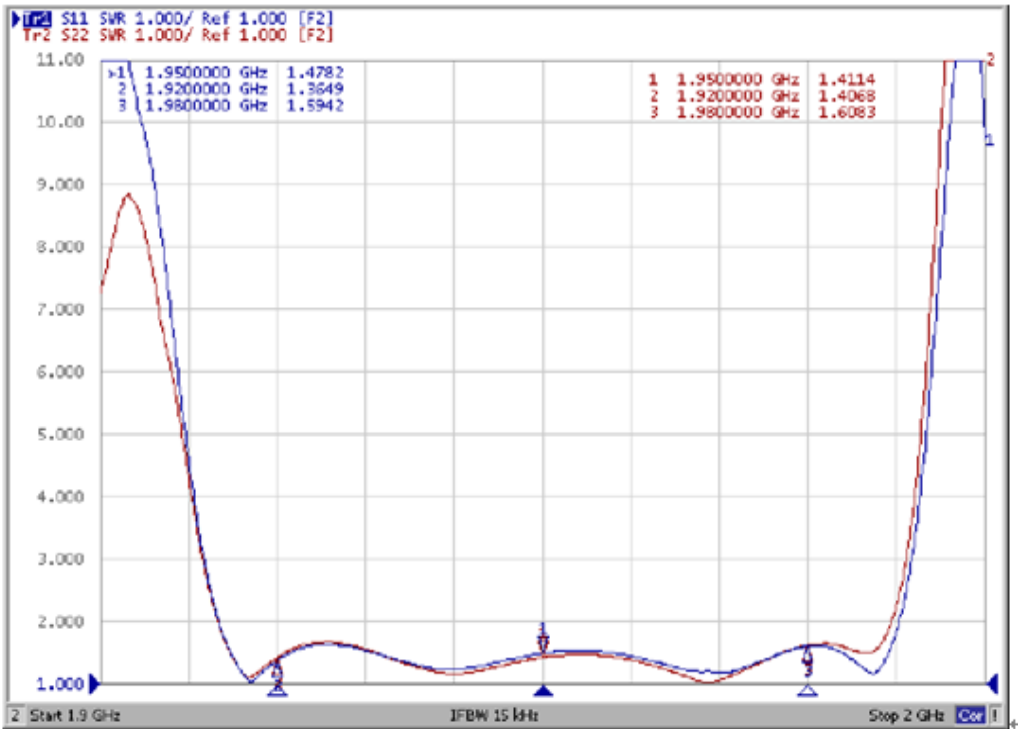
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

FREQUENCY CHARACTERISTIC:

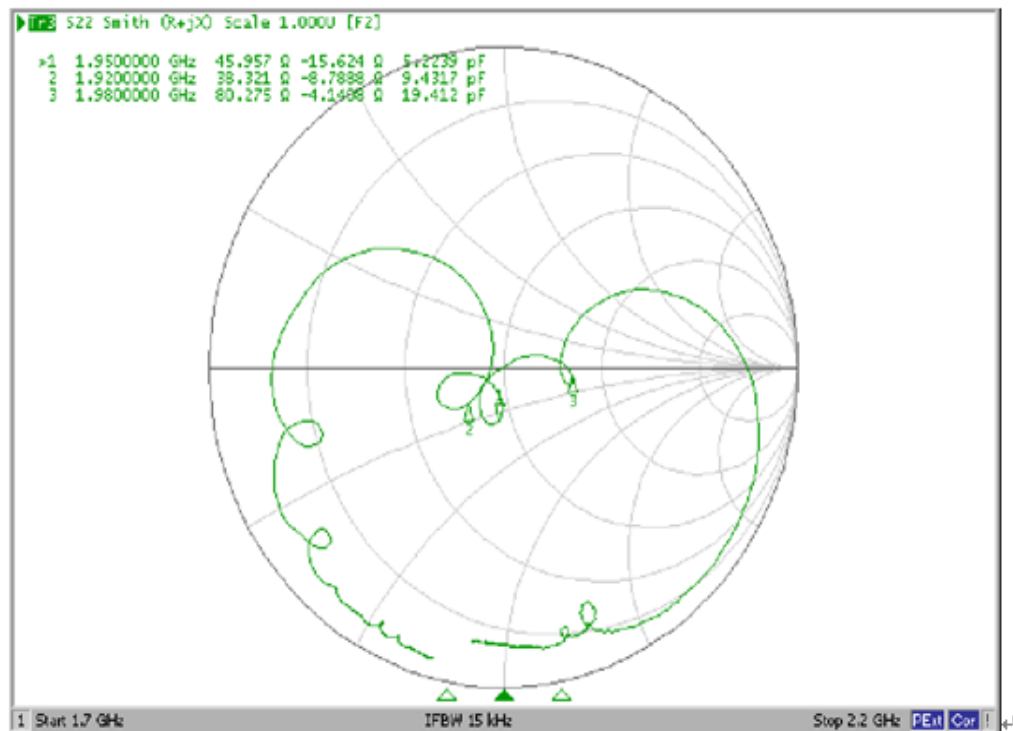
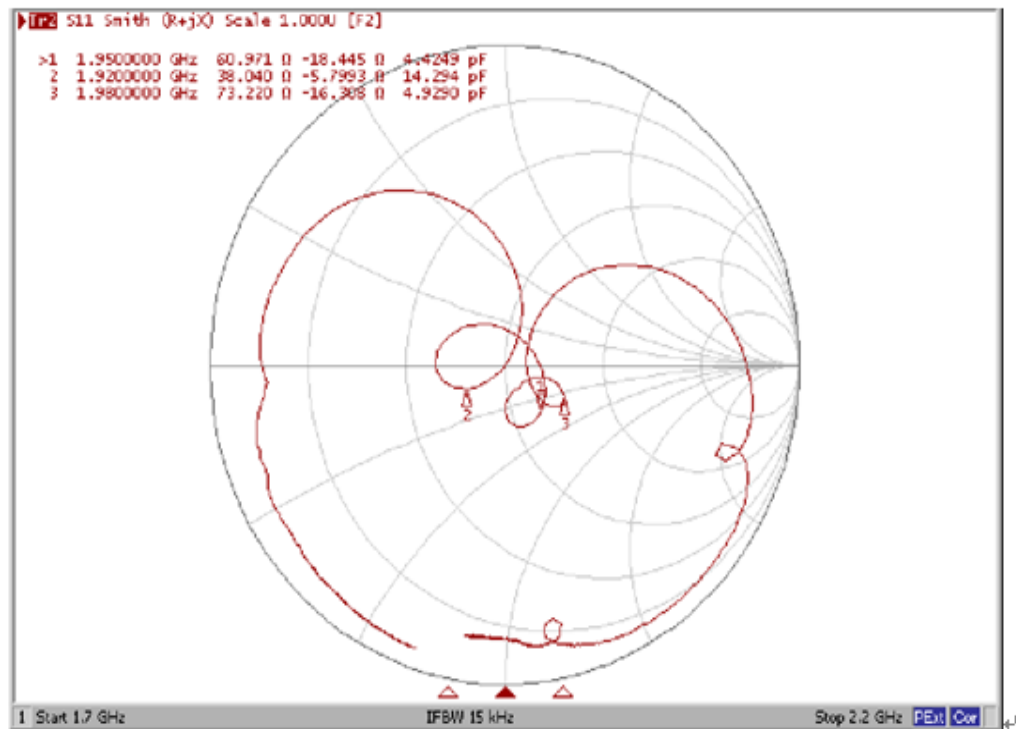


Reflection Functions:

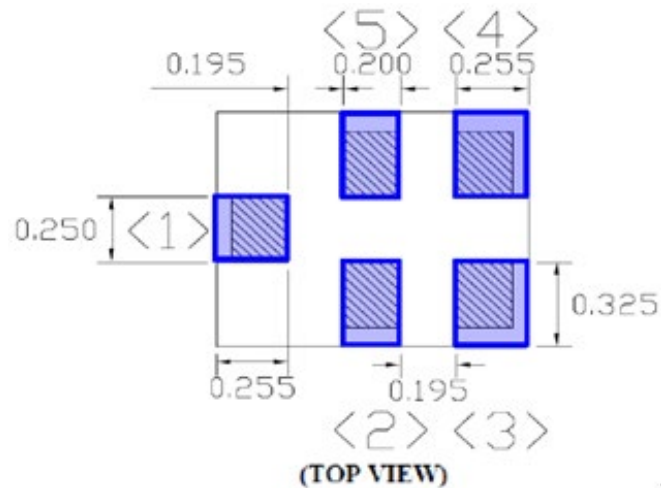
VSWR



Smith Chart

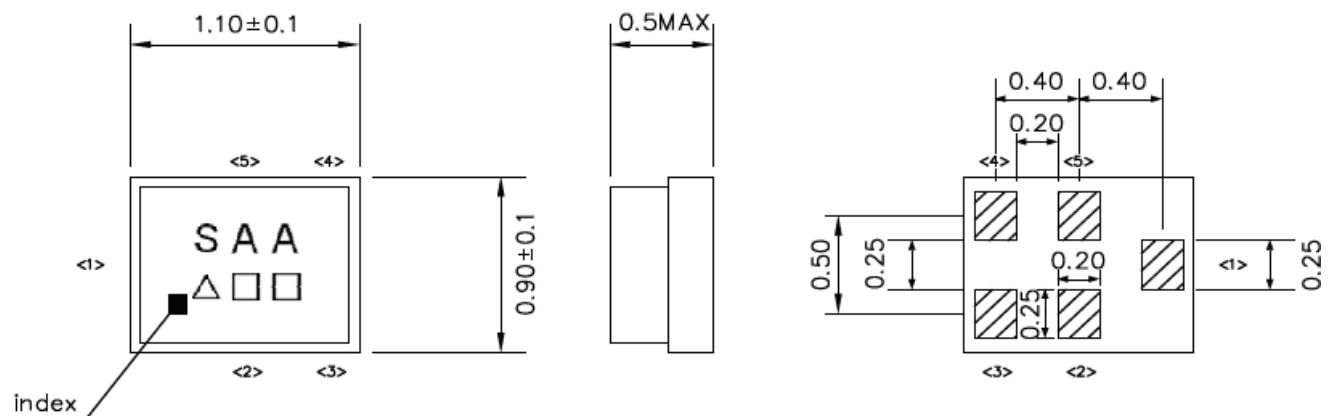


PCB Footprint:



OUTLINE DRAWING (Mass Production):

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



Unit : mm

Pin Configuration

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

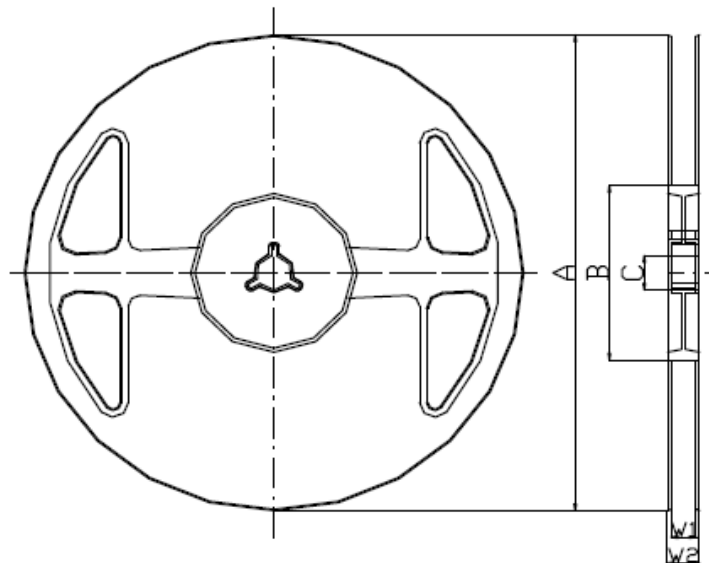
△ : Date Code

□ : 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

PACKING REEL DIMENSION



Materials of Reel

Material : Polystyrene + Carbon

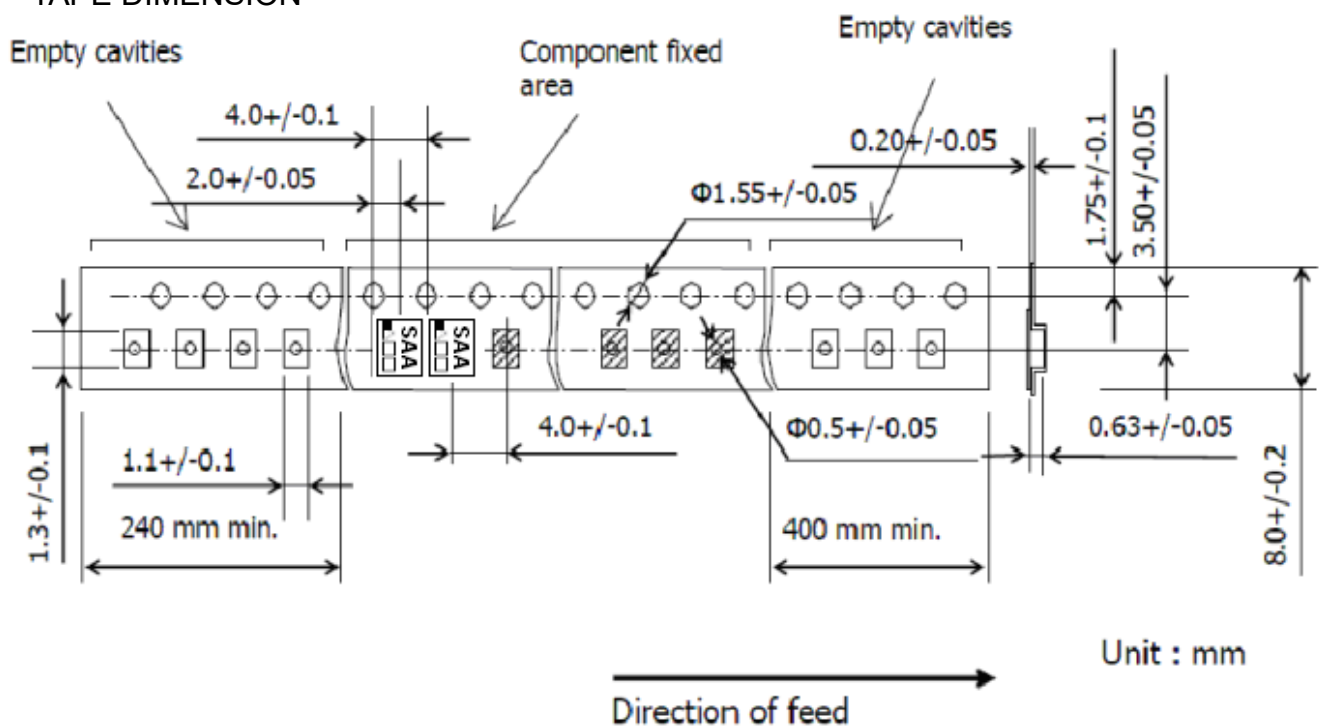
Color : Black

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

Unit : mm

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

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.

