



*SAW Components*  
*Data Sheet*  
*CQTSF1591M00.00*

Customer's Approval Certificate	
Complies with Directive 2002/95/EC (RoHS)	
Please return this Page Via email as a certification of Your approval	
Checked & Approval by:	Date:

Hangzhou Freq-control Electronics Technology Co.,Ltd.

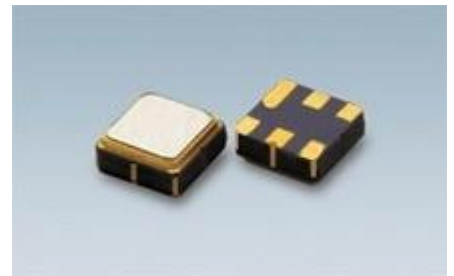
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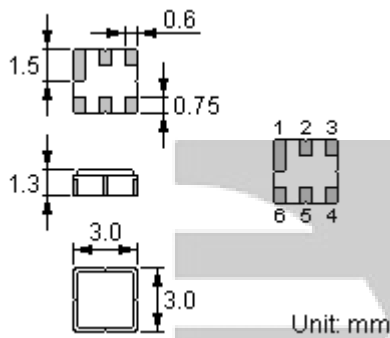
Features

- Low-loss RF filter for mobile systems
- Low amplitude ripple
- No matching network required for operation at 50Ω
- Ceramic package for Surface Mounted
- Technology (SMT)
- Lead-free production and RoHS compliant



Package Dimensions

Ceramic Package: DCC6C



Pin Configuration

2	Input
5	Output
1, 3, 4, 6	Ground

Maximum Ratings

Rating		Value	Unit
Input Power Level	$P$	10	dBm
DC Voltage	$V_{DC}$	5	V
Operating Temperature Range	$T_A$	-40 ~ +85	°C
Storage Temperature Range	$T_{stg}$	-40 ~ +85	°C

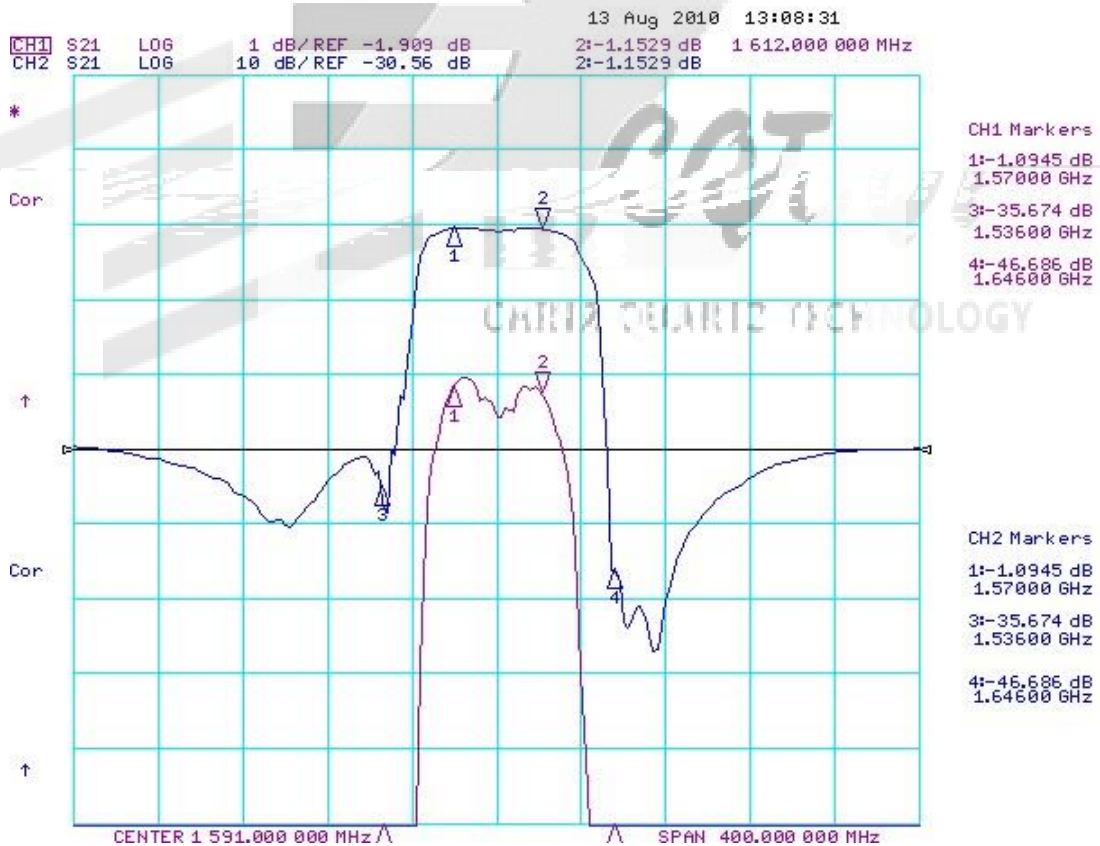
Electrical Characteristics

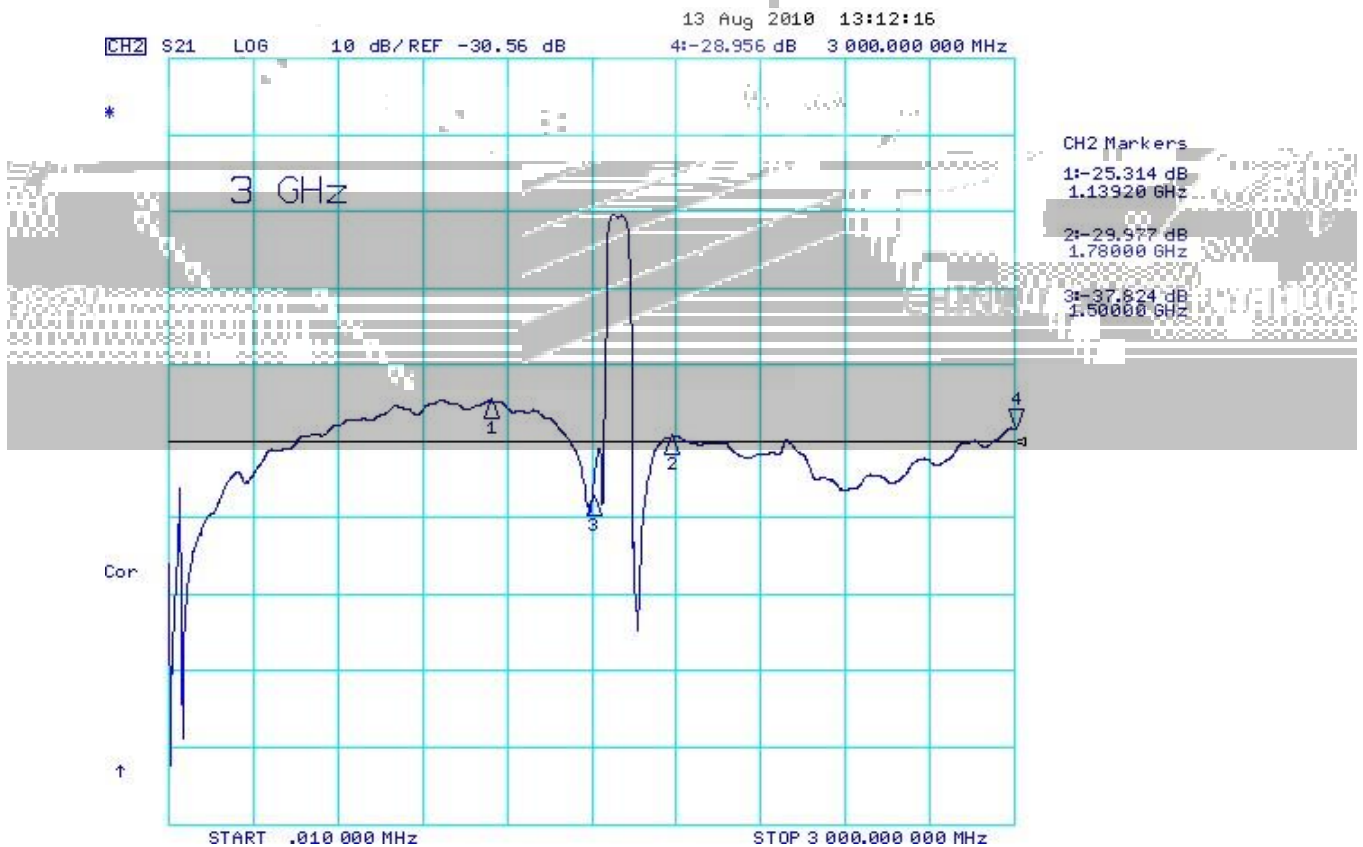
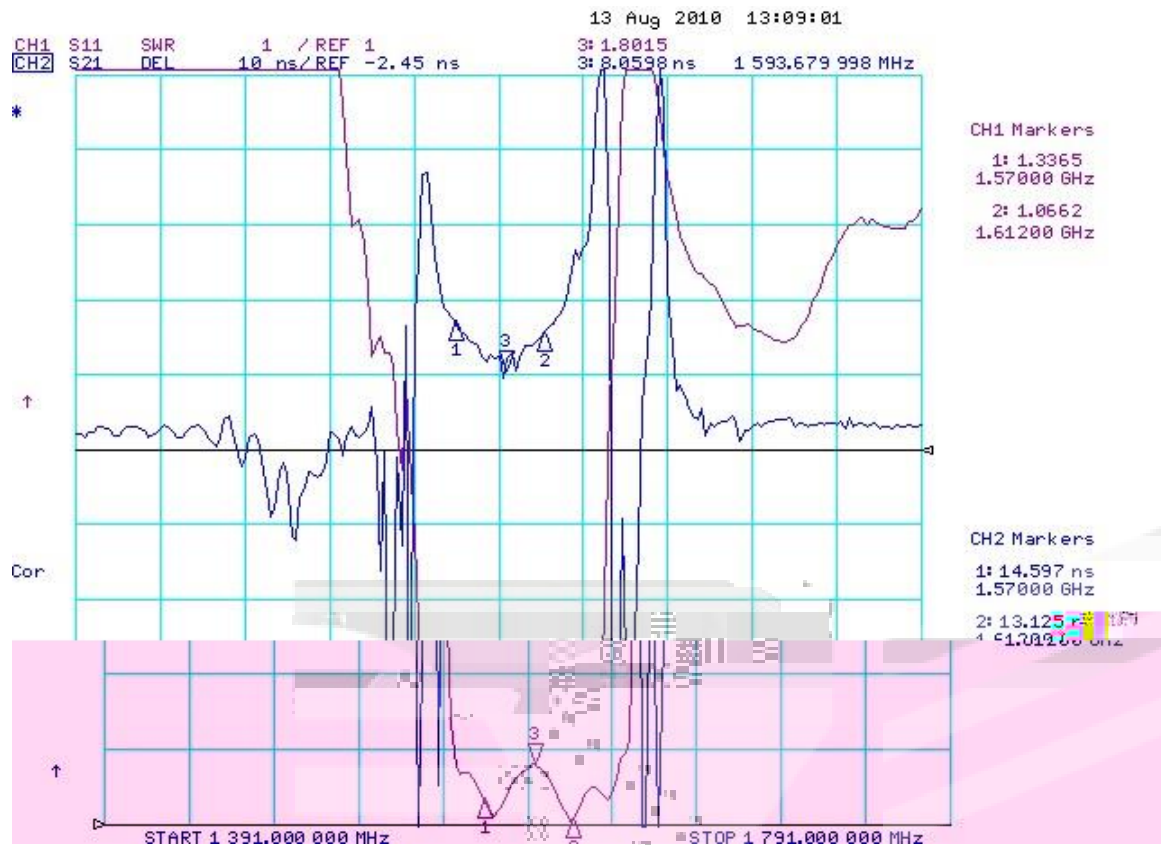
Item		Minimum	Typical	Maximum	Unit
Center Frequency	$f_c$		1591		MHz
Insertion Loss	$IL$				
	1570.00 .... 1612.00 MHz	--	1.5	2.5	dB
Group Delay Ripple	1570.00 .... 1612.00 MHz		10	40	ns
Absolute Attenuation	$\alpha$				
	DC .... 1500.00 MHz	22	25		dB
	1536 MHz	30			dB
	1646 MHz	30			dB
	1700.00 .... 1800.00 MHz	25	29		dB
	1800.00 .... 3000.00 MHz	22	28		dB
Amplitude Ripple (p-p)	1570.00 .... 1612.00 MHz $\Delta \alpha$		0.5	1.0	dB
Input VSWR	1570.00 .... 1612.00 MHz		1.8 : 1	2.0 : 1	
Output VSWR	1570.00 .... 1612.00 MHz z		1.8 : 1	2.0 : 1	
Input / Output Impedance (Nominal)			50		$\Omega$

RoHS Compliant

Electrostatic Sensitive Device

Typical Frequency Response





Stability Characteristics

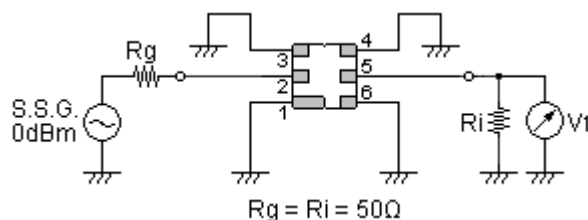
	Test item	Condition of test
1	Mechanical shock	(a) Drops: 3 times on concrete floor (b) Height: 1.0 m
2	Vibration resistance	(a) Frequency of vibration: 10~55Hz (b) Amplitude: 1.5 mm (c) Directions: X,Y and Z (d) Duration: 2 hours
3	Moisture resistance	(a) Condition: 40°C, 90~95% R.H. (b) Duration: 96 hours (c) Wait 4 hours before measurement
4	Climatic sequence	(a) +70°C for 16 hours (b) +55°C for 24 hours, 90~95% R.H. (c) -25°C for 2 hours (d) +40°C for 24 hours, 90~95% R.H. (e) Wait 4 hours before measurement
5	High temperature exposure	(a) Temperature: 70°C (b) Duration: 250 hours (c) Wait 4 hours before measurement
6	Thermal impact	(a) +70°C for 30 minutes ⇒ -25°C for 30 minutes repeated 3 times (b) Wait 4 hours before measurement

Requirements: The SAW filter shall remain within the electrical specifications after tests.

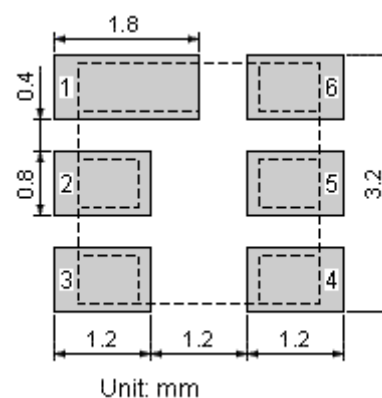
Remarks

- 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.

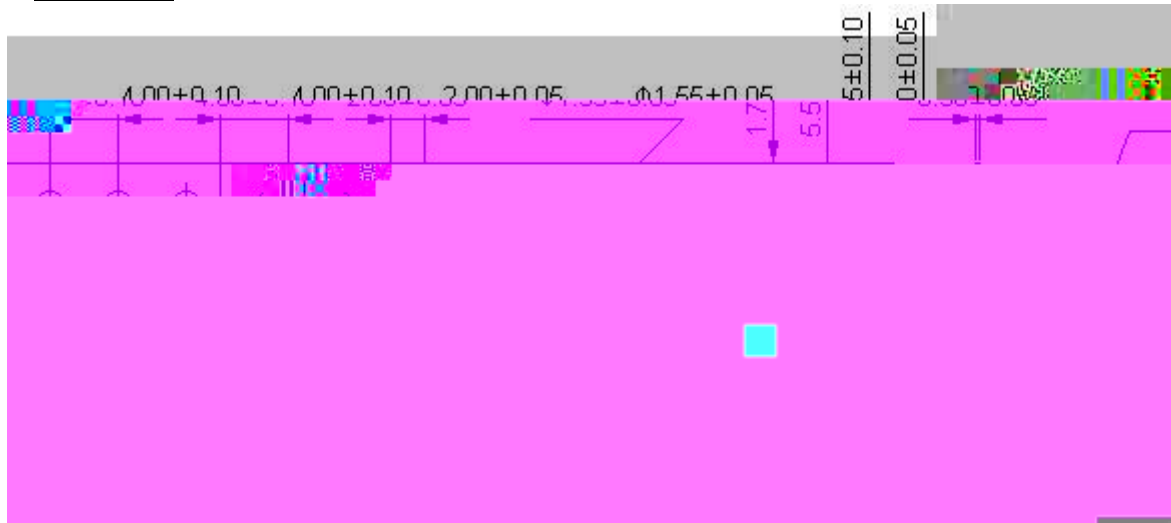
Test Circuit



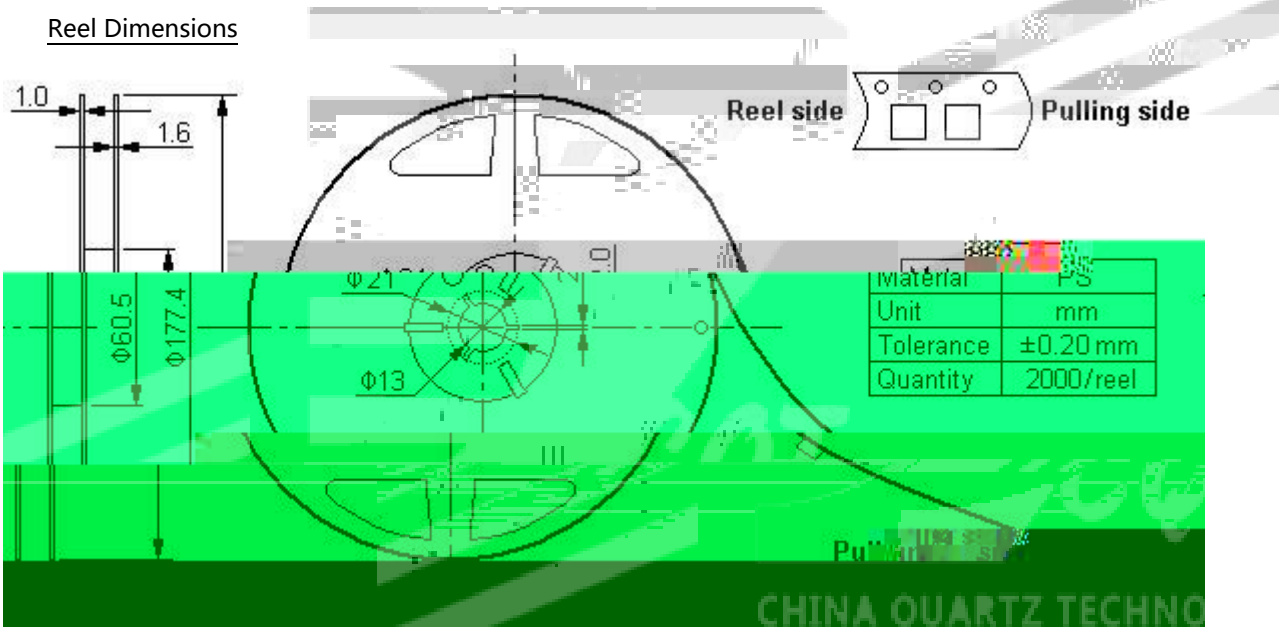
Recommended Land Pattern



Carrier Tape



Reel Dimensions



Outer Packing

Type	Quantity	Dimension	Description	Weight
Carton Box I	10000	190×190×95	anti-static plastic bag & carton box	0.85
Carton Box II	20000	190×190×190	1 reel / bag 5 bags / box (10000 pcs) 10 bags / box (20000 pcs)	1.80

Unit: mm

Unit: kg

Recommended Soldering Profile

