



SAW Components
Data Sheet
CQTSF374M00.01

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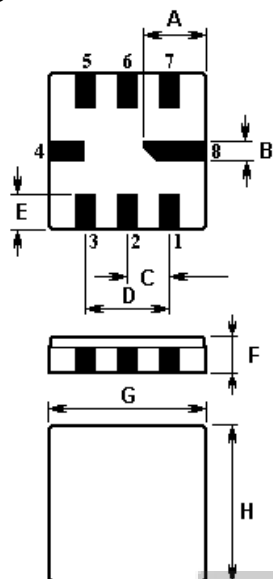
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1. Package Dimension (QCC8C)



Pins	Configuration
2	Input Ground
3	Input
6	Output Ground
7	Output
1,5	To be Grounded
4,8	Case Ground

Sign	Data (unit: mm)	Sign	Data (unit: mm)
A	2.08	E	1.20
B	0.60	F	1.35
C	1.27	G	5.00
D	2.54	H	5.00

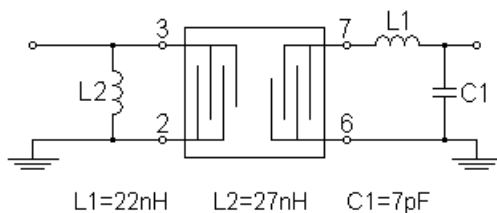
2. Marking

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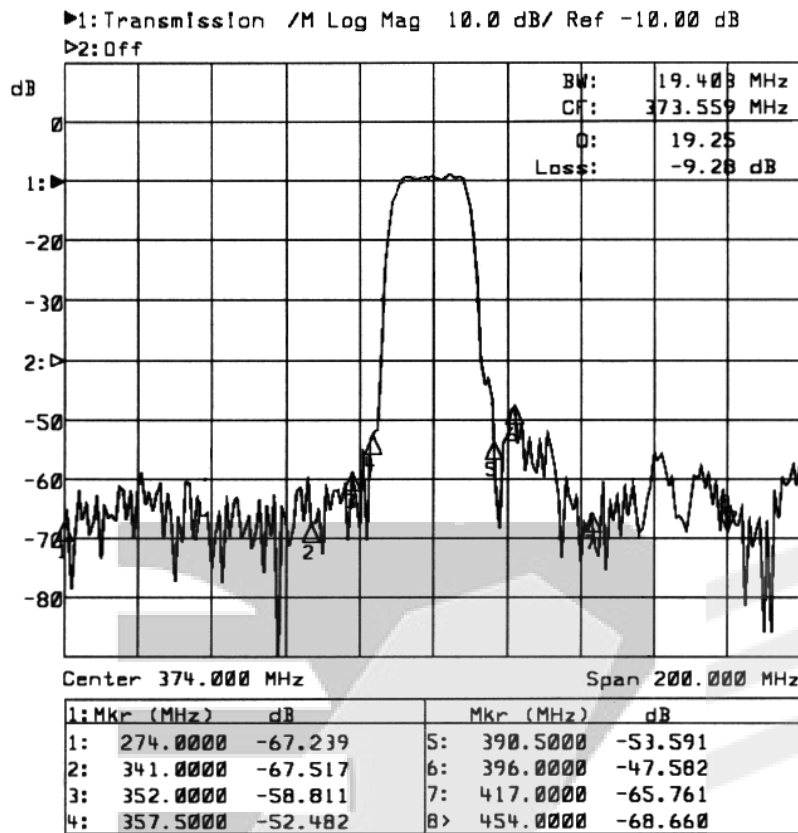
- (1) Laser Marking
- (2) D: Manufacture's logo
- (3) SF: SAW Filter
- (4) Pin 1 Identifier
- (5) *: Lot number (The code shown below varies in a 4-year cycle)

Code	1	2	3	4	5	6	7	8	9	10	11	12
2011	a	b	c	d	e	f	g	h	i	j	k	m
2012	n	p	q	r	s	t	u	v	w	x	y	z
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

3. Matching Network (50Ω unbalanced)



4. Typical Frequency Response



5. Performance

5-1. Maximum Ratings

Rating		Value	Unit
Source Power	P_S	10	dBm
DC Voltage	V_{DC}	0	V
Storage Temperature Range	T_{stg}	-40 to +85	°C
Operable Temperature Range	T_A	-10 to +65	°C

5-2. Electronic Characteristics

Operating temperature:	$T_A = -10 \dots +80 \text{ } ^\circ\text{C}$
Terminating source impedance:	$Z_S = 50\Omega$ unbalanced and matching network
Terminating load impedance:	$Z_L = 50\Omega$ unbalanced and matching network

Characteristics		Minimum	Typical	Maximum	Unit
Center frequency	f_c	--	374.000	--	MHz
Insertion Loss	IL	--	9.0	10.5	dB
3dB Passband Width	BW_3	16.5	19	--	MHz
Amplitude ripple (p-p) $\Delta \alpha$	$f_c \pm 7$ MHz	--	1.0	2.0	dB
Group delay ripple (p-p) $\Delta \tau$	$f_c \pm 7$ MHz	--	40	100	ns
Triple transit suppression		30	40	--	dB
Relative attenuation (Relative to min. IL)	α_{rel}				
	274.0 ~ 341.0 MHz	42	50	--	dB
	341.0 ~ 352.0 MHz	40	52	--	dB
	352.0 ~ 357.5 MHz	32	43	--	dB
	390.5 ~ 396.0 MHz	28	38	--	dB
	396.0 ~ 417.0 MHz	32	40	--	dB
	417.0 ~ 454.0 MHz	40	45	--	dB

6. Reliability

6.1 Resistance to Soldering heat:

6.1.1 The components shall remain within the electrical specifications after it soldered on the 1mm-thickness PCB board and dipped in the solder at $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 10 ± 1 seconds.

6.1.2 The components shall remain within the electrical specifications after it soldered by electric iron, solder at $350^{\circ}\text{C} \pm 10^{\circ}\text{C}$ for 3~4 seconds, recovery time : $2\text{h} \pm 0.5\text{h}$.

6.2 Thermal Shock:

The components shall remain within the electrical specifications after being kept at the condition of heat cycle conditions: TA= $-40^{\circ}\text{C} \pm 3^{\circ}\text{C}$, TB= $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$, t1=t2=30min, switch time ≤ 3 min & cycle time : 100 times, recovery time : $2\text{h} \pm 0.5\text{h}$.

6.3 The Temperature Storage:

6.3.1 High Temperature Storage: The components shall remain within the electrical specifications after being kept at the $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 500 hours, recovery time : $2\text{h} \pm 0.5\text{h}$.

6.3.2 Low Temperature Storage: The components shall remain within the electrical specifications after being kept at the $-40^{\circ}\text{C} \pm 3^{\circ}\text{C}$ for 500 hours, recovery time : $2\text{h} \pm 0.5\text{h}$.

6.4 Humidity test:

The components shall remain within the electrical specifications after being kept at the condition of ambient temperature $60^{\circ}\text{C} \pm 2^{\circ}\text{C}$, and 90~95% RH for 500 hours.

6.5 Drop test:

The components shall remain within the electrical specifications after random free drops 10 times from height of 1.0 meter onto concrete floor, and the specimens shall meet the electrical specifications in

table 5, external visual inspection.

6.6 Solder ability test:

At the condition of temperature $245^{\circ}\text{C}\pm 5^{\circ}\text{C}$ Depth: DIP 2/3 , SMD 1/5, time: 3.0s-5.0s, 80% or more of the immersed surface shall be covered with solder and well-proportioned.

6.7 Vibration Fatigue:

The components shall remain within the electrical specifications after loaded vibration at 10~55Hz, amplitude 1.5mm, X, Y, Z, direction, for 2 hours.

6.8 Terminal strength:

The force 10 ± 1 seconds of 19.6N is applied to each terminal, and 45° in the same direction 2 times with 2N bending force (Exception: SMD)

6.9 Mechanical Shock:

The components shall remain within the electrical specifications after 1000 shocks, acceleration 392 m/s^2 , duration 6ms.

Note: 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.

7. Remarks

7.1 Static voltage

Static voltage between signal load & ground may cause deterioration & destruction of the component. Please avoid static voltage.

7.2 Ultrasonic cleaning

Ultrasonic vibration may cause deterioration & destruction of the component. Please avoid ultrasonic cleaning.

7.3 Soldering

Only leads of component may be soldered. Please avoid soldering another part of component.

8.Packing

8.1 Dimensions

Carrier Tape: Figure 1

Reel: Figure 2

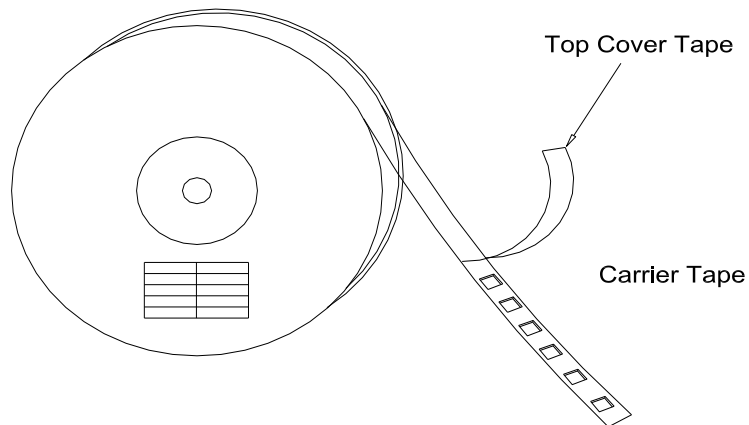
The product shall be packed properly not to be damaged during transportation and storage.

8.2 Reeling Quantity

1,000 pcs/reel

8.3 Taping Structure

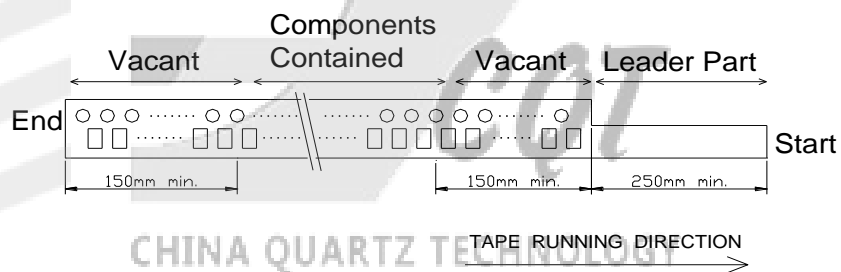
(1) The tape shall be wound around the reel in the direction shown below.



(2) Label

Device Name	
Type	
Quantity	
Lot No.	

(3) Leader part and vacant position specifications.

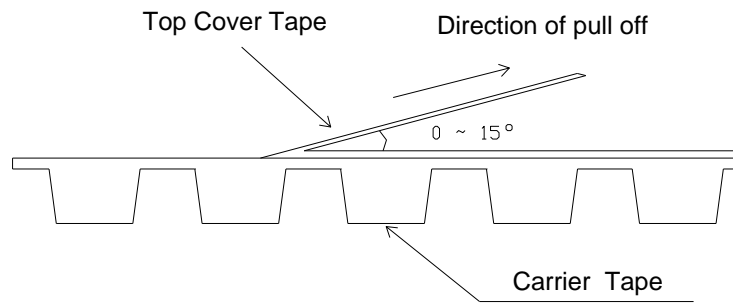


9. Tape Specifications

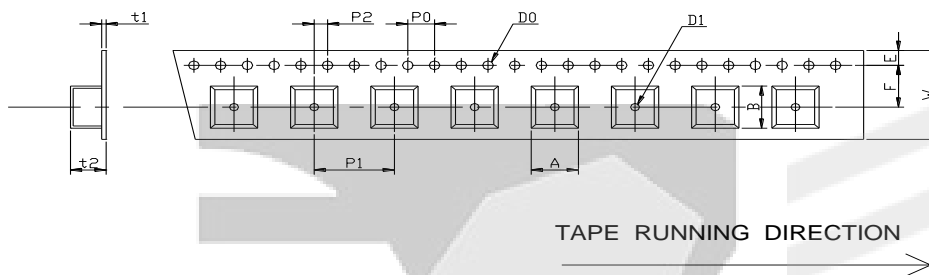
9.1 Tensile Strength of Carrier Tape: 4.4N/mm width

9.2 Top Cover Tape Adhesion (See the below figure)

- (1) pull off angle: 0~15°
- (2) speed: 300mm/min.
- (3) force: 20~70g



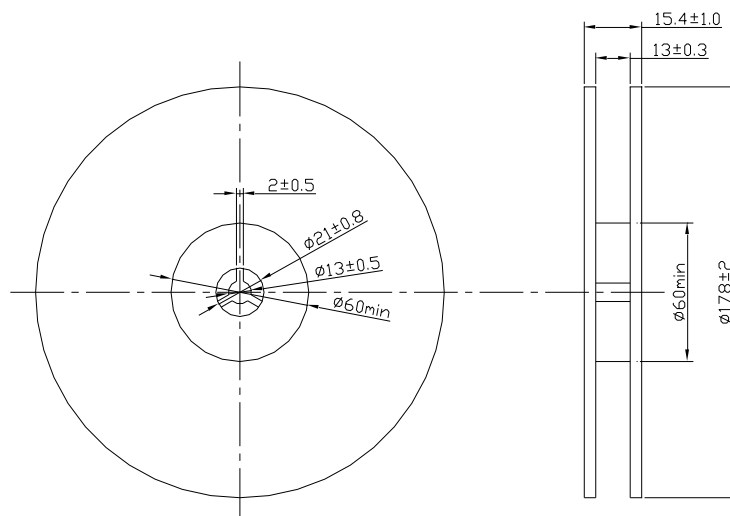
[Figure 1] Carrier Tape Dimensions



[Unit: mm]

W	F	E	P0	P1	P2	D0	D1	t1	t2	A	B
12.0	5.5	1.75	4.0	4.0	2.0	Φ 1.5	Φ 1.5	0.31	1.7	3.3	3.3
±0.3	±0.1	±0.1	±0.2	±0.1	±0.2	±0.1	±0.25	max.	max.	max.	max.

[Figure 2] Reel Dimensions



[Unit: mm]