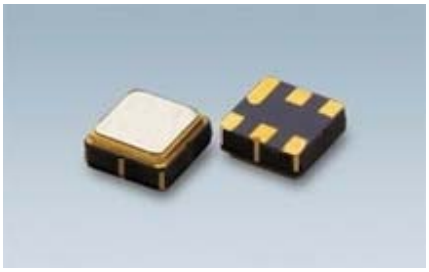
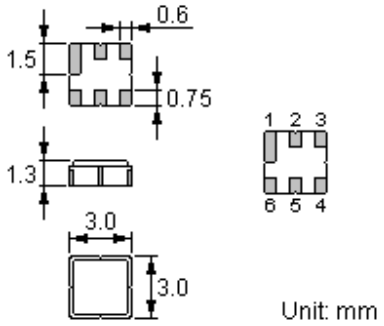
Features

- Low-loss RF filter for CDMA450 – Block L(Rx)
- High Rejection
- Single Ended Operation at 50Ω without matching
- Ceramic Package for **S**urface **M**ounted **T**echnology (**SMT**)
- Lead-free Production and **RoHS** Compliance



Package Dimensions

Ceramic Package: **DCC6C**



Unit: mm

Pin Configuration

2	Input
5	Output
1, 3, 4, 6	Case Ground
1, 3, 4, 6	To Be Grounded

Marking

Top View, Laser Marking

"**ND**": Manufacturer's mark "**F**": SAW filter

"**4172**": Part number "・": Terminal 1

"＊": 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
2009	A	B	C	D	E	F	G	H	J	K	L	M
2010	N	P	Q	R	S	T	U	V	W	X	Y	Z
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

Maximum Ratings

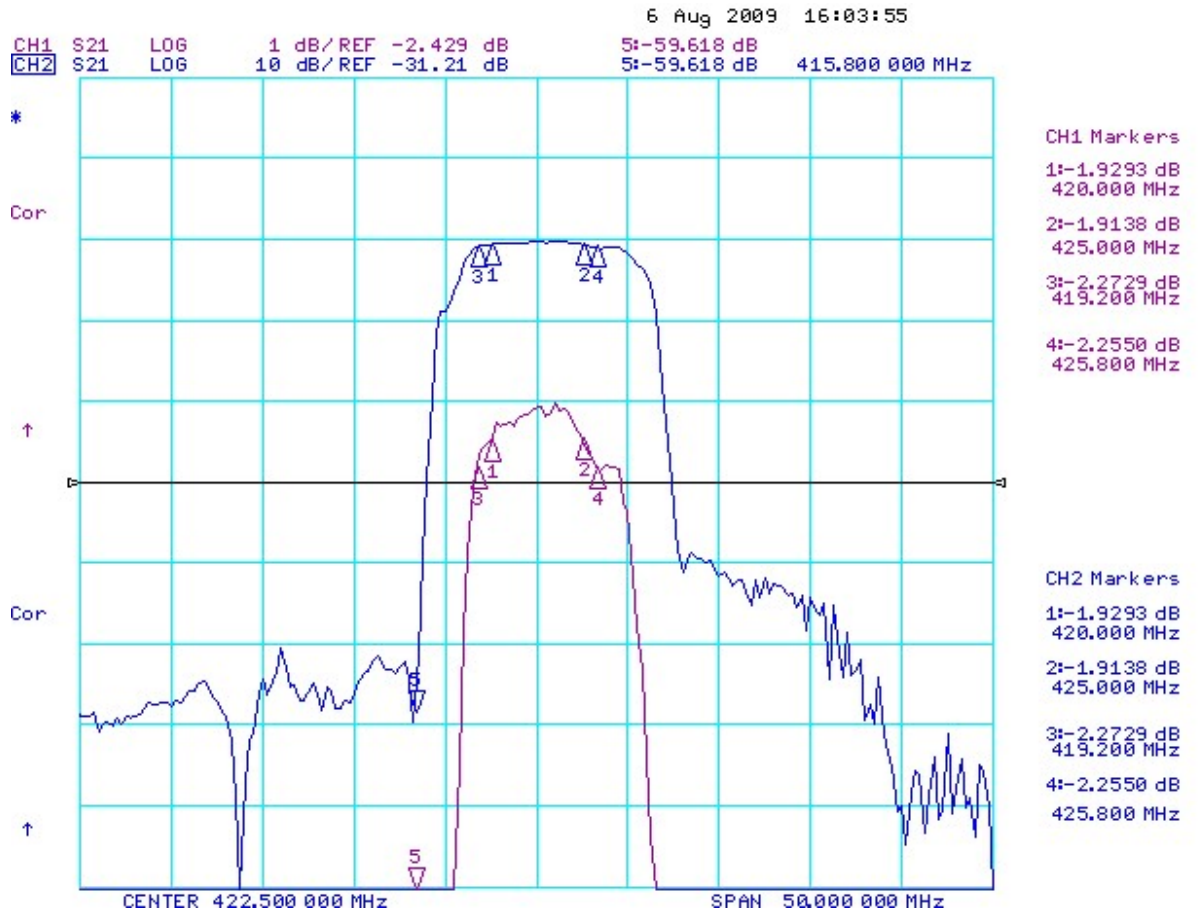
Rating		Value	Unit
Operating Temperature Range	T_A	-40 ~ +85	°C
Storage Temperature Range	T_{stg}	-40 ~ +85	°C
DC Voltage (between any Terminals)	V_{DC}	0	V
RF Power (in *BW*)	*P*	26max.	dBm
ESD Voltage (HB)	V_{ESD}	250	V

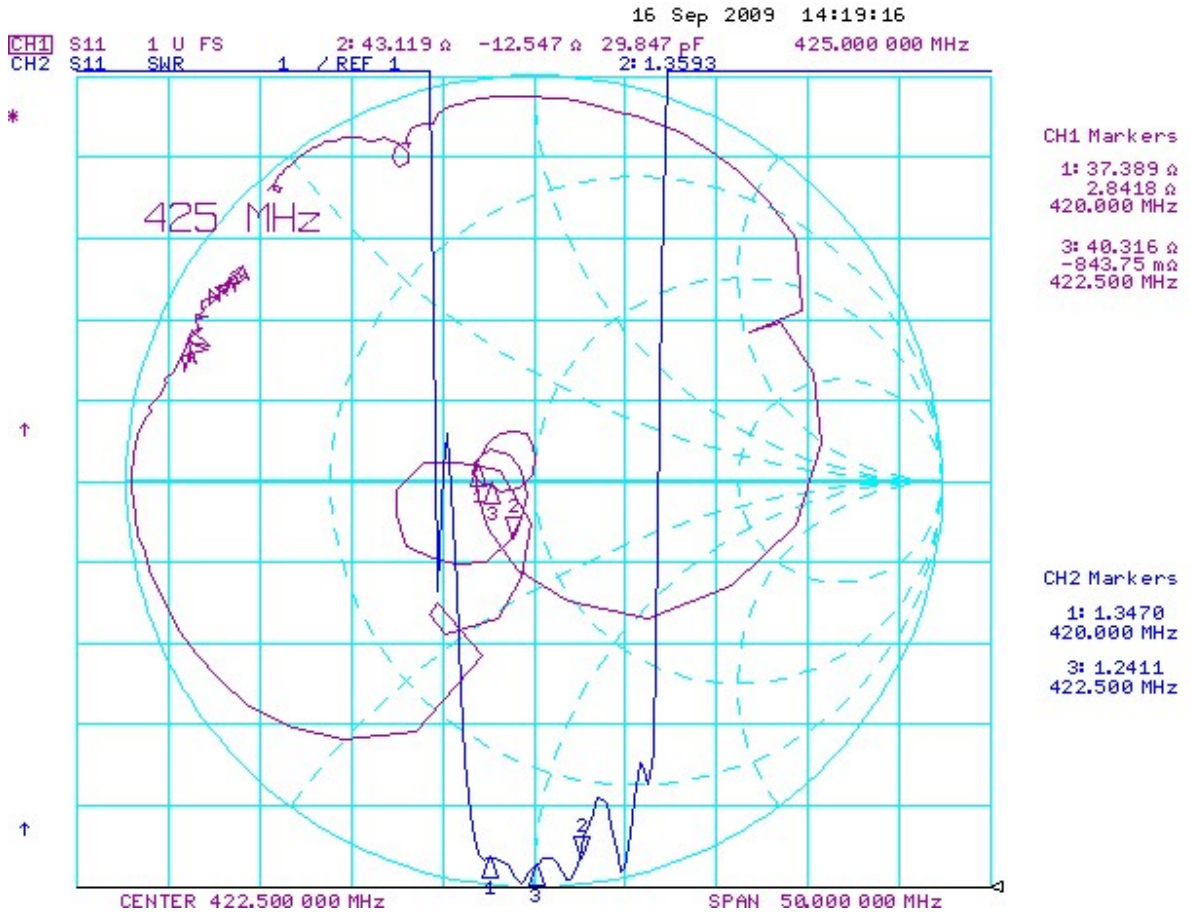
Electrical Characteristics

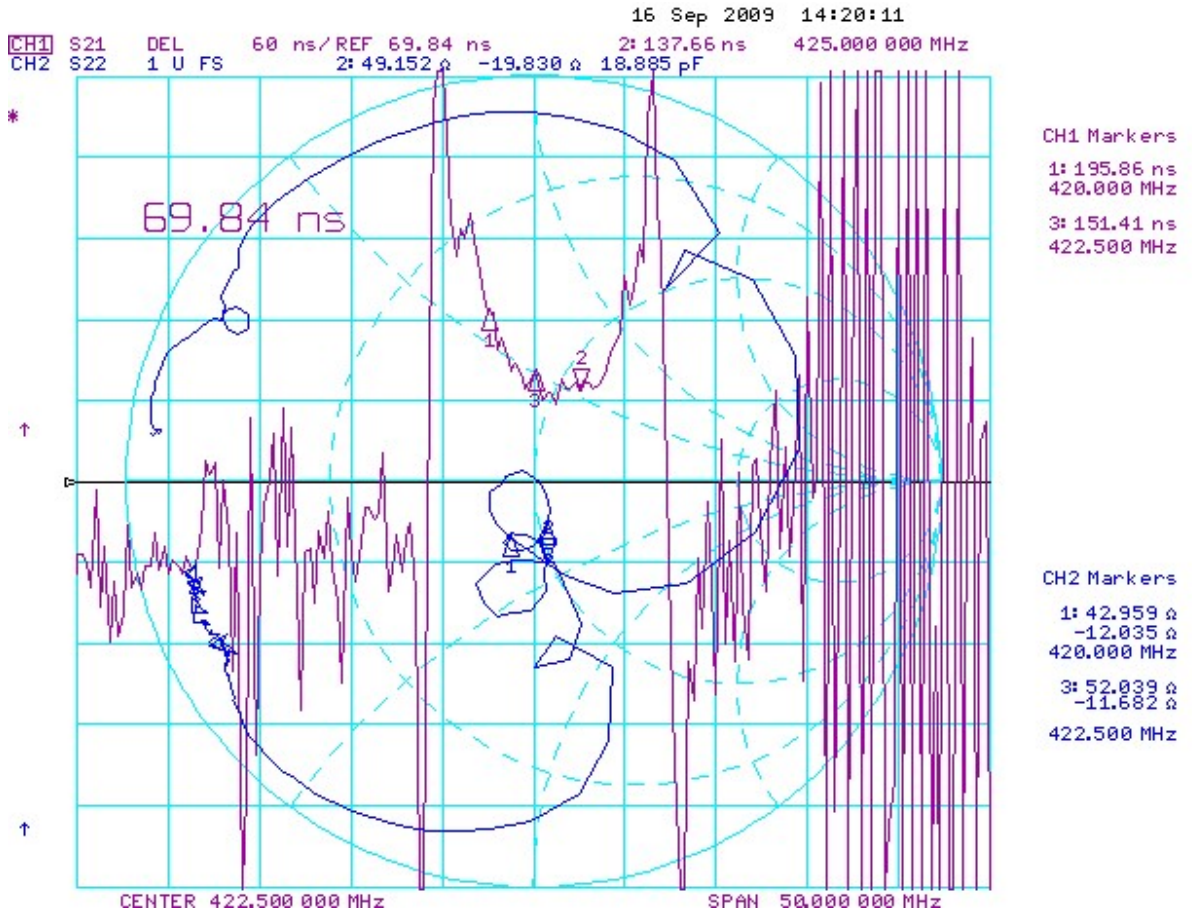
Item		Minimum	Typical	Maximum	Unit
Center Frequency	f_C	-	422.5	-	MHz
Maximum Insertion Loss in 420.0 MHz–425.0 MHz	*IL*	-	2.0	3.5	dB
Absolute Attenuation	*α*				
0.3000 … 410.00 MHz		45	55	-	dB
410.00 … 415.00 MHz		50	55	-	dB
450.00 … 480.00 MHz		45	60	-	dB
480.00 … 1000.0 MHz		40	48	-	dB
1000.0 … 2000.0 MHz		30	40	--	dB
Amplitude Variation in 420.0 MHz–425.0 MHz			0.6	1.2	dB
Input VSWR in 420.0 MHz–425.0 MHz		-	1.6:1	2.0:1	
Output VSWR in 420.0 MHz–425.0 MHz		-	1.6:1	2.0:1	
Group delay ripple 420.0 MHz–425.0 MHz			60	120	ns
Source / Load Impedance (single ended)			50		Ω

RoHS Compliant **Electrostatic Sensitive Device**

Typical Frequency Response




16 Sep 2009 14:19:16
CH1 S11 1 U FS 2: 43.119 Ω -12.547 Ω 29.847 pF 425.000 000 MHz
CH2 S11 SWR 1 / REF 1 2: 1.3593
425 MHz
CH1 Markers
1: 37.389 Ω
2.8418 Ω
420.000 MHz
3: 40.316 Ω
-843.75 mΩ
422.500 MHz
CH2 Markers
1: 1.3470
420.000 MHz
3: 1.2411
422.500 MHz
CENTER 422.500 000 MHz
SPAN 50.000 000 MHz


16 Sep 2009 14:20:11
CH1 S21 DEL 60 ns/ REF 69.84 ns 2: 137.66 ns 425.000 000 MHz
CH2 S22 1 U FS 2: 49.152 Ω -19.830 Ω 18.885 pF
69.84 ns
CH1 Markers
1: 195.86 ns
420.000 MHz
3: 151.41 ns
422.500 MHz
CH2 Markers
1: 42.959 Ω
-12.035 Ω
420.000 MHz
3: 52.039 Ω
-11.682 Ω
422.500 MHz
CENTER 422.500 000 MHz
SPAN 50.000 000 MHz

Stability Characteristics

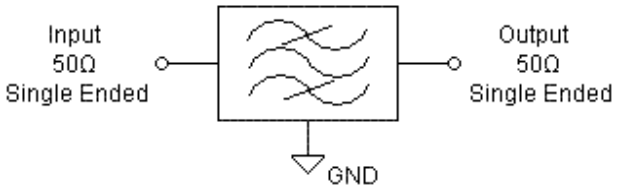
	Test item	Condition of test
1	Mechanical shock	(a) Drops: 3 times on concrete floor (b) Height: 1.0 m
2	Vibration resistance	(a) Frequency of vibration: 10~55Hz (b) Amplitude: 1.5 mm (c) Directions: X,Y and Z (d) Duration: 2 hours
3	Moisture resistance	(a) Condition: 40°C, 90~95% R.H. (b) Duration: 96 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 filer shall remain within the electrical specifications after tests.

Remarks

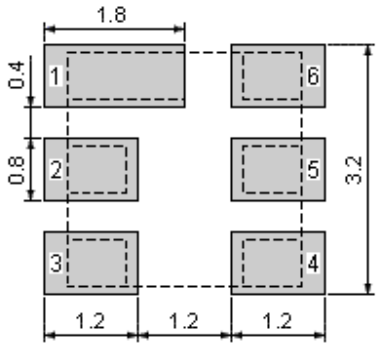
- SAW devices should not be used in any type of fluid such as water, oil, organic solvent, etc.
- Be certain not to apply voltage exceeding the rated voltage of components.
- Do not operate outside the recommended operating temperature range of components.
- Sudden change of temperature shall be avoided, 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



50Ω / 50Ω Configuration

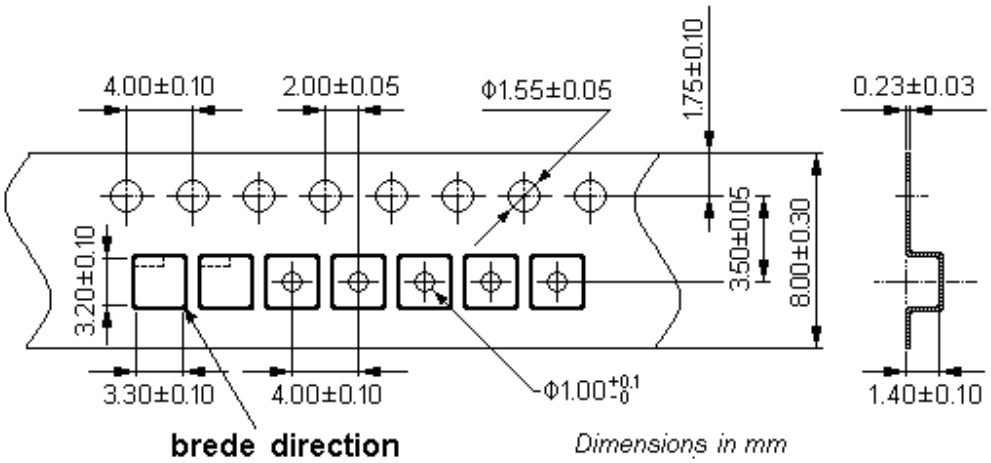
Recommended Land Pattern



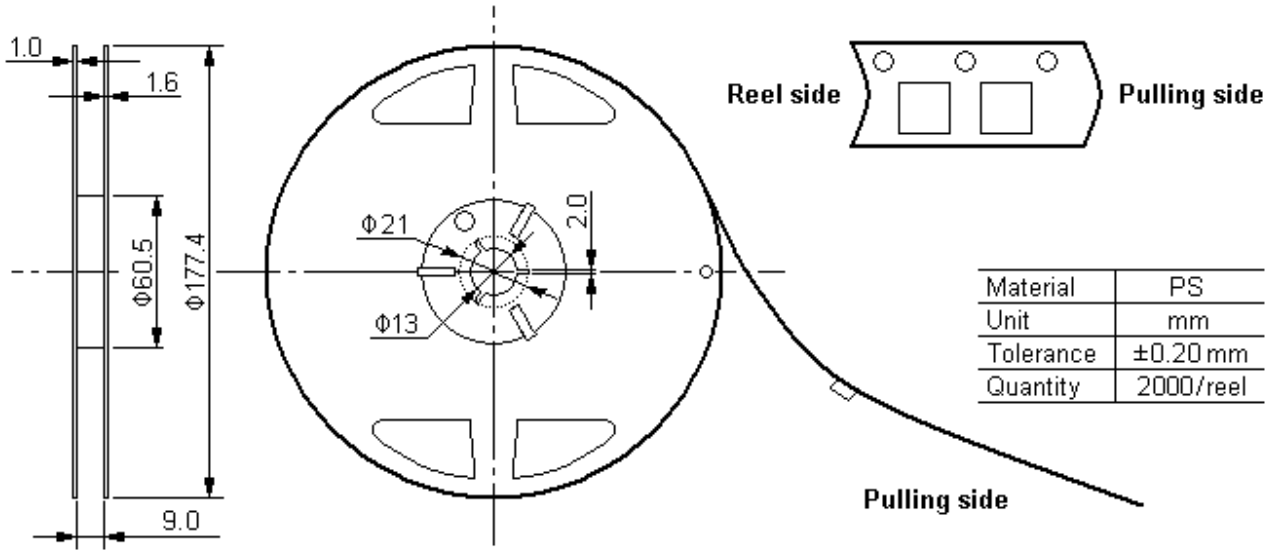
Unit: mm

Packing Information

Carrier Tape



Reel Dimensions



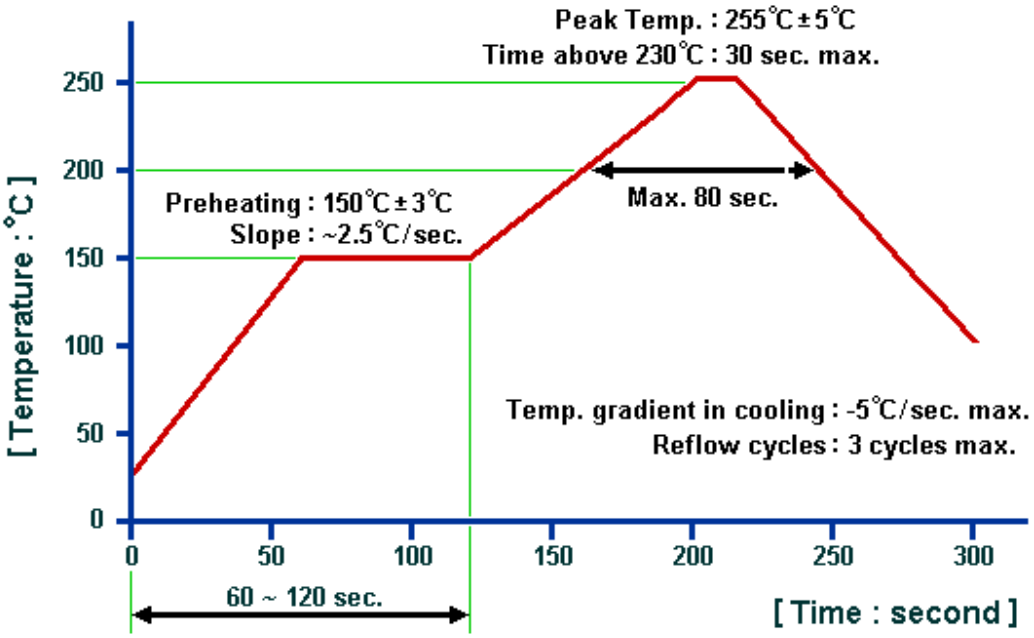
Material	PS
Unit	mm
Tolerance	±0.20 mm
Quantity	2000/reel

Outer Packing

Type	Quantity	Dimension	Description	Weight
Carton Box Ⅰ	10000	190×190×95	anti-static plastic bag & carton box 1 reel / bag 5 bags / box (10000 pcs) 10 bags / box (20000 pcs)	0.85
Carton Box Ⅱ	20000	190×190×190		1.70

Unit: mm Unit: kg

Recommended Soldering Profile



1. The specifications of this device are subject to change or obsolescence without notice.
2. Typically, equipment utilizing this device requires emissions testing and government approval, which is the responsibility of the equipment manufacturer.
3. Our liability is only assumed for the Surface Acoustic Wave (SAW) component(s) per se, not for applications, processes and circuits implemented within components or assemblies.
4. For questions on technology, prices and delivery, please contact our sales offices or e-mail winnsky@winnsky.com