



TAI-SAW TECHNOLOGY CO., LTD.

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

TEL: 886-3-4690038 FAX: 886-3-4697532

E-mail: tstsales@mail.taisaw.com Web: www.taisaw.com

Product Specifications Approval Sheet

Product Description: 246MHz 240kHzBW SMD 5.0X5.0 mm IF SAW Filter

TST Part No.: TB1307A

Customer Part No.: _____

Customer signature required

Company: _____

Division: _____

Approved by : _____

Date: _____

Checked by: _____ Kazuma Lee *Kazuma Lee*

Approved by: _____ Andy Yu *Andy Yu*

Date: _____ 09 / 24 / 2018

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.



TAI-SAW TECHNOLOGY CO., LTD.

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

TEL: 886-3-4690038 FAX: 886-3-4697532

E-mail: tstsales@mail.taisaw.com Web: www.taisaw.com

SAW Filter 246MHz

MODEL NO.: TB1307A

REV. NO.:1

A. MAXIMUM RATING:

1. Input Power Level: 10 dBm
2. DC voltage : 5 V
3. Operating Temperature: -25°C to +85°C
4. Storage Temperature: -55°C to +85°C
5. Moisture Sensitivity Level: Level 1(MSL1)

RoHS Compliant
Lead free
Lead-free soldering

Electrostatic Sensitive Device (ESD)

B. ELECTRICAL CHARACTERISTICS:

Ambient Temperature: 25°C

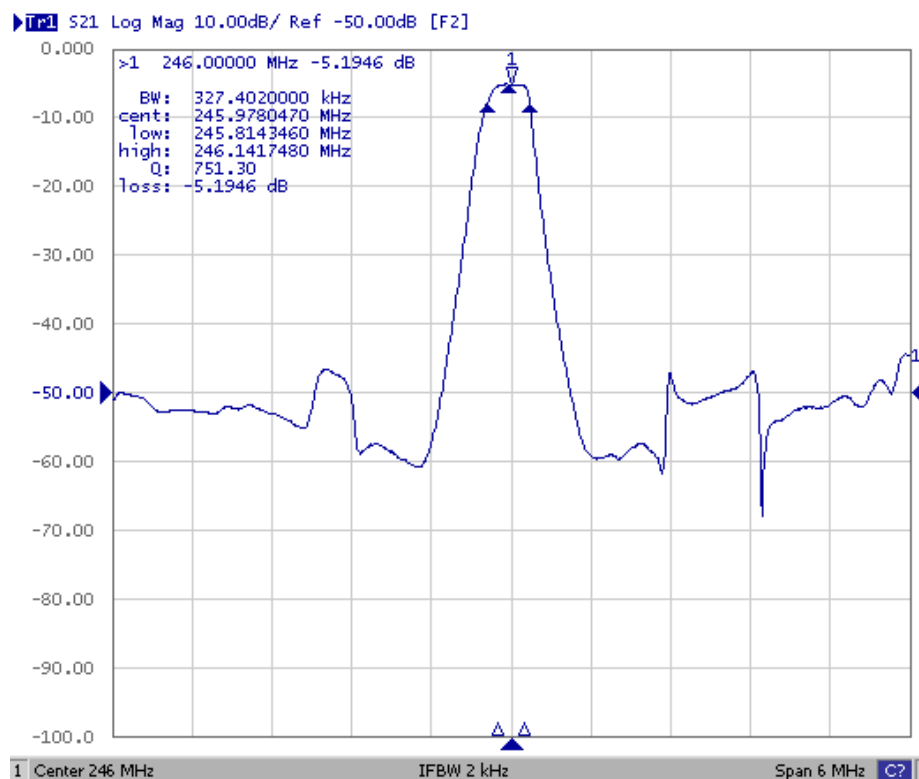
Item	Unit	Min.	Typ.	Max.	
Center frequency, Fc	MHz	-	246	-	
Insertion loss ILmin.	dB	-	5.1	6.0	
Pass band Ripple Fc-85kHz~Fc+93kHz	kHz	-	0.3	1.5	
Group Delay Variation Fc+/-50kHz	us	-	0.2	1.2	
Group Delay Variation Fc+/-70kHz	us	-	0.4	1.5	
Group Delay Variation Fc+/-100kHz	us	-	1.2	2.5	
Attenuation (reference level from IL)					
Fc - 120 kHz to Fc + 120 kHz	dB	-	0.8	3	
Fc +/- 330 kHz to Fc +/- 400 kHz	dB	18	20	-	
Fc +/- 400 kHz to Fc +/- 600 kHz	dB	25	30	-	
Fc +/- 600 kHz to Fc +/- 800 kHz	dB	40	52	-	
Fc +/- 800 kHz to Fc +/- 3.0 MHz	dB	35	39	-	
Fc +/- 3.0 MHz to Fc +/- 100 MHz	dB	35	39	-	
Source Impedance	Ohm	-	50	-	
Load Impedance	Ohm	-	50	-	
Temperature coefficient of frequency	TCf	-0.033 ppm/C^2			

Ambient Temperature: 25°C

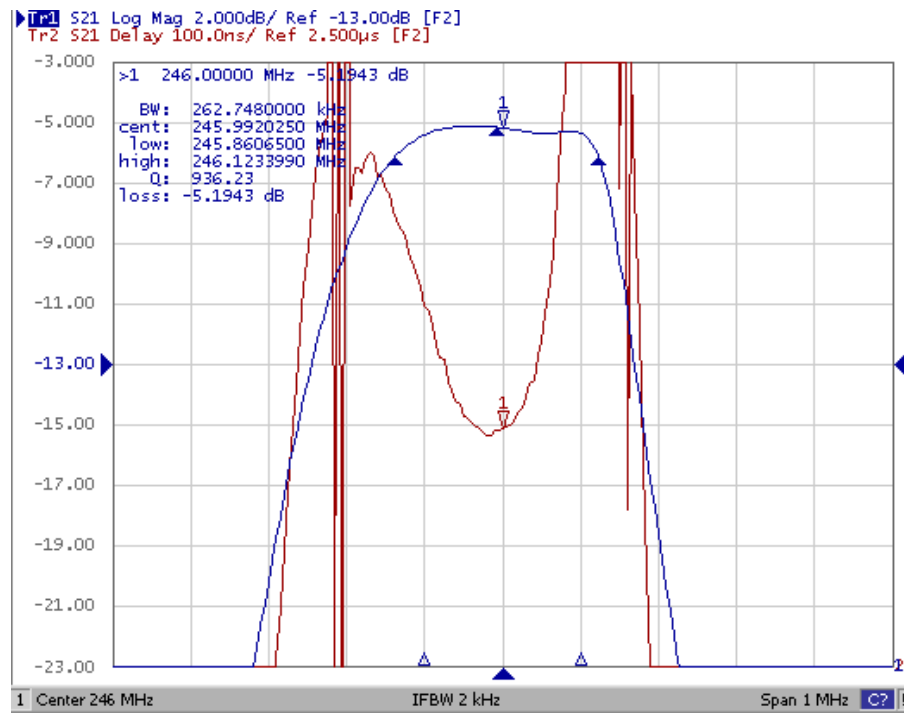
Item	Unit	Min.	Typ.	Max.	
Center frequency, Fc	MHz	-	246	-	
Insertion loss ILmin.	dB	-	5.4	6.0	
Pass band Ripple Fc-85kHz~Fc+93kHz	kHz	-	0.5	1.5	
Group Delay Variation Fc+/-50kHz	us	-	0.4	1.2	
Group Delay Variation Fc+/-70kHz	us	-	0.8	1.5	
Group Delay Variation Fc+/-100kHz	us	-	1.2	2.5	
Attenuation (reference level from IL)					
Fc - 120 kHz to Fc + 120 kHz	dB	-	1.6	3	
Fc +/- 330 kHz to Fc +/- 400 kHz	dB	18	20	-	
Fc +/- 400 kHz to Fc +/- 600 kHz	dB	25	23	-	
Fc +/- 600 kHz to Fc +/- 800 kHz	dB	30	35	-	
Fc +/- 800 kHz to Fc +/- 3.0 MHz	dB	22	26	-	
Fc +/- 3.0 MHz to Fc +/- 100 MHz	dB	25	30	-	
Source Impedance(Single)	Ohm	-	50	-	
Load Impedance(Differential)	Ohm	-	600	-	
Temperature coefficient of frequency	TCf	-0.033 ppm/C^2			

C. FREQUENCY CHARACTERISTICS:

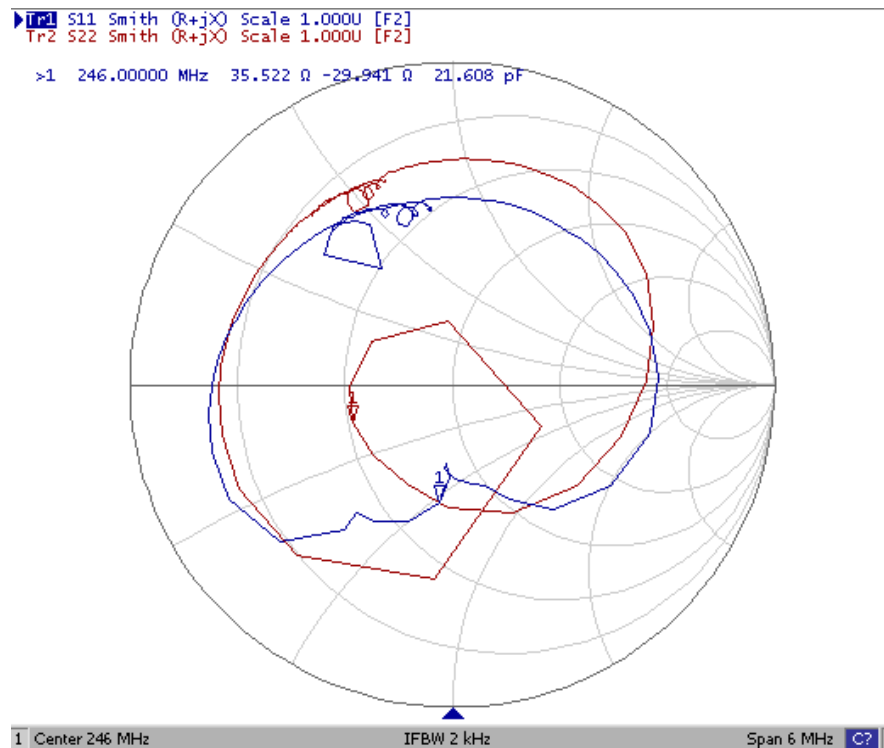
(1) Narrow band Response:(Single-end)



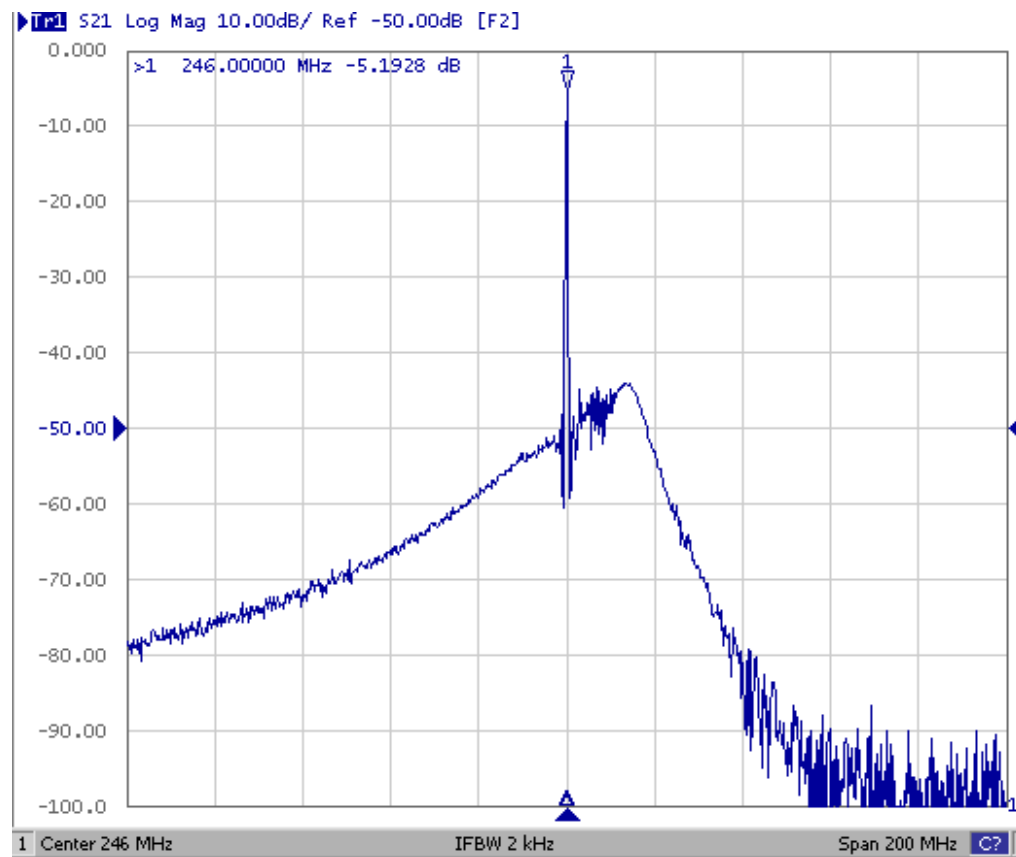
(2) Pass band Response and Group Time Delay Response: (Single-ended)



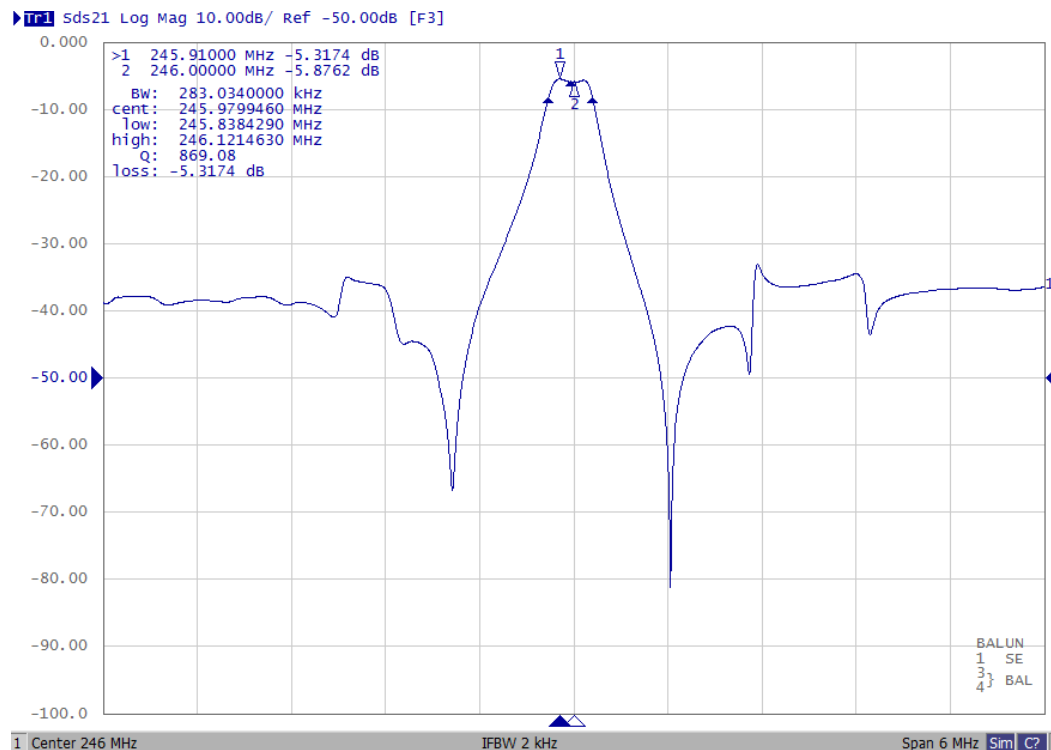
(3) Smith Chart: (Single-ended)



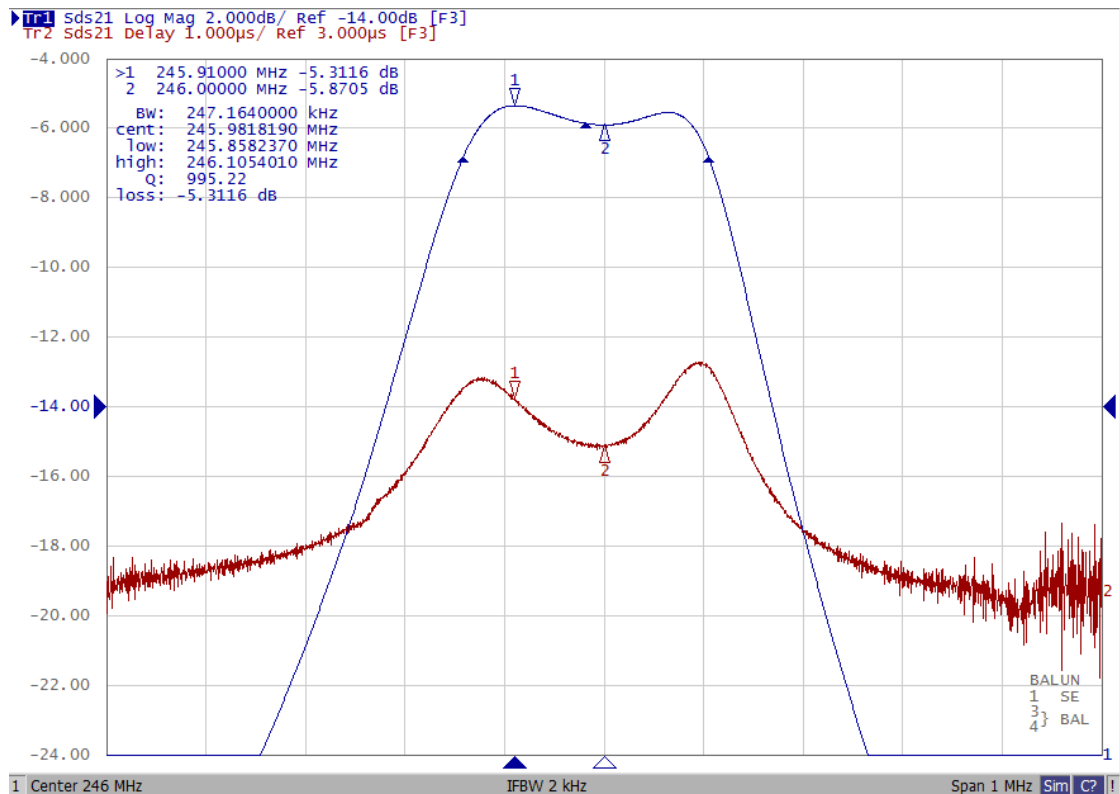
(4) Wide band Response: (Single-ended)



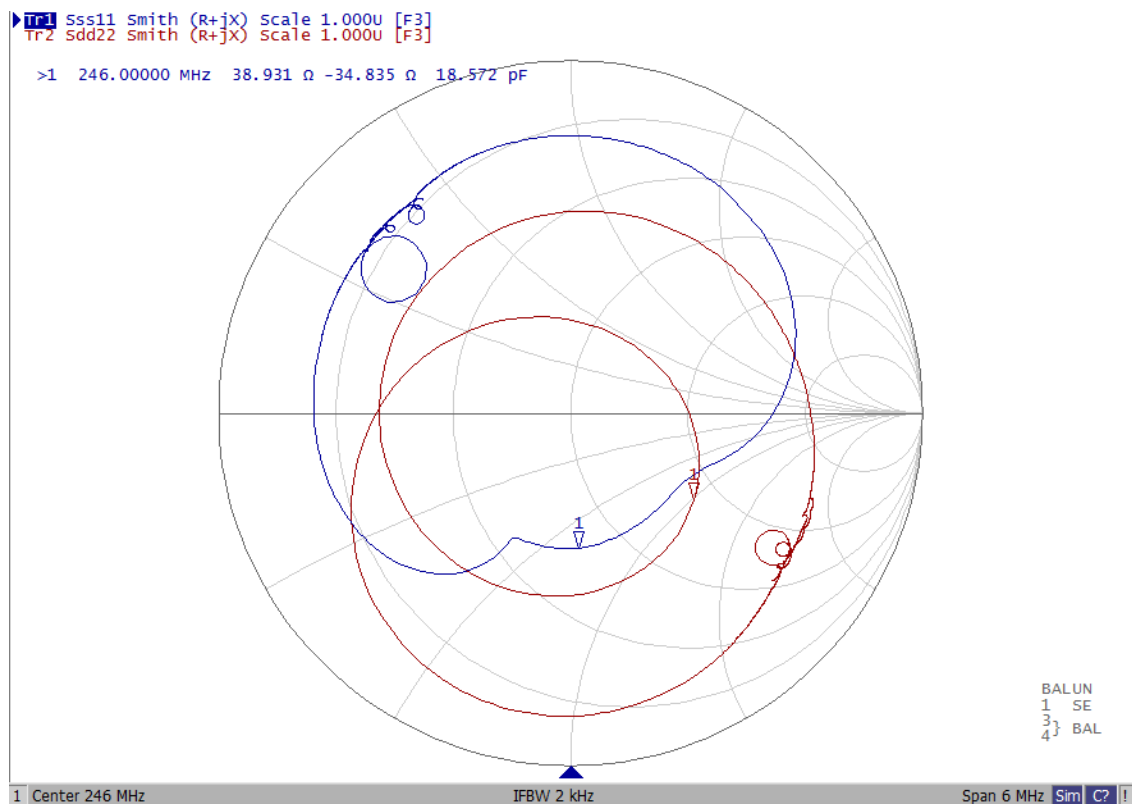
(5) Narrow band Response:(Single-Differential)



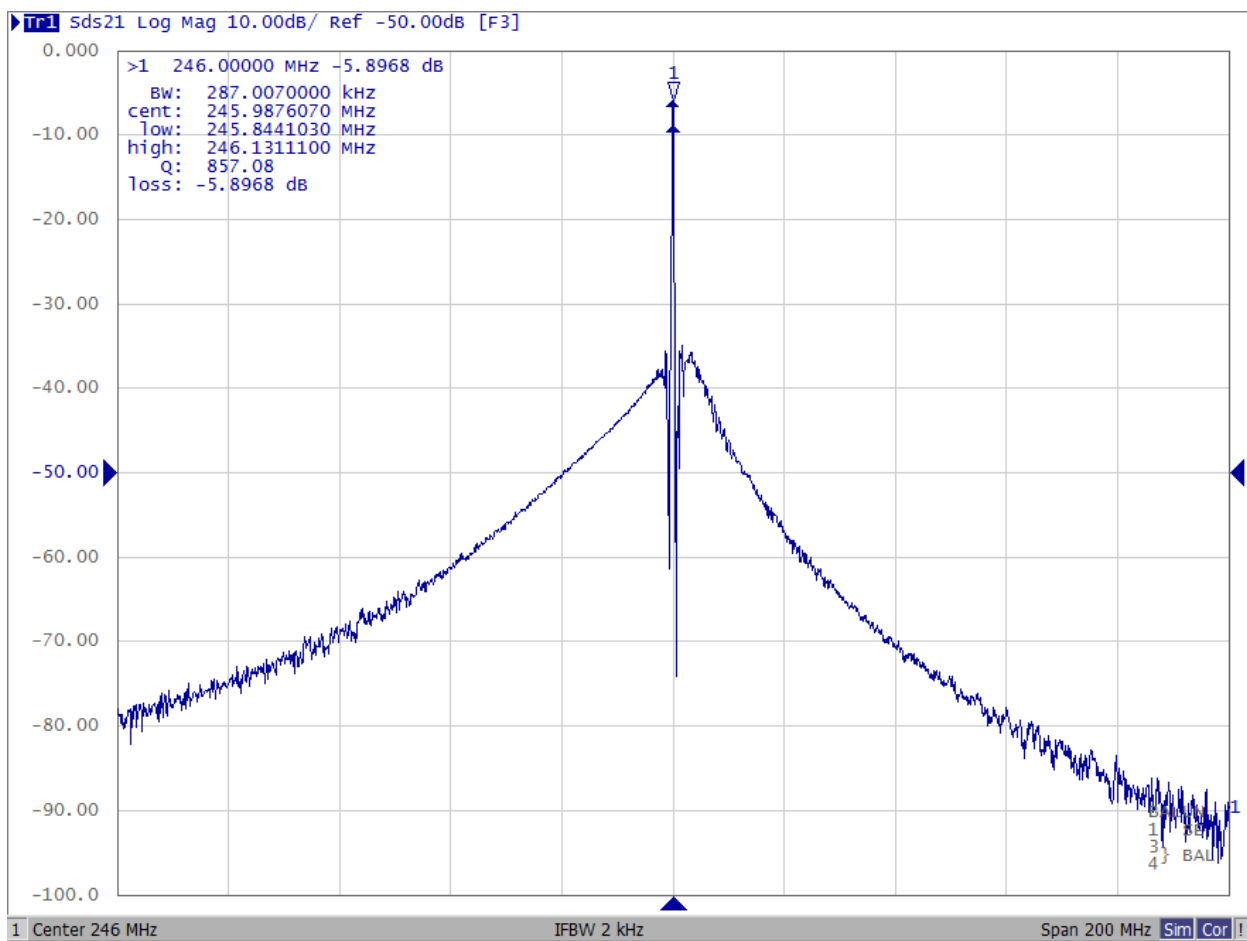
(6) Pass band Response and Group Time Delay Response: (Single-Differential)



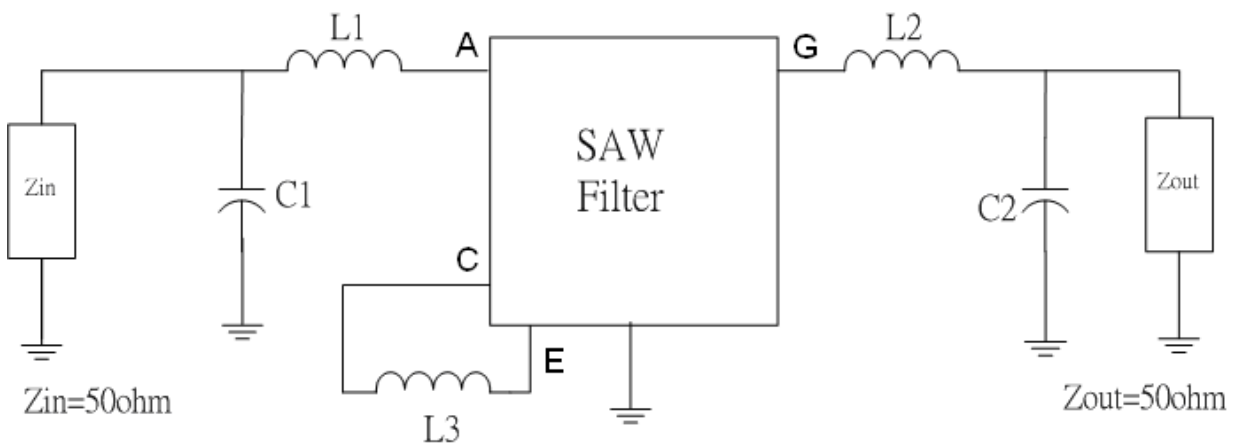
(7) Smith Chart: (Single-Differential)



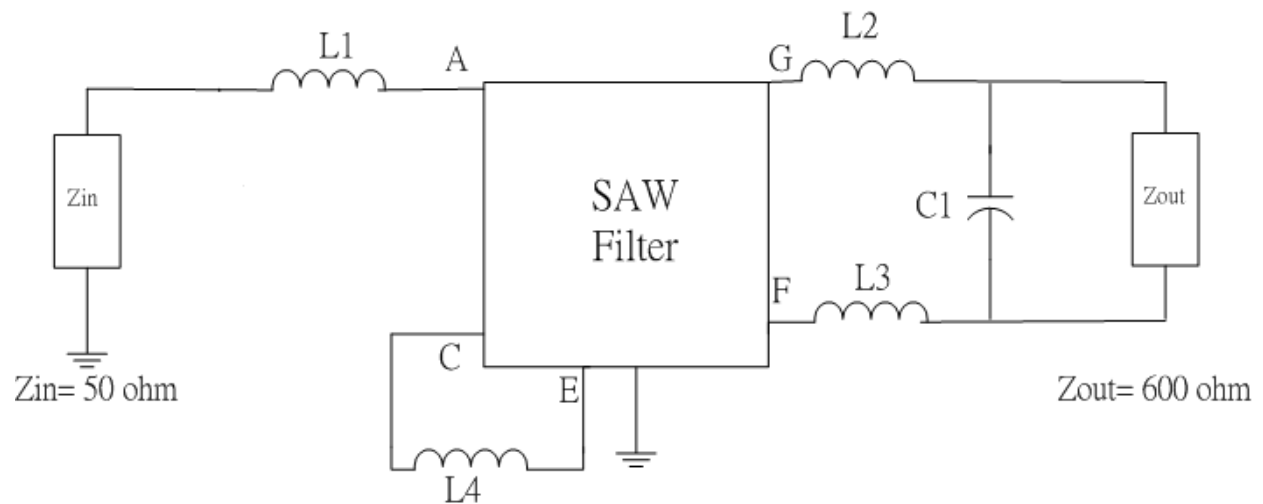
(8) Wide band Response: (Single-Differential)



D. MATCHING CIRCUIT:

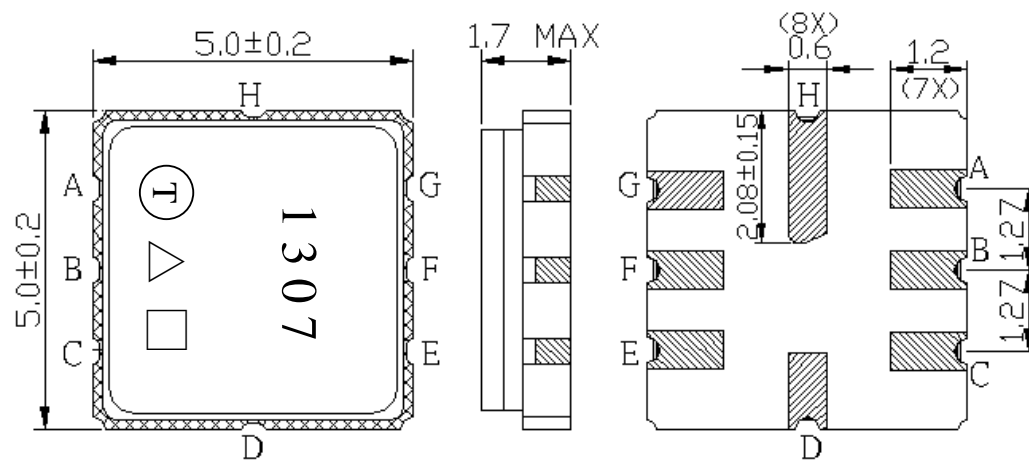


$$L1=150\text{nH} \quad L2=150\text{nH} \quad L3=220\text{nH} \quad C1=10\text{pF} \quad C2=5\text{pF}$$



L1=150nH L2=180nH L3=180nH L4=220nH C2=1.5pF

E. OUTLINE DRAWING:



Pin A –RF input

Pin G –RF output or balanced output

Pin F –RF Ground or balanced output

Pin C, E – External Coil

Others - Ground

□: Week Code

Unit: mm

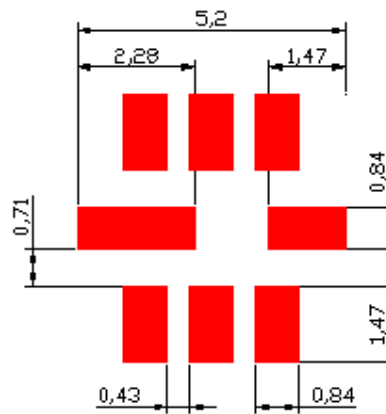
△: Product / Year Code

Year	2013 2017	2014 2018	2015 2019	2016 2020
Product Code	B	b	<u>B</u>	<u>b</u>

Week Code Table

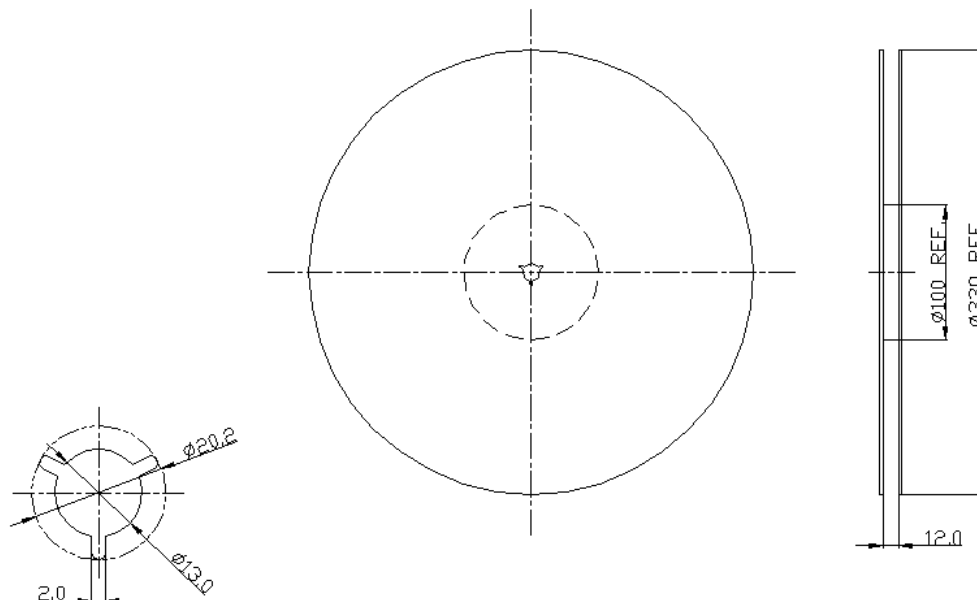
WK01	WK02	WK03	WK04	WK05	WK06	WK07	WK08	WK09	WK10	WK11	WK12	WK13
A	B	C	D	E	F	G	H	I	J	K	L	M
WK14	WK15	WK16	WK17	WK18	WK19	WK20	WK21	WK22	WK23	WK24	WK25	WK26
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
WK27	WK28	WK29	WK30	WK31	WK32	WK33	WK34	WK35	WK36	WK37	WK38	WK39
a	b	c	d	e	f	g	h	i	j	k	l	m
WK40	WK41	WK42	WK43	WK44	WK45	WK46	WK47	WK48	WK49	WK50	WK51	WK52
n	o	p	q	r	s	t	u	v	w	x	y	z

F. PCB FOOTPRINT:

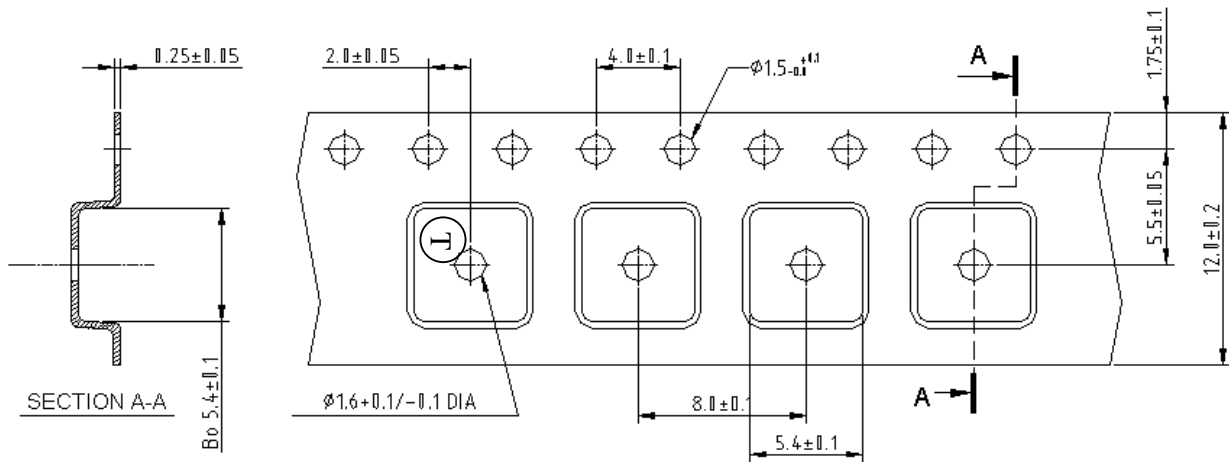


G. PACKING:

1. REEL DIMENSION (Please refer to FR-75D10 for packing quantity)



2. TAPE DIMENSION



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 $260^{\circ}\text{C} \pm 0/-5^{\circ}\text{C}$ peak (20~40sec).
4. Time: 2 times.

