

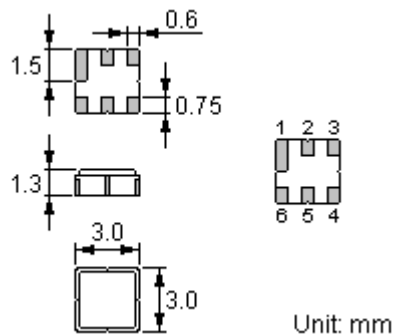
Features

- 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

Marking



Top View, Laser Marking

"ACT": Manufacturer's mark "F": SAW filter
 "9226": 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
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	13.5 dBm CW, $T_a=85^\circ\text{C}$, life time>10 years	
		20dBm CW, $T_a=85^\circ\text{C}$, pass band top frequency, test 1000 hours continuously ,electrical characters meet demand;	
		23dBm CW, $T_a=85^\circ\text{C}$, pass band top frequency, test 2 hours continuously ,electrical characters meet demand;	
DC Voltage	V_{DC}	0	V
Operating Temperature Range	T_A	-40 ~ +95	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-40 ~ +95	$^\circ\text{C}$

In line with our ongoing policy of product evolution and improvement, the above specification may subject to change without notice

ISO9001 Registered

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 3 The Business Centre, Molly Millars Lane, Wokingham, Berkshire, RG41 2EY, UK
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SAW Filter

NDF9226

1950MHz

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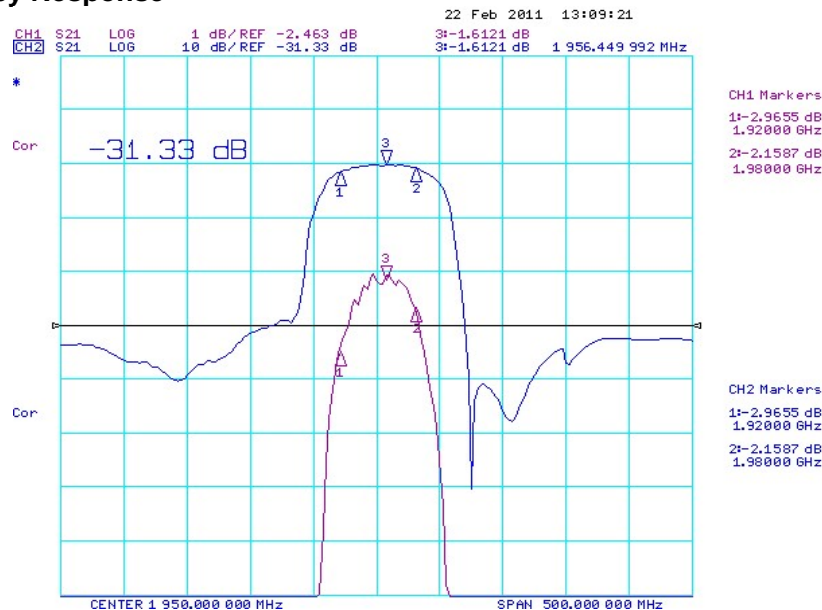
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Item		Minimum	Typical	Maximum	Unit
Center Frequency	f_c		1950		MHz
Insertion Loss	IL				
	1920.00 1980.00 MHz	--	3.0	3.5	dB
Group Delay Ripple	1920.00 1980.00 MHz		10 **	40	ns
Absolute Attenuation	α				
	DC 1400.00 MHz	22	25		dB
	1400.00 1495.00 MHz	25	28		dB
	1495.00 1700.00 MHz	28	31		dB
	1700.00 1870.00 MHz	30	34		dB
	1870.00 1880.00 MHz	20 *)	30		dB
	2000.00 2015.00 MHz	3.5	6.0		dB
	2015.00 2030.00 MHz	8	20		dB
	2030.00 2050.00 MHz	35	45		dB
	2050.00 2080.00 MHz	33	37		dB
	2080.00 2170.00 MHz	30	34		dB
	2170.00 5000.00 MHz	25	30		dB
	5000.00 5800.00 MHz	10	12		dB
	5800.00 6000.00 MHz	8	10		dB
Amplitude Ripple (p-p)	1920.00 1980.00 MHz	$\Delta\alpha$	1.5	2.1	dB
Return loss	1920.00 1980.00 MHz		8	10	dB
Input / Output Impedance (Nominal)			50		Ω
Temperature coefficient of frequency	TCf	—	-35		ppm/K

Pb RoHS Compliant*): *) min. 15 dB (T > 45 °C)

i Electrostatic Sensitive Device

Typical Frequency Response



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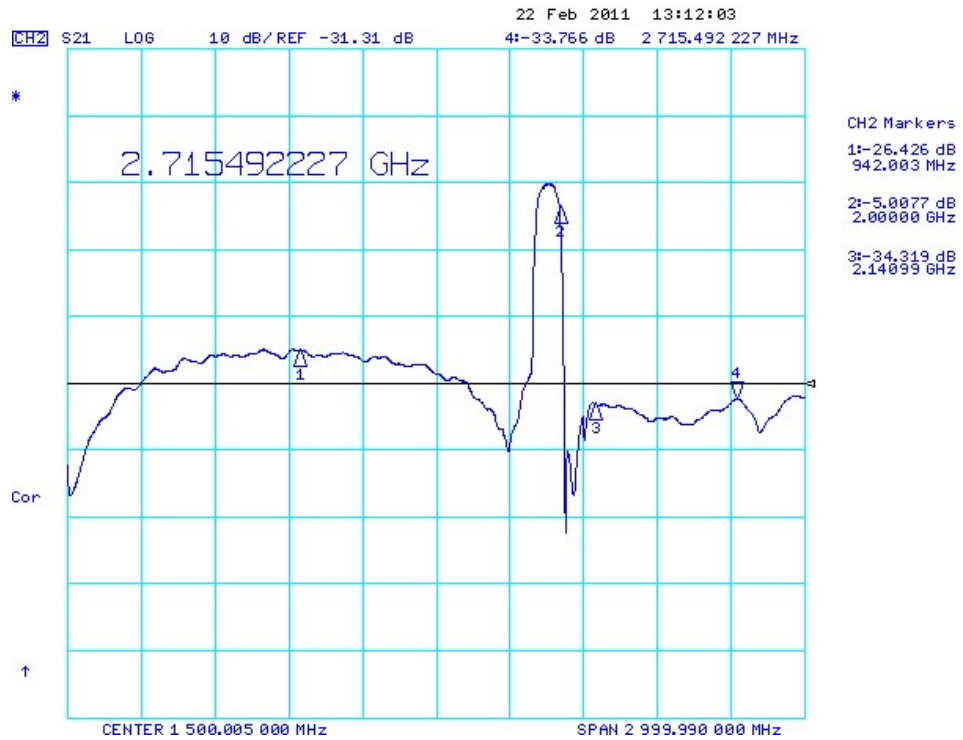
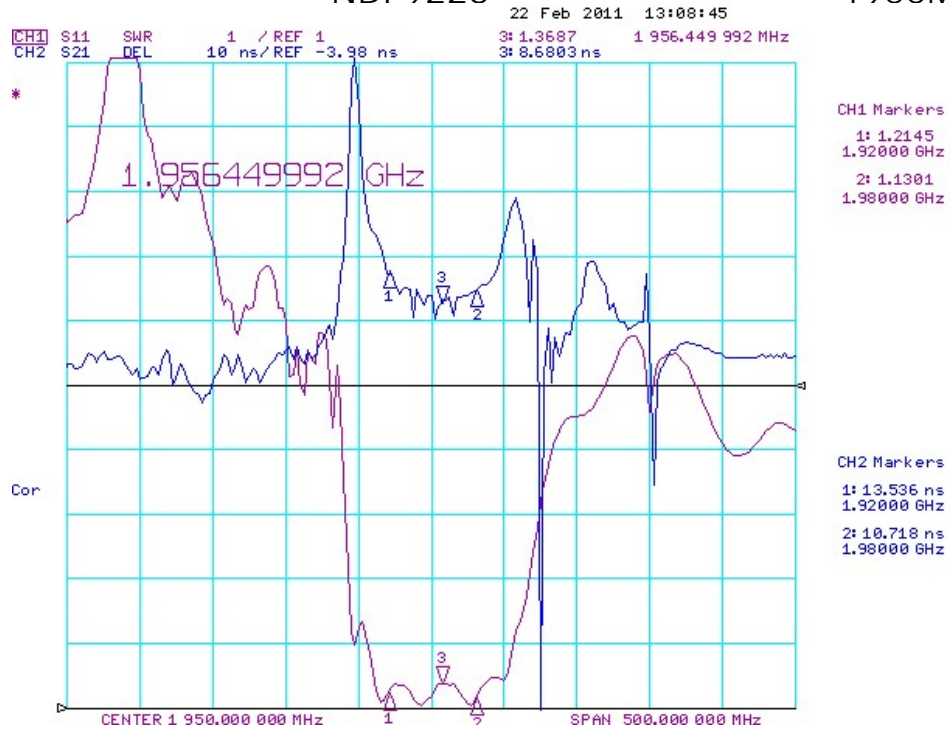
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Stability Characteristics

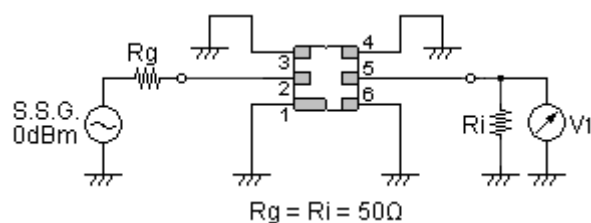
	Test item	Condition of test
1	Mechanical shock	(a) Drops: 3 times on concrete floor (b) Height: 1.0 m
2	Vibration resistance	(a) Frequency of vibration: 10~55Hz (c) Directions: X,Y and Z (b) Amplitude: 1.5 mm (d) Duration: 2 hours
3	Moisture resistance	(a) Condition: 40°C, 90~95% R.H. (c) Wait 4 hours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

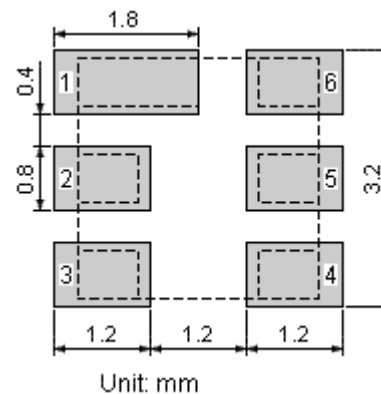
Remarks

- 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



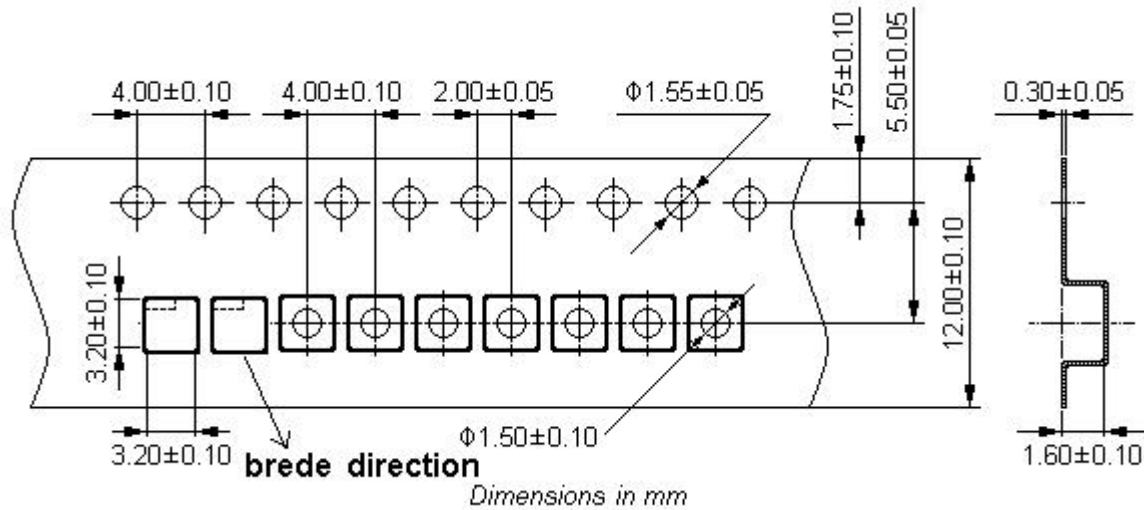
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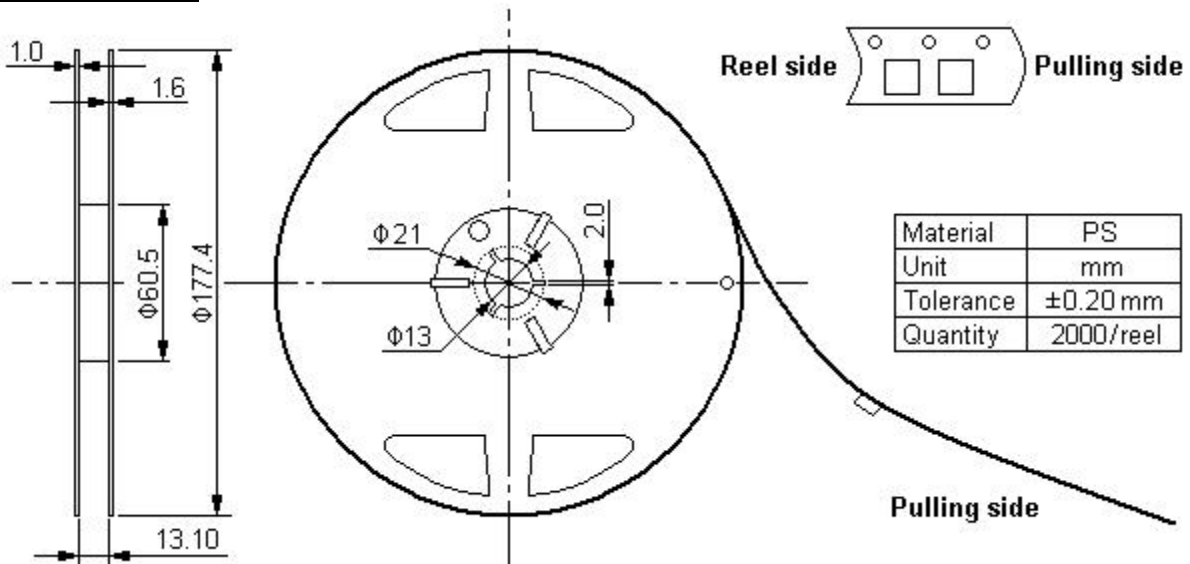
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Packing Information

Carrier Tape



Reel Dimensions



Outer Packing

Type	Quantity	Dimension	Description	Weight
Carton Box I	10000	190x190x95	anti-static plastic bag & carton box 1 reel / bag	0.85
Carton Box II	20000	190x190x190	5 bags / box (10000 pcs) 10 bags / box (20000 pcs)	1.80

Unit: mm

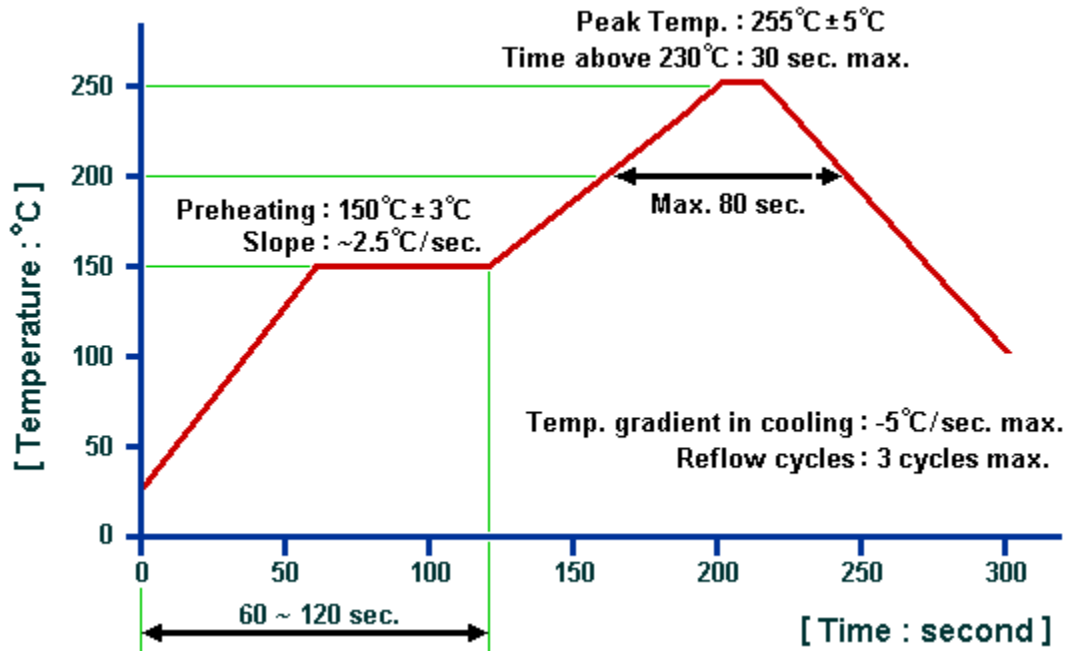
Unit: kg

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Recommended Soldering Profile

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NOTE:

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.

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