

P/N: WTL1E70251JW

SAW Filter 1.4*1.1mm



Customer	WTL
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2020.11.2	Issued by: Sheryl Xia

SPECIFICATION

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1. Features

SAW filter for GPS.

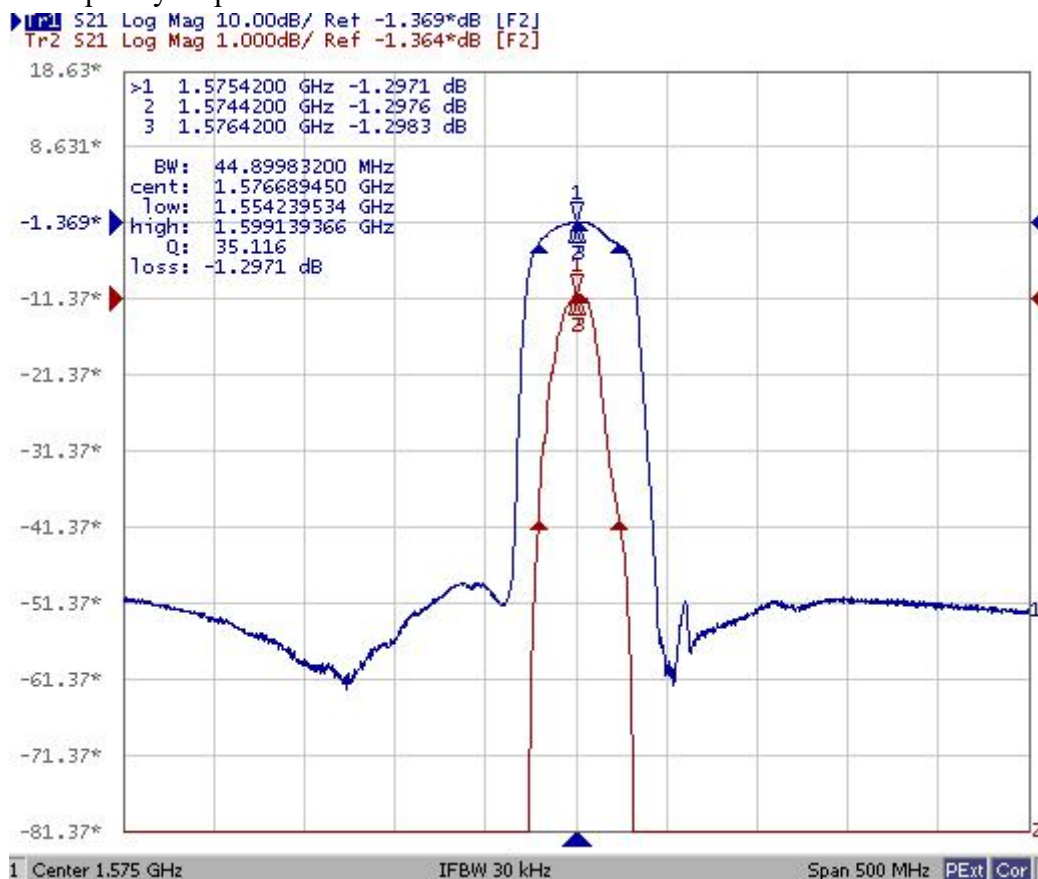
- High stability and reliability with good performance and no adjustment.
- Narrow and sharp pass band characteristics.
- Low insertion loss and deep stop band attenuation for interference.
- Low – loss SAW filter for GPS.

2. ELECTRICAL SPECIFICATION

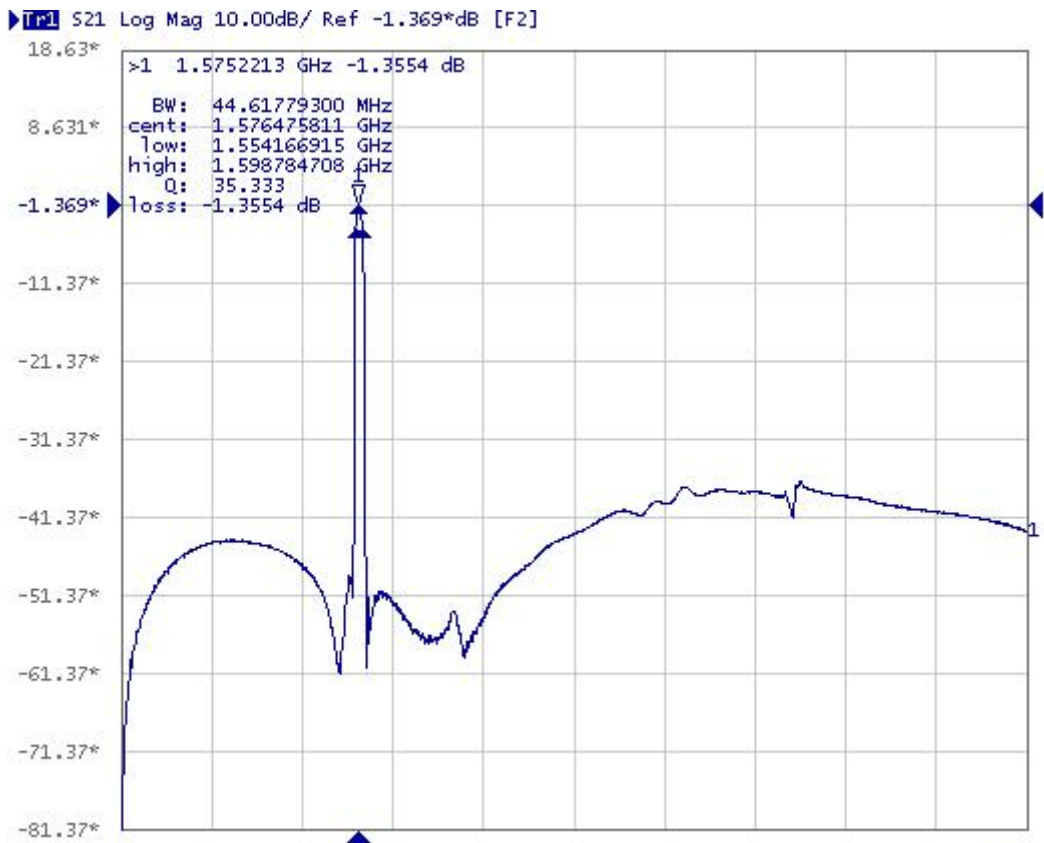
Items	Rating	unit
Maximum Working Voltage	0	V _{dc}
Maximum Working Power	10	dBm
Operating Temperature Range	-40 ~ +85	°C
Storage Temperature Range	-40 ~ +85	°C

Electronic Characteristics

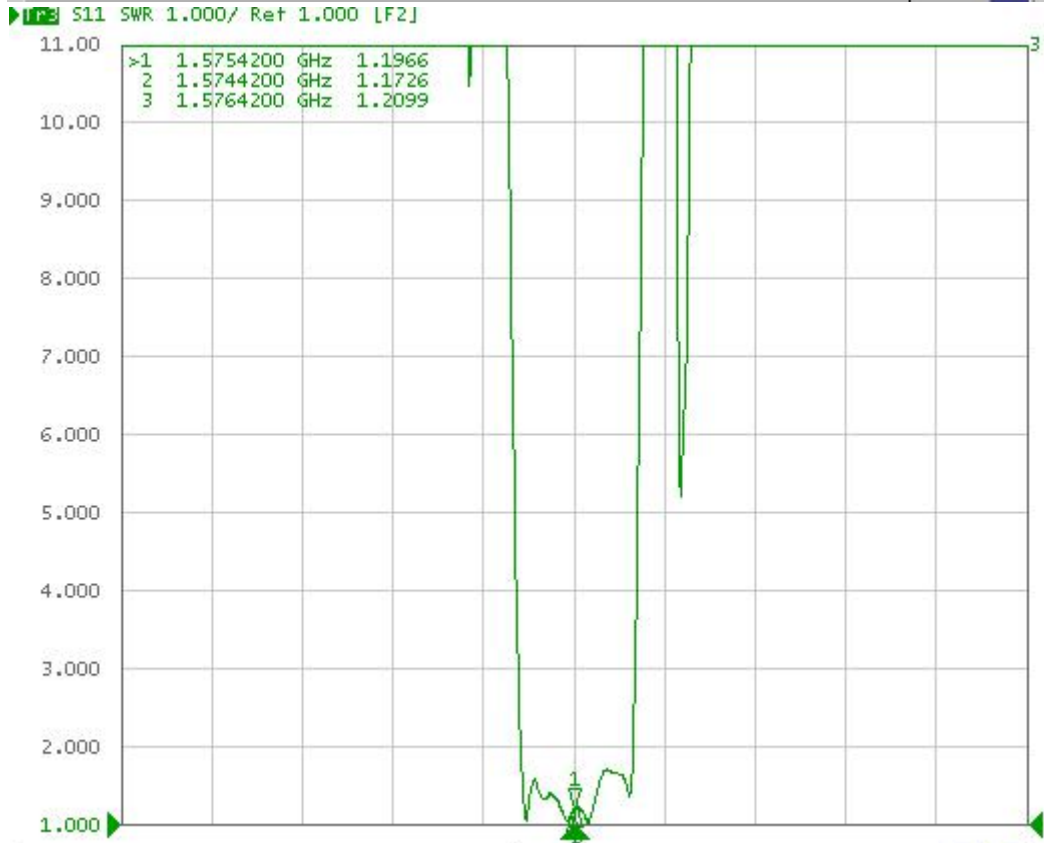
2-1. Typical frequency response



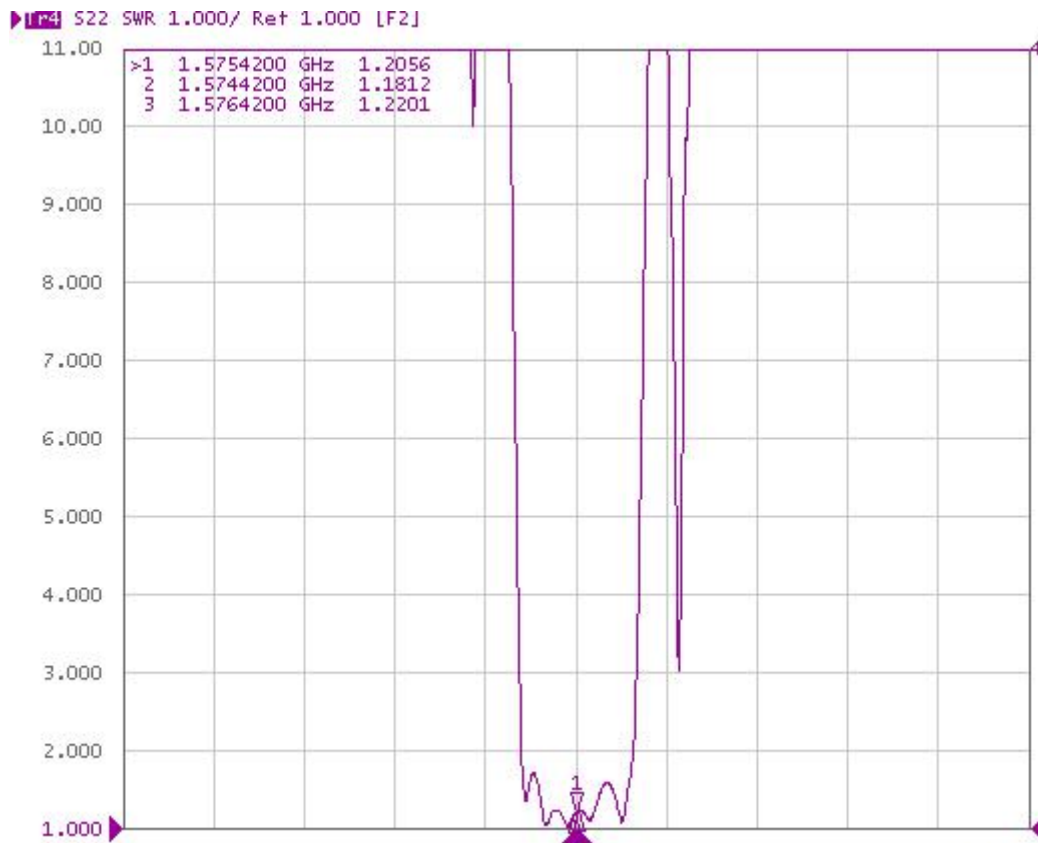
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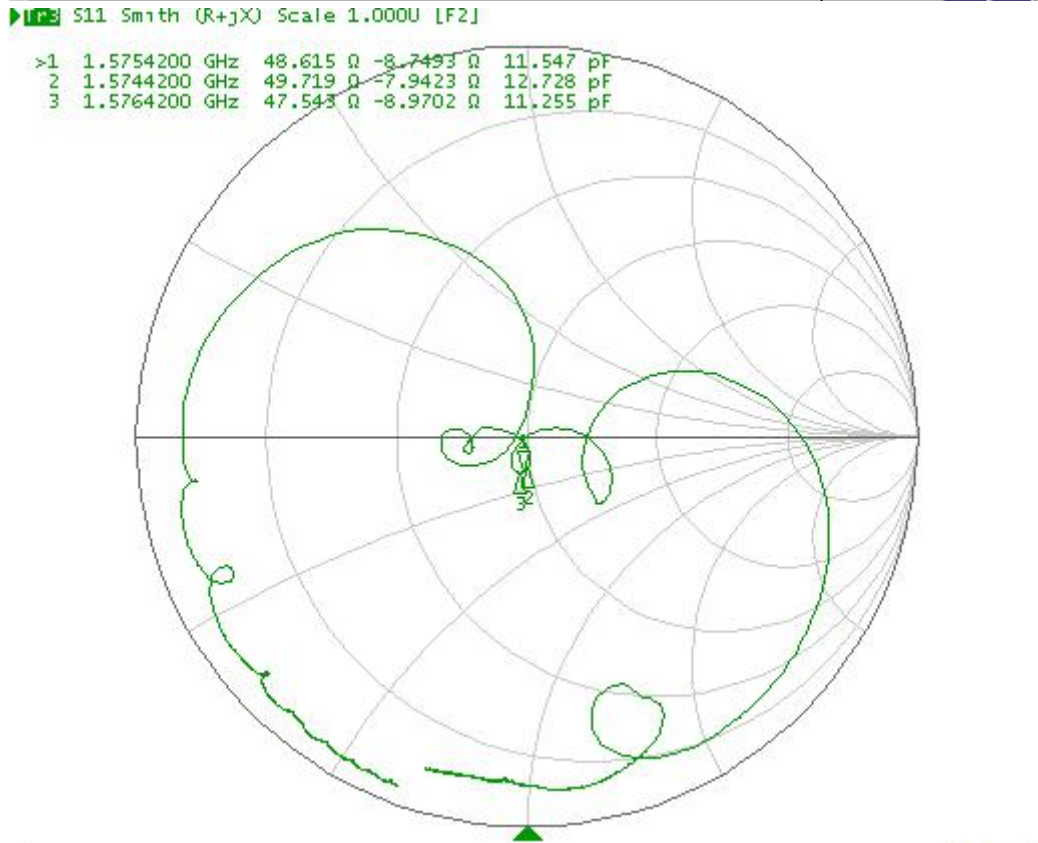
1 Start 300 kHz IFBW 30 kHz Stop 6 GHz Cor



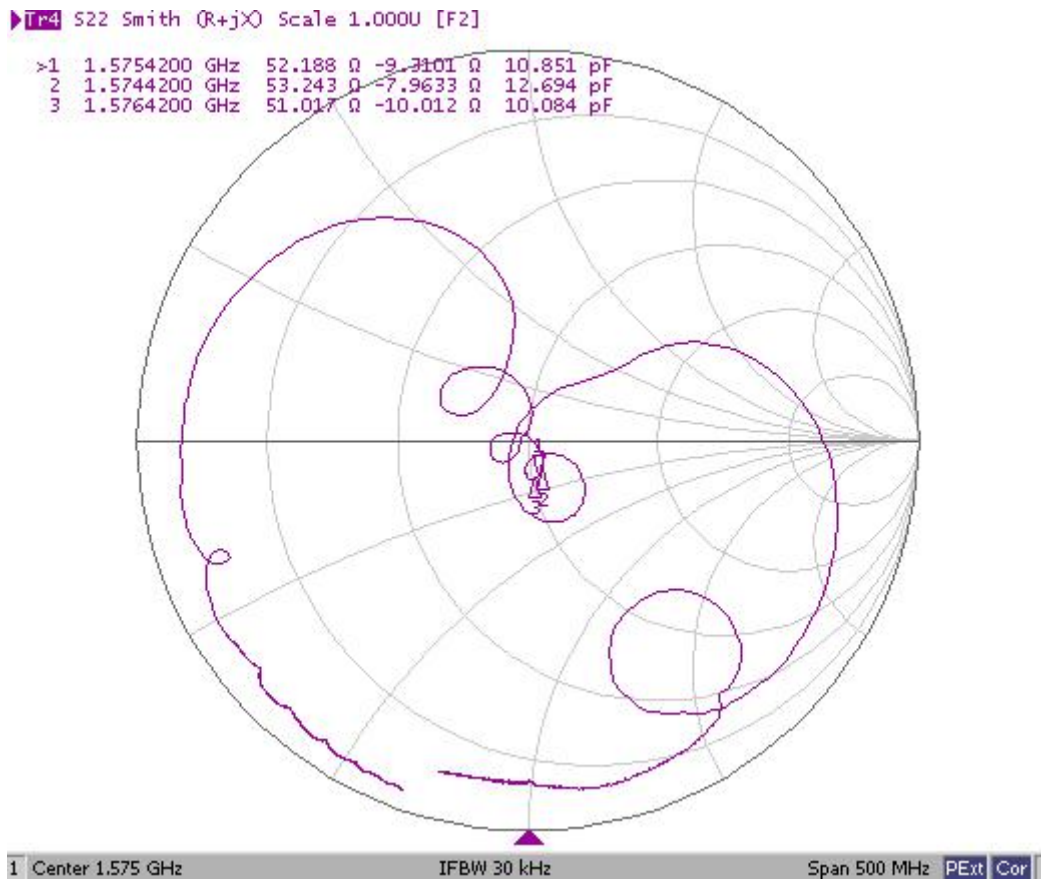
1 Center 1.575 GHz IFBW 30 kHz Span 500 MHz PExt Cor



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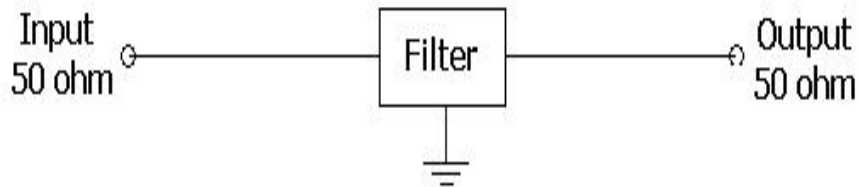
1 Center 1.575 GHz IFBW 30 kHz Span 500 MHz PExt Cor



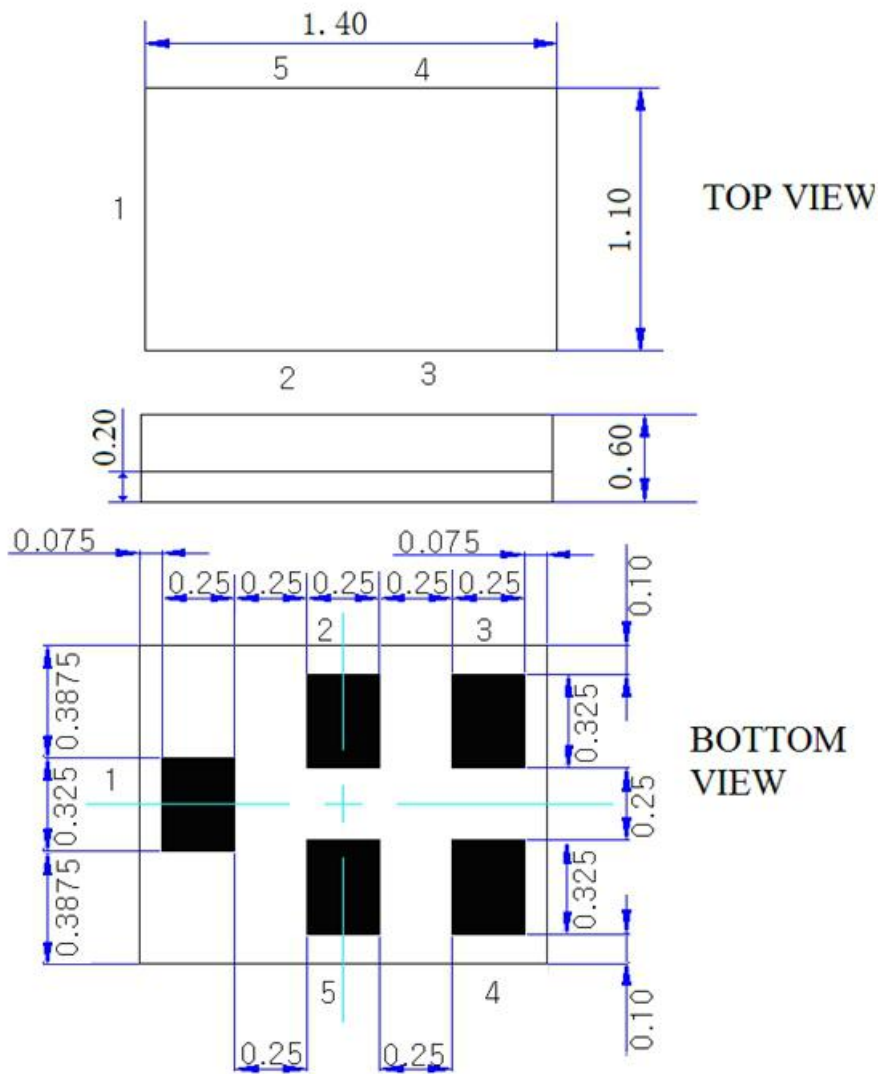
2-2. Electrical characteristics
 AT 25°C ± 5°C

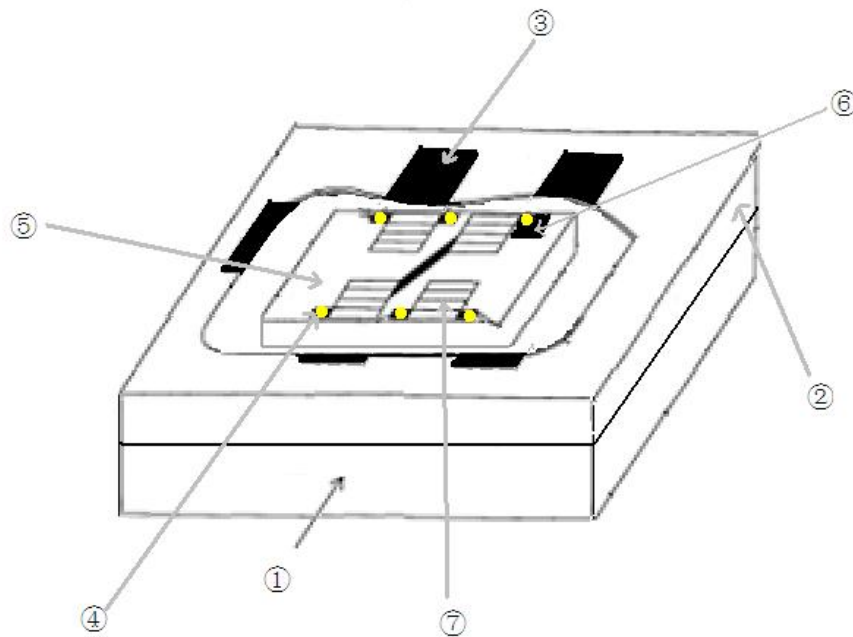
Items	Test Condition	Min	Typ	Max	Unit
Center Frequency	-	-	1575.42	-	MHz
Insertion Loss	F0 ± 1.2 MHz	-	1.3	1.6	dB
Ripple Level	F0 ± 1.2 MHz	-	0.1	0.5	dB
Attenuation	D.C~1476MHz	42	45	-	dB
	1425~1525MHz	46	50	-	dB
	1625~1725MHz	48	52	-	dB
	1725~1850MHz	48	52	-	dB
	1850~2000MHz	48	50	-	dB
	2000~3000MHz	38	40	-	dB
VSWR	1574.22~1576.62MHz	-	1.2	1.6	-
Input/Output Impedance	-	-	50	-	ohm

3. TEST CIRCUIT



4. DIMENSION





Components	Materials
① Seal diaphragm	Epoxy resin
② Base	Multiayer ceramics Aluminum oxide
③ Pad	Plated with Gold
④ Bonding metal balls	Gold
⑤ Substrate	LiTaO ₃
⑥ Pad for metal balls bonding	AL
⑦ Lidt(Interdigital transducer)	AL

5. ENVIRONMENTAL CHARACTERISTICS

5-1 High temperature exposure

Subject the device to +85 °C for 16 hours. Then release the filter into the room conditions for 24 hours prior to the measurement. It shall fulfill the specifications in 2-2.

5-2 Low temperature exposure

Subject the device to -40 °C for 16 hours. Then release the device into the room conditions for 24 hours prior to the measurement. It shall fulfill the specifications in 2-2.

5-3 Temperature cycling

Subject the device to a low temperature of -40 °C for 30 minutes. Following by a high temperature of +85 °C for 30 Minutes. Then release the device into the room conditions for 24 hours prior to the measurement. It shall meet the specifications in 2-2.

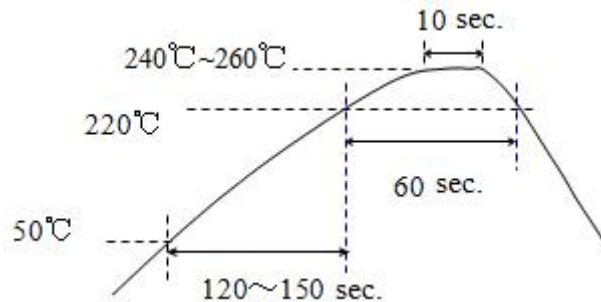
5-4 Resistance to solder heat

- 1、immerge the solder bath at 260 °C for 10 sec.
- 2、 the iron at 370 °C for 3 sec

5-5 Solderability

Submerge the device terminals into the solder bath at $245^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 5s, More than 95% area of the soldering pad must be covered with new solder. It shall meet the specifications in 2-2.

5-6 Reflow soldering



The specimen shall be passed through the reflow furnace with the condition shown in the above profile for 1 time.

The specimen shall be stored at standard atmospheric conditions for 1h, after which the measurement shall be made. Test board shall be 1.6 mm thick. Base material shall be glass fabric base epoxy resin.

5-7 Mechanical shock

Drop the device randomly onto the concrete floor from the height of 1m 3 times. the device shall fulfill the specifications in 2-2.

5-8 Vibration

Subject the device to the vibration for 1 hour each in x,y and z axes with the amplitude of 1.5 mm at 10 to 55 Hz. The device shall fulfill the specifications in 2-2.