SAW Filter

RF2001

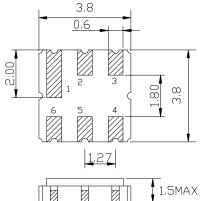
Application

- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 4.0 MHz

Features

- Ceramic Package for Surface Mounted Technology (SMT)
- **RoHS** compatible
- Package size 3.80x3.80x1.50mm³
- Package Code DCC6
- Electrostatic Sensitive Device(ESD)

Package Dimensions (Unit: mm)





Pin Configuration

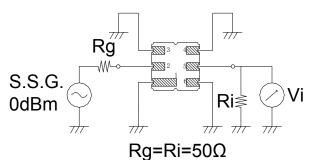
Pin No.	Description	
2	Input	
5	Output	
1,3,4,6	Case Ground	

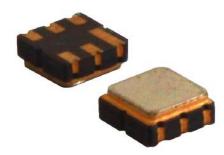
Marking Description

DE	R	Manufacturer	
RF	F	SAW Filter	
2001	Part Number		
•	Pin 1		
YYWW	Year Code & Week Code		

*Fig: If the products produced in 06th week of 2015, The year code & week code is 1506.

Test Circuit (Bottom View)





Performance

Maximum Rating

Item		Value	Unit
DC Voltage	V _{DC}	3	V
Operation Temperature	т	-40 ~ +85	°C
Storage Temperature	T _{stg}	-55 ~ +125	°C
RF Power Dissipation	Р	15	dBm

Electronic Characteristics

Test Temperature: 25℃±2℃

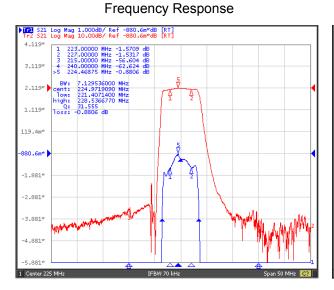
Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

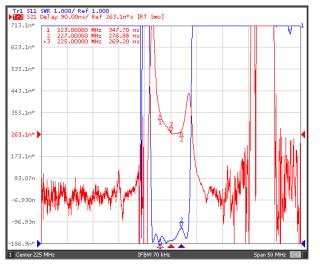
Item	Minimum	Typical	Maximum	Unit	
Center Frequency	fc		225.00		MHz
Insertion Loss(min)	IL		1.0	1.5	dB
Insertion Loss 223.00 - 227.00 MHz	IL		1.6	2.5	dB
Amplitude Ripple (p-p) 223.00 - 227.00 MHz	۵		0.8	1.2	dB
Group Delay Ripple 223.00 - 227.00 MHz	GDR		90.0	180.0	ns
3 dB Bandwidth	BW3dB	6.0	7.0		MHz
Absolute Attenuation	a				
DC - 220.00 MHz		50.0	55.0		dB
250.00 -450.00 MHz		50.0	55.0		dB
450.00 -1000.00 MHz		45.0	50.0		dB
1000.00 -1500.00 MHz		30.0	33.0		dB
Input VSWR 223.00 - 227.00 MHz			1.7:1	2.0:1	/
Output VSWR 223.00 - 227.00 MHz			1.7:1	2.0:1	/

RF2001

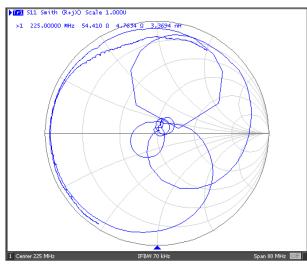
Frequency Characteristics



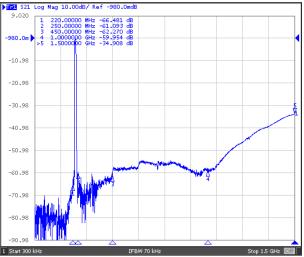
Delay Ripple & S11 VSWR



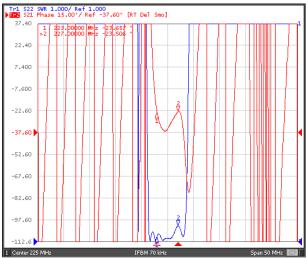
S11 Smith Chart



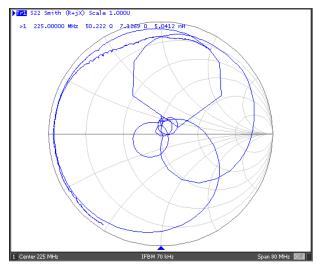
Frequency Response (wideband) S21 Log Mag 10.00d8/ Ref -980.0md8



Phase Linearity & S22 VSWR



S22 Smith Chart



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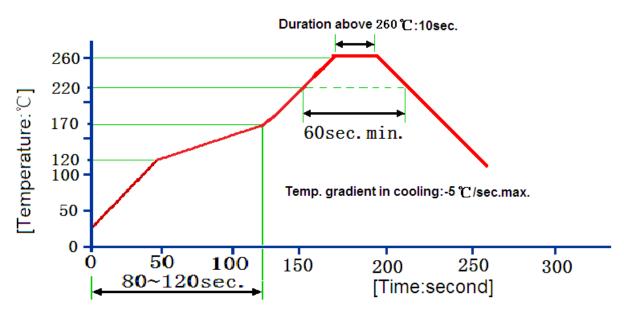
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Reliability (The SAW components shall remain electrical performance after tests)

No.	Test item	Test condition	
1	Temperature	(1) Temperature: $85^{\circ}C \pm 2^{\circ}C$, Duration: 250h, Recovery time: 2h±0.5h	
	Storage	(2) Temperature: –55 $^\circ\!\!\!\mathrm{C}\pm\!\!3^\circ\!\!\!\mathrm{C}$, Duration: 250h ,Recovery time: 2h±0.5h	
2	Humidity Test	Conditions: 60℃±2℃ , 90~95% RH Duration: 250h	
3	Thermal Shock	Heat cycle conditions: TA=-55℃±3℃, TB=85℃±2℃, t1=t2=30min, Switch	
5		time: ≤3min, Cycle time: 100 times, Recovery time: 2h±0.5h.	
4	Vibration Fatigue	Frequency of vibration: 10~55Hz Amplitude:1.5mm	
	violation r atigue	Directions: X,Y and Z Duration: 2h	
5	Drop Test	Cycle time: 10 times Height: 1.0m	
		Temperature: 245 °C ±5 °CDuration: 3.0s5.0s	
6 Solder Ability Test		Depth: DIP2/3 , SMD1/5	
		(1)Thickness of PCB:1mm , Solder condition: 260 $^\circ\!\!\mathbb{C}\pm5^\circ\!\!\mathbb{C}$, Duration: 10±1s	
7	Resistance to Soldering Heat	(2)Temperature of Soldering Iron: 350 $^\circ\!\mathrm{C}\pm10^\circ\!\mathrm{C}$, Duration: 3~4s	
		Recovery time : 2 ± 0.5h	

Recommended Reflow Soldering Diagram

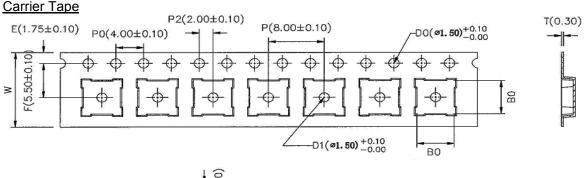


Reflow cycles:3 cycles max.

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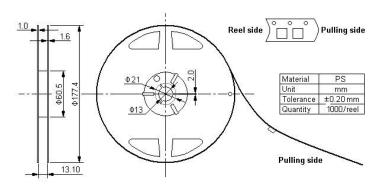
Packing Information





* B0: 5.35 for QCC8C; 4.15 for DCC6/QCC8B; 3.35 for DCC6C/QCC8D

Reel Dimensions



Outer Packing

Туре	Quantity	Dimension	Description	Weight
Internal box	1000	190×188×42	carton box 2 reel / internal box	0.18
External box	10000	235×205×210	5 boxes / external box	1.80
	Unit: kg			

Notes

- 1. As a result of the particularity of inner structure of SAW products, it easy to be breakdown by electrostatic, so we should pay attention to **ESD protect** in the test.
- 2. **Static voltage** between signal load and ground may cause deterioration and destruction of the component. Please avoid static voltage.
- 3. **Ultrasonic cleaning** may cause deterioration and destruction of the component. Please avoid ultrasonic cleaning.
- 4. Only leads of component may be soldered. Please avoid soldering another part of component.
- 5. There is a close relationship between the device's performance and **matching network**. The specifications of this device are based on the test circuit shown above. L and C values may change depending on board layout. Values shown are intended as a guide only.