



# ***SAW Components***

## ***Data Sheet***

### ***CQTSF433M60.02***

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:

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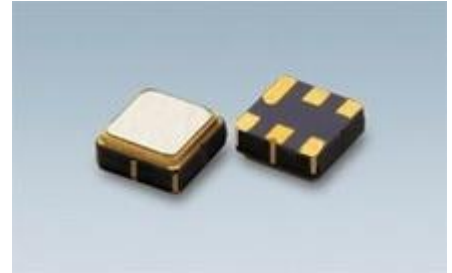
[sales@@csimc-freqcontrol.com](mailto:sales@@csimc-freqcontrol.com)

SAW Components

SAW Filter

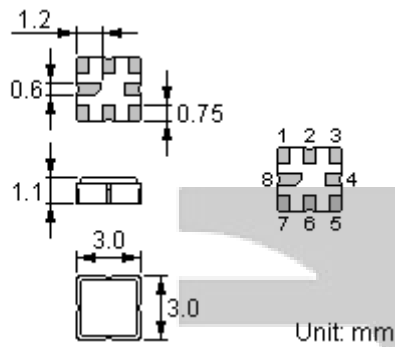
CQTSF433M60.02

- Low-loss RF filter for mobile systems
- Low amplitude ripple
- LC matching network required for operation at 50Ω
- Ceramic package for Surface Mounted Technology (SMT)
- Lead-free production and RoHS compliant



■ Package Dimensions

Ceramic Package: QCC8D



Pin Configuration

Pin	Configuration
1	Input
5	Output
2, 3, 6, 7	Ground
4, 8	Case Ground

Marking

DSF\*  
.XXXX

- (1) Laser Marking
- (2) D: Manufacturer's logo
- (3) SF: SAW Filter
- (4) XXXX: Part Number
- (5) : Pin 1 Identifier
- (6) \*: Lot number (The code shown below varies in a 4-year cycle)

CHINA QUARTZ TECHNOLOGY

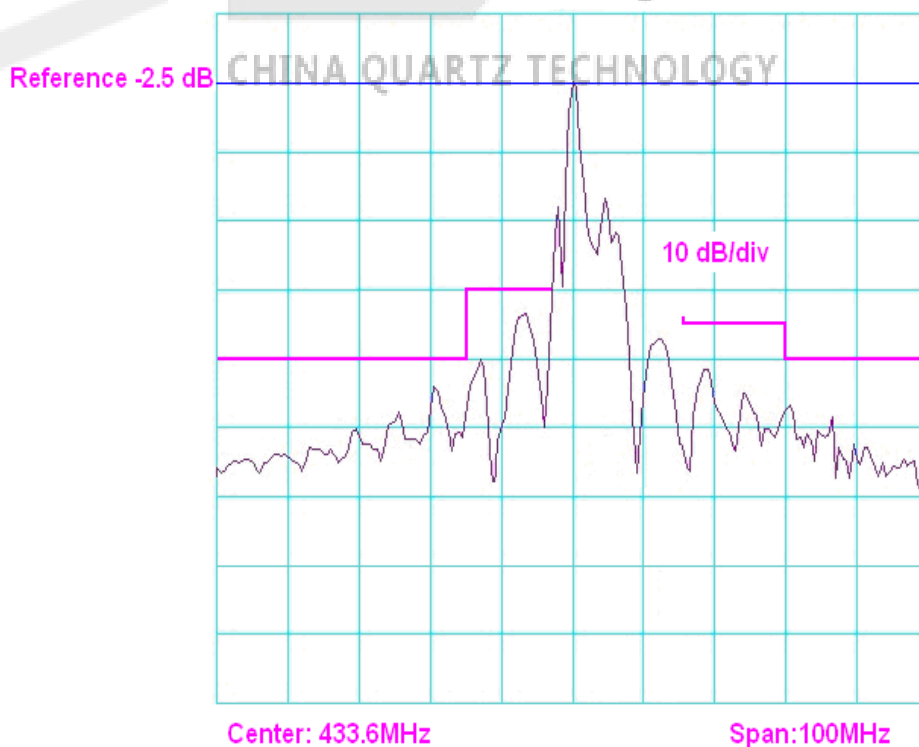
Code	1	2	3	4	5	6	7	8	9	10	11	12
2013	A	B	C	D	E	F	G	H	J	K	L	M
2014	N	P	Q	R	S	T	U	V	W	X	Y	Z
2015	a	b	c	d	e	f	g	h	i	j	k	m
2016	n	p	q	r	s	t	u	v	w	x	y	z

**Maximum Ratings**

Rating		Value	Unit
Input Power Level	$P$	15	dBm
DC Voltage	$V_{DC}$	12	V
Operating Temperature Range	$T_A$	-20 ~ +85	°C
Storage Temperature Range	$T_{stg}$	-40 ~ +85	°C
ESD Voltage(HB)	$V_{ESD}$	150	V

**Electrical Characteristics**——**Preliminary** (-20 ~ +85°C)

Characteristic		Min.	Typ.	Max.	Unit
Center frequency	$f_c$	—	433.6	—	MHz
Insertion attenuation @433.300MHz~433.900Hz	$I_L$	—	2.8	3.5	dB
Pass band Ripple @433.300MHz~433.900MHz			0.5	1.2	dB
Absolute attenuation	0~418.5MHz	40	45		dB
	418.5~430MHz	30	35		
	448~465MHz	35	40		
	465~1500 MHz	40	45		
Source / Load Impedance (single ended)			50		$\Omega$

 **RoHS Compliant**
 **Electrostatic Sensitive Device**
**Typical Frequency Response**——**Preliminary**

## Stability Characteristics

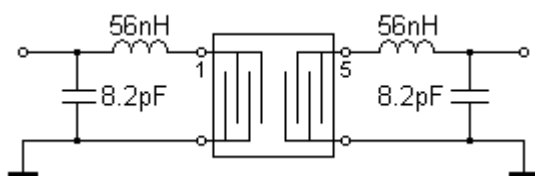
	Test item	Condition of test
1	Mechanical shock	(a) Drops: 3 times on concrete floor (b) Height: 1.0 m
2	Vibration resistance	(a) Frequency of vibration: 10~55Hz (b) Amplitude: 1.5 mm (c) Directions: X,Y and Z (d) Duration: 2 hours
3	Moisture resistance	(a) Condition: 40°C±2°C , 93 <sup>+2</sup> <sub>-3</sub> % RH. (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: 85°C (b) Duration: 250 hours (c) Wait 4 hours before measurement
6	Temperature cycling	(a) +85°C for 30 minutes ⇒ -40°C for 30 minutes repeated 120 times (b) Wait 4 hours before measurement

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

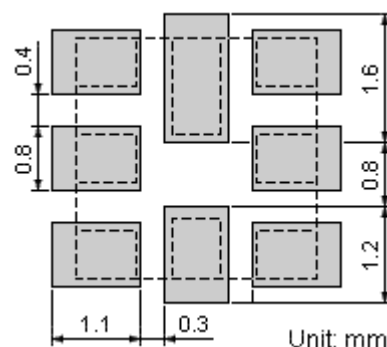
### Remarks

- 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 (TBD)

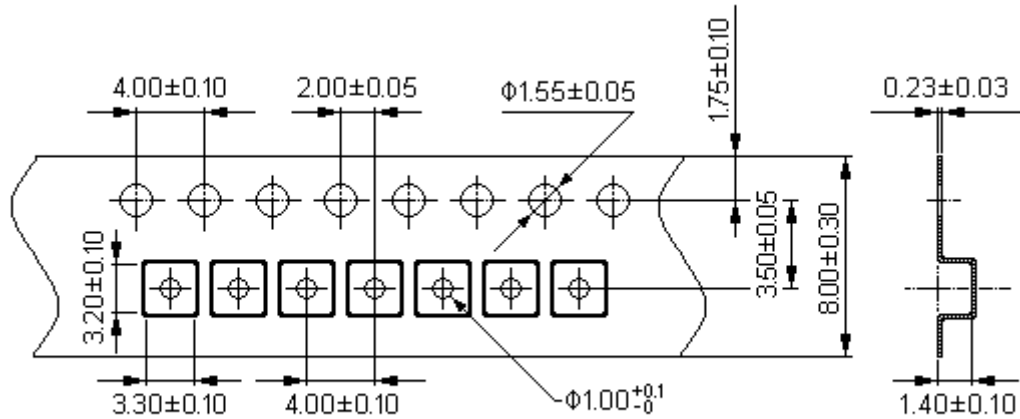


### Recommended Land Pattern



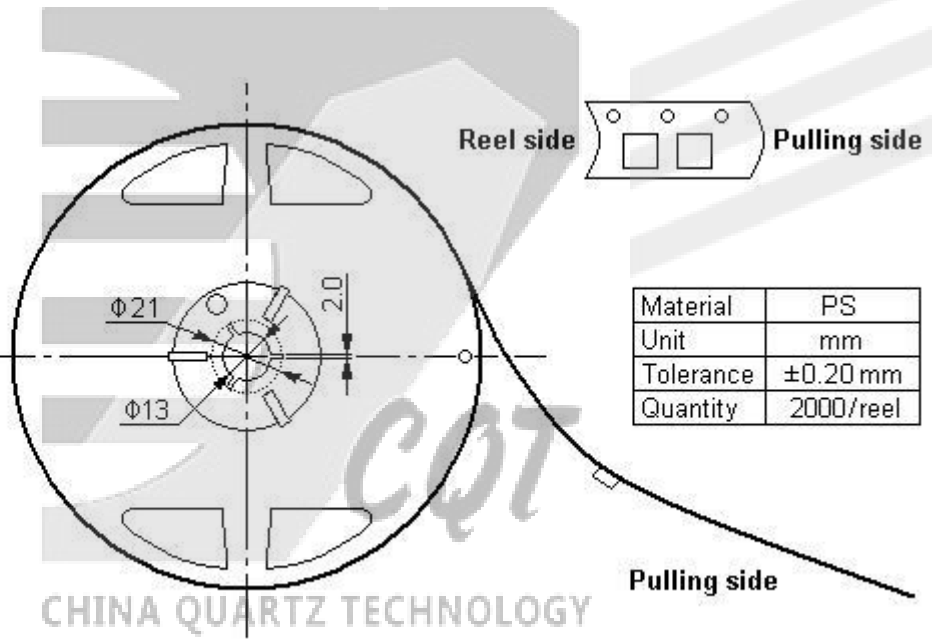
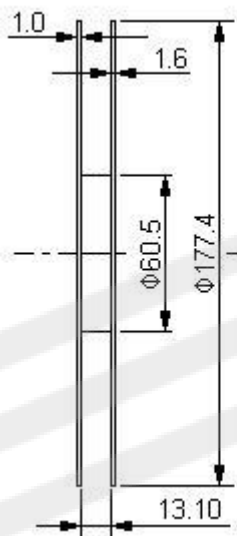
**Packing Information**

Carrier Tape



Dimensions in mm

Reel Dimensions



Material	PS
Unit	mm
Tolerance	±0.20 mm
Quantity	2000/reel

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

