

Features

SAW filter for BAND 41 Tx Full Band

- Low-loss RF filter for mobile telephone
- Usable passband 194 MHz
- 50 Ω / 50 Ω Unbalanced to unbalanced operation
- Low insertion attenuation
- Package size 1.4 mm *1.1 mm

Electrical Specification

ITEM		Min.	Typ.	Max.	Unit	Remarks
Frequency range		2496		2690	dB	
Insertion Loss	2496~2500 MHz		2.6	3.8	dB	-30-85°C
Insertion Loss	2500~2515 MHz		2.0	3.2	dB	-30-85°C
Insertion Loss	2515~2545 MHz		1.8	2.8	dB	-30-85°C
Insertion Loss	2545~2575 MHz		1.8	2.8	dB	-30-85°C
Insertion Loss	2575~2675 MHz		1.8	2.8	dB	-30-85°C
Insertion Loss	2675~2690 MHz		2.4	3.2	dB	-30-85°C
Insertion Loss	2496~2500 MHz		2.8	3.2	dB	RT(25°C)
Insertion Loss	2500~2515 MHz		2.5	2.9	dB	RT(25°C)
Insertion Loss	2515~2545 MHz		1.8	2.4	dB	RT(25°C)
Insertion Loss	2545~2575 MHz		1.8	2.4	dB	RT(25°C)
Insertion Loss	2575~2675 MHz		1.8	2.4	dB	RT(25°C)
Insertion Loss	2675~2690 MHz		2.0	2.8	dB	RT(25°C)
Passband Ripple @20MHz	2496~2690 MHz		1.0	2.3	dB	-30-85°C
Passband Ripple @20MHz	2496~2690 MHz		1.0	1.7	dB	RT(25°C)
Passband Ripple @100MHz	2515~2675 MHz		0.5	1.5	dB	-30-85°C
Passband Ripple @100MHz	2515~2675 MHz		0.5	1.2	dB	RT(25°C)
VSWR @Input port	2496~2690 MHz		1.3	2.2	dB	-30-85°C
VSWR @Output port	2496~2690 MHz		1.3	2.2	dB	-30-85°C
VSWR @Input port	2496~2690 MHz		1.3	2.2	dB	RT(25°C)
VSWR @Output port	2496~2690 MHz		1.3	2.2	dB	RT(25°C)
VSWR @Input port	2515~2675 MHz		1.2	2.2	dB	-30-85°C
VSWR @Output port	2515~2675 MHz		1.2	2.2	dB	-30-85°C
VSWR @Input port	2515~2675 MHz		1.2	2.2	dB	RT(25°C)

VSWR @Output port	2515~2675 MHz		1.2	2.2	dB	RT(25°C)
Attenuation	617-960MHz		25	30	dB	LB
Attenuation	1 166.22-1254MHz		23	30	dB	GPS L5+L2
Attenuation	1559.052-1605.89MHz		26	30	dB	GPS L1
Attenuation	1710- 1785MHz		28	31	dB	B3 Tx
Attenuation	1805- 1880MHz		24	31	dB	B3 Rx
Attenuation	1880- 1920MHz		23	32	dB	B39
Attenuation	1920- 1990MHz		21	33	dB	B1 Tx
Attenuation	2010-2025MHz		25	30	dB	B34
Attenuation	2110-2170MHz		12	26	dB	B1 Rx
Attenuation	2300-2400MHz		9	15	dB	B40
Attenuation	2402~2422 MHz		30	40	dB	WIFI CH1, 19MHz integration bandwidth
Attenuation	2407~2427 MHz		30	40	dB	WIFI CH2, 19MHz integration bandwidth
Attenuation	2412~2432 MHz		30	40	dB	WIFI CH3, 19MHz integration bandwidth
Attenuation	2417~2437 MHz		30	40	dB	WIFI CH4, 19MHz integration bandwidth
Attenuation	2422~2442 MHz		30	40	dB	WIFI CH5, 19MHz integration bandwidth
Attenuation	2427~2447 MHz		30	40	dB	WIFI CH6, 19MHz integration bandwidth
Attenuation	2432~2452 MHz		30	40	dB	WIFI CH7, 19MHz integration bandwidth
Attenuation	2437~2457 MHz		30	40	dB	WIFI CH8, 19MHz integration bandwidth
Attenuation	2442~2462 MHz		30	40	dB	WIFI CH9, 19MHz integration bandwidth
Attenuation	2447~2467 MHz		20	40	dB	WIFI CH10, 19MHz integration bandwidth
Attenuation	2452~2472 MHz		15	30	dB	WIFI CH11, 19MHz integration bandwidth
Attenuation	2457~2477 MHz		7	10	dB	WIFI CH12, 19MHz integration bandwidth
Attenuation	2462~2482 MHz		4	7	dB	WIFI CH13, 19MHz integration bandwidth
Attenuation	2402~2422 MHz		35	40	dB	WIFI CH1,19M integration bandwidth, 25degree

Attenuation	2407~2427 MHz		35	40	dB	WIFI CH2,19M integration bandwidth, 25degree
Attenuation	2412~2432 MHz		35	40	dB	WIFI CH3,19M integration bandwidth, 25degree
Attenuation	2417~2437 MHz		35	40	dB	WIFI CH4,19M integration bandwidth, 25degree
Attenuation	2422~2442 MHz		35	40	dB	WIFI CH5,19M integration bandwidth, 25degree
Attenuation	2427~2447 MHz		35	40	dB	WIFI CH6,19M integration bandwidth, 25degree
Attenuation	2432~2452 MHz		35	40	dB	WIFI CH7,19M integration bandwidth, 25degree
Attenuation	2437~2457 MHz		35	40	dB	WIFI CH8,19M integration bandwidth, 25degree
Attenuation	2442~2462 MHz		35	40	dB	WIFI CH9,19M integration bandwidth, 25degree
Attenuation	2447~2467 MHz		20	40	dB	WIFI CH10,19M integration bandwidth, 25degree
Attenuation	2452~2472 MHz		15	30	dB	WIFI CH11,19M integration bandwidth, 25degree
Attenuation	2457~2477 MHz		11	14	dB	WIFI CH12,19M integration bandwidth, 25degree
Attenuation	2462~2482 MHz		8	10	dB	WIFI CH13,19M integration bandwidth, 25degree
Attenuation	3300-3800MHz		15	18	dB	n78
Attenuation	3800-4200MHz		20	22	dB	n77
Attenuation	4400-4800MHz		18	31	dB	n79
Attenuation	4800~4900 MHz		26	36	dB	n79 for CMCC
Attenuation	4992~5380 MHz		26	39	dB	2f0
Attenuation	5150-5850MHz		25	33	dB	WIFI 5G
Attenuation	7488~8070 MHz		20		dB	3f0

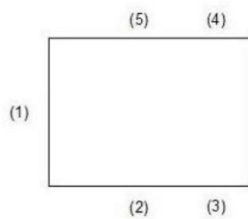
Input / Output Impedance (Nominal)			50	Ω	
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Maximum Ratings

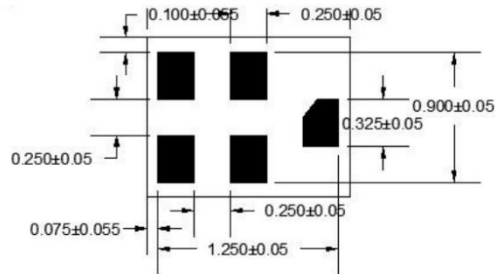
Rating	Symbol	Value	Unit
Input RF Power (699-2483MHz,3300-5000MHz)	P	15dBm,CW,3000h,50C	
Input RF Power (2496-2690MHz)	P	30dBm, LTE uplink signal 5MHz, 1RB,50% duty cycle, 3000,50 °C	
Input RF Power (2595MHz)	P	32dBm, LTE 1.4MHz full RB uplink signal, QPSK, Mid channel, 25°C, 20msec,PAR=3.5	
Operating Temperature Range	T _A	-30 ~ +85	°C
Storage Temperature Range	T _{stg}	-40 ~ +85	°C
ESD Voltage (HBM)	V _{ESD}	> 100	V
ESD Voltage (CDM)	V _{ESD}	> 100	V
Moisture Sensitivity Levels	MSL		3

Outline Drawing

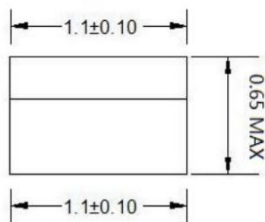
Unit: mm



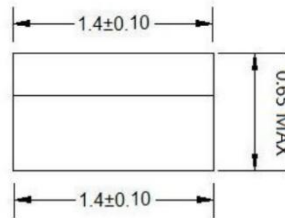
top view



bottom view



side view(left)



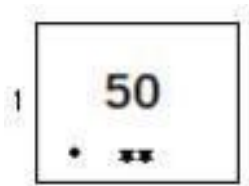
side view(front)

Pin Configuration

PIN#	Description
1	Input
4	Output
2,3,5	Ground



Marking



Top View, Laser Marking

“50”: Part Number

“.” Dot marking, indicates input

“1”: Terminal 1

The first “*”: Month Code (The code shown below varies in a 4-year-cycle)

Month	1	2	3	4	5	6	7	8	9	10	11	12
2016/2020	n	p	q	r	s	t	u	v	w	x	y	z
2017/2021	A	B	C	D	E	F	G	H	J	K	L	M
2018/2022	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019/2023	a	b	c	d	e	f	g	h	i	j	k	m

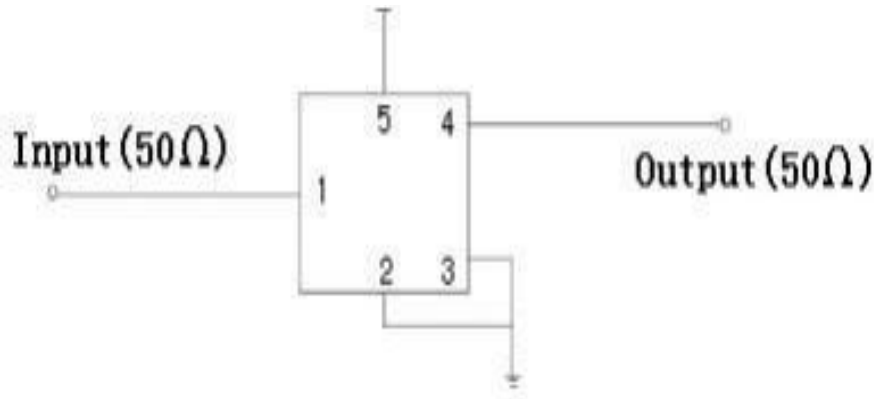
The second “*”: Date Code

Date	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
Code	A	B	C	D	E	F	G	H	J	K	
Date	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	
Code	L	M	N	P	Q	R	S	T	U	V	
Date	21st	22nd	23rd	24th	25th	26th	27th	28th	19th	30th	31st
Code	W	X	Y	Z	a	b	d	e	f	g	h

Typical Frequency Response



Test Circuit



Stability Characteristics

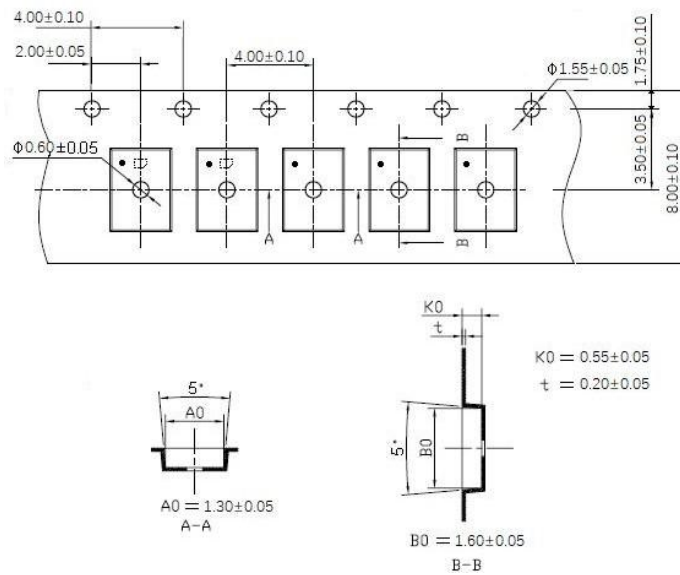
ITEM	Test Item	STD Reference	Test Conditions	per lot
	Preconditioning	JESD22-A113	1) Temperature Cycling, 5 cycles -40°C to 85°C; 2) Bake, 24 hrs @85±5°C; 3)Moisture Soak, Soak time and conditions per IPC/JEDEC J-STD-020 based on device MSL level; 4) Reflow, 3 reflow cycles; 5) Drying, Room ambient temperature.	All behind
1	Temperature Cycling	JESD22-A104	-40°C / +85°C ,5°C/min, 15min dwell,< 1 min transfer time,500cycles	3*25 pcs
2	High Temperature Storage	JESD22-A103	Temperature = 85°C, 1000 hours.	3*25 pcs
3	Temperature Humidity no bias	JEDEC Std A101-B	85°C 85%RH 240 hours	3*25 pcs
4	Human Body Mode ESD	JESD22-A114	Ta=25°C, ≥100V	3 pcs
5	Charge Device Mode ESD	JESD22-C101	Ta=25°C, ≥100V	3 pcs
6	Solderability	JESD22-B102	Wetting: 245°C, 5s.	22 pcs
7	Drop Test	JESD22-B111	1500 Gs, 0.5 millisecond duration, half-sine pulse.	20 pcs
8	Mechanical Shock	JESD-47	Shock pulse of 1500g with pulse duration of 0.5+/-0.1msec (X ,Y & Z); 5 shocks per axis.	3*25 pcs

Remarks

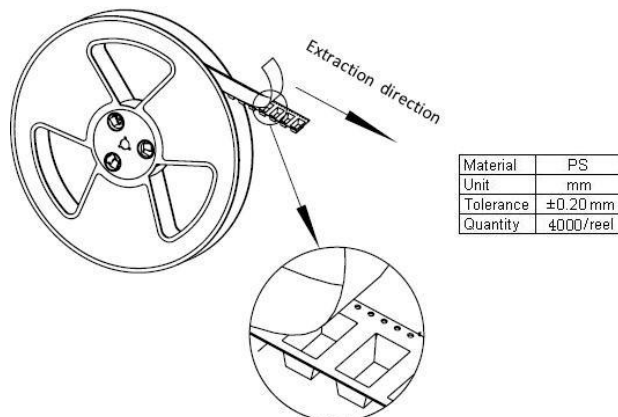
- SAW devices should not be used in any type of fluid such as water, oil, organic solvent, etc.
- Be certain not to apply voltage exceeding the rated voltage of components.
- Do not operate outside the recommended operating temperature range of components.
- Sudden change of temperature shall be avoided, deterioration of the characteristics can occur.
- Be careful of soldering temperature and duration of components when soldering.
- Do not place soldering iron on the body of components.
- Be careful not to subject the terminals or leads of components to excessive force.
- SAW devices are electrostatic sensitive. Please avoid static voltage during operation and storage.
- Ultrasonic cleaning shall be avoided. Ultrasonic vibration may cause destruction of components.

Packing Information

Carrier Tape



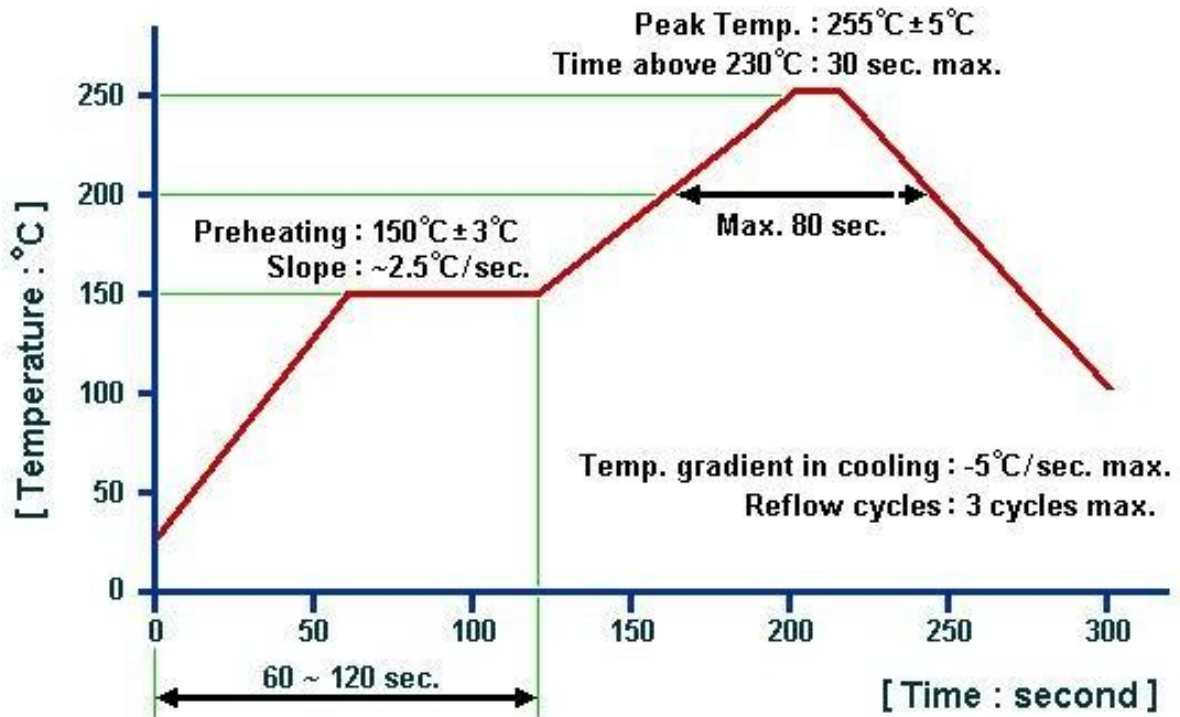
Reel Dimensions



Outer Packing

Type	Quantity	Dimension	Description	Weight
Carton Box I	40000	240×210×285mm	anti-static plastic bag & carton box 1 reel / bag 10 bags / box (40000pcs)	1.86kg
Carton Box II	120000	470×310×285mm		30 bags / box (120000pcs)

Recommended Soldering Profile



Remarks:

1. The specifications of this device are subject to change or obsolescence without notice.
2. Typically, equipment utilizing this device requires emissions testing and government approval, which is the responsibility of the equipment manufacturer.
3. Our liability is only assumed for the Surface Acoustic Wave (SAW) component(s) per se, not for applications, processes and circuits implemented within components or assemblies.
4. For questions on technology, prices and delivery, please contact our sales offices or e-mail sales@sainty-tech.com.