

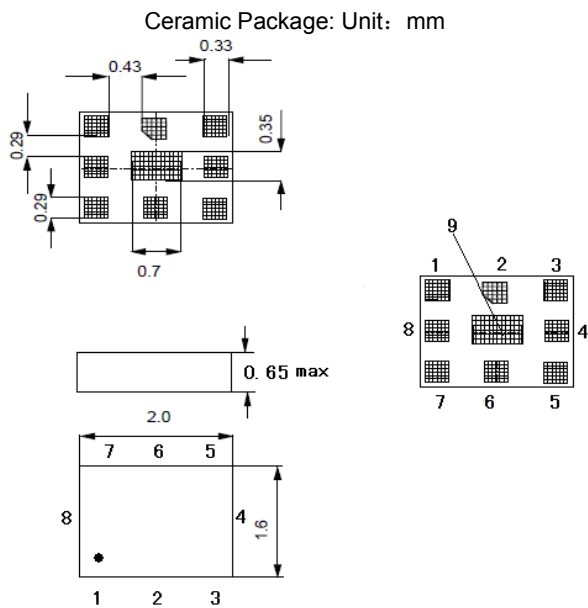
Application

- Low-loss SAW duplexer for mobile telephone Cellular/WCDMA band 1 systems
- Low amplitude ripple
- Low insertion attenuation

Features

- Ceramic Package for **Surface Mounted Technology (SMT)**
- **RoHS** compatible
- Package size 2.0x1.6
- Approx. weight 0.014g
- **Electrostatic Sensitive Device(ESD)**

Package Dimensions

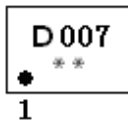


Pin Configuration

6	Antenna
3	TX Input
1,8	RX Output
2, 4 ,5, 7, 9	To Be Grounded

Marking

Top View, Laser Marking



“D007”: 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
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
2017	A	B	C	D	E	F	G	H	J	K	L	M
2018	N	P	Q	R	S	T	U	V	W	X	Y	Z

Maximum Ratings

Rating		Value	Unit
Operating Temperature Range	T_A	-30 ~ +85	°C
Storage Temperature Range	T_{stg}	-40 ~ +85	°C
DC Voltage (between any Terminals)	V_{DC}	5	V
RF Power (in BW) at 1920-1980MHz elsewhere	P	29 max 10max	dBm
ESD Voltage (HB)	V_{ESD}	250	V

Electrical Characteristics TX-ANT:

Temperature range for specification: T=-30°C to +85°C

Antenna terminating impedance: $Z_{ANT}=50\ \Omega \parallel 3.3nH$

RX terminating impedance: $Z_{RX}=100\ \Omega \parallel 10nH$ (balanced)

TX terminating impedance: $Z_{TX}=50\ \Omega$

Item			Min	Typical	Max	Unit
Center Frequency		f_C	-	1950	-	MHz
Maximum Insertion Loss	in 1922.4MHz–1977.6MHz	IL	-	1.4	1.8	dB
	in 1920MHz–1980MHz	IL	-	1.5	1.9	dB
Amplitude Variation	in 1922.4MHz–1977.6MHz	Av	-	0.25	0.8	dB
	in 1920MHz–1980MHz	Av	-	0.3	0.8	dB
Amplitude Variation over any 3.84MHz in passband in 1920MHz–1980MHz				0.15	0.5	dB
Error vector magnitude	in 1922.4MHz–1977.6MHz	EVM		0.6	2.0	%
Absolute Attenuation		α				
0.30	470MHz		30	50	-	dB
470	770 MHz		30	41	-	dB
770	1570 MHz		25	28	-	dB
1570	1580MHz		25	28	-	dB
1805	1880 MHz		3	4.5	--	dB
2112.4	2167.6 MHz		40	45	--	dB
2402	2480 MHz		23	28	--	dB
2620	2690 MHz		24	29	--	dB
3840	3960 MHz		25	33	--	dB
5760	5940 MHz		20	40	--	dB
Input	VSWR(TX port) in 1920MHz–1980MHz		-	1.5:1	1.9:1	
Output	VSWR(ANT port) in 1920MHz–1980MHz		-	1.4:1	1.8:1	

 RoHS Compliant

 Electrostatic Sensitive Device

Electrical Characteristics ANT- RX-:

Electrical Characteristics TX-ANT:

Temperature range for specification: T=-30°C to +85°C

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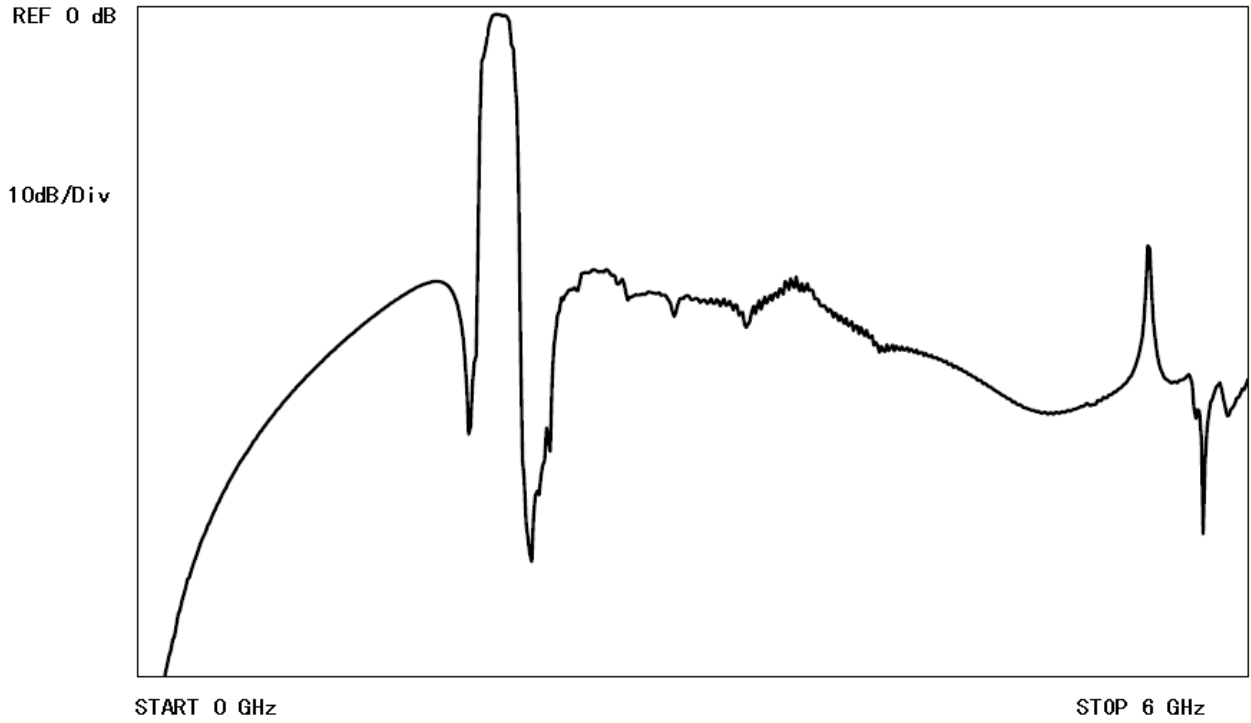
TX terminating impedance: $Z_{TX}=50 \Omega$

Item			Min	Typical	Max	Unit	
Center Frequency			f_C	-	2140	-	MHz
Maximum Insertion Loss	in 2112.4MHz–2167.6MHz		IL	-	2.0	2.3	dB
	in 2110MHz–2170MHz		IL	-	2.1	2.4	dB
Amplitude Variation	in 2112.4MHz–2167.6MHz		Av	-	0.3	1.0	dB
	in 2110MHz–2170MHz		Av	-	0.35	1.0	dB
Amplitude Variation over any 3.84MHz in passband in 2110MHz–2170MHz				0.15	0.5	dB	
Error vector magnitude	in 2112.4MHz–2167.6MHz		EVM		0.7	2.0	%
Absolute Attenuation			α				
0.30	130MHz			30	75	-	dB
130	240 MHz			35	67	-	dB
240	1730 MHz			30	39	-	dB
1730	1790MHz			35	40	-	dB
1790	1920 MHz			30	41	--	dB
1922.4	1977.6 MHz			50	54	--	dB
2015	2025 MHz			21	30	--	dB
2025	2050 MHz			7	13	--	dB
2050	2075 MHz			2	5	--	dB
2075	2095 MHz			1	2.4	--	dB
2185	2230 MHz			1	2.0	--	dB
2230	2255 MHz			5	13	--	dB
2255	2400 MHz			13	37	--	dB
2400	2500 MHz			30	41	--	dB
2500	4030 MHz			30	38	--	dB
4030	4150 MHz			36	49	--	dB
4150	5000 MHz			22	47	--	dB
5000	6000 MHz			30	40	--	dB
Input VSWR(TX port) in 2110MHz–2170MHz				-	1.6:1	2.0:1	
Output VSWR(ANT port) in 2110MHz–2170MHz				-	1.5:1	2.0:1	

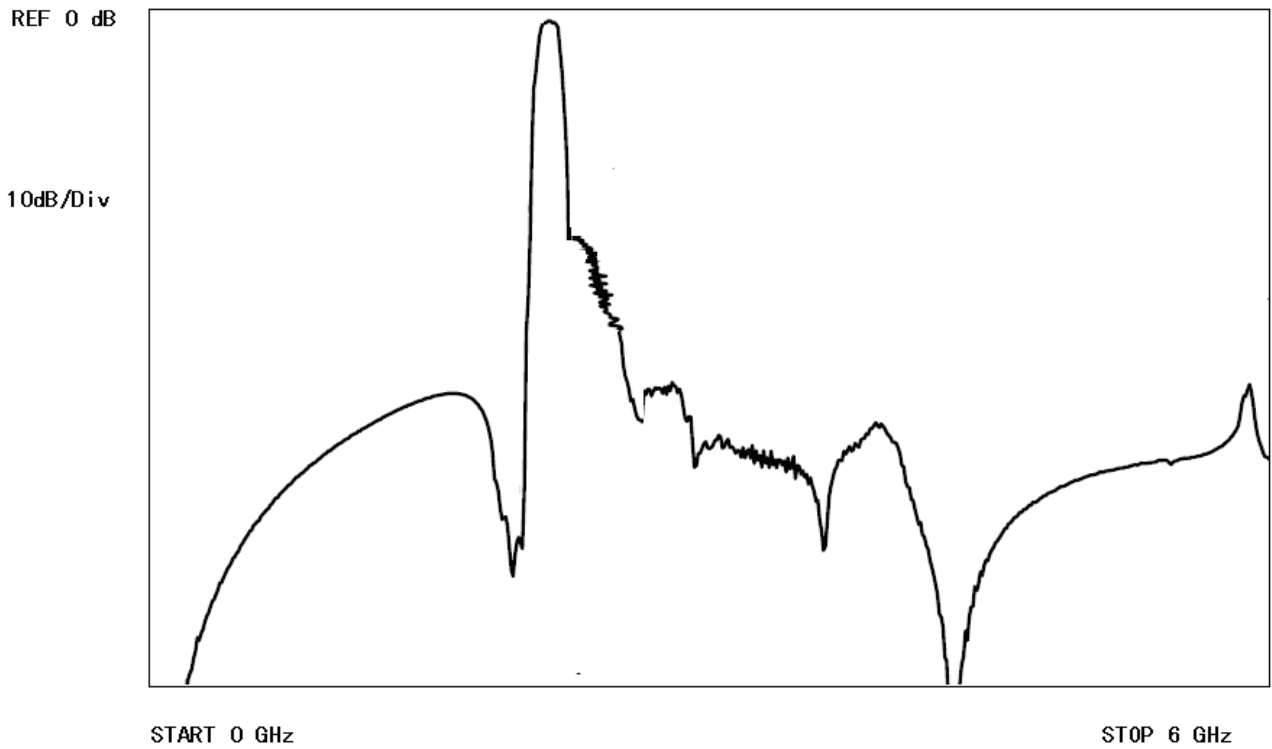
 **RoHS Compliant**

 **Electrostatic Sensitive Device**

Typical Frequency Response TX-ANT



Typical Frequency Response ANT- RX



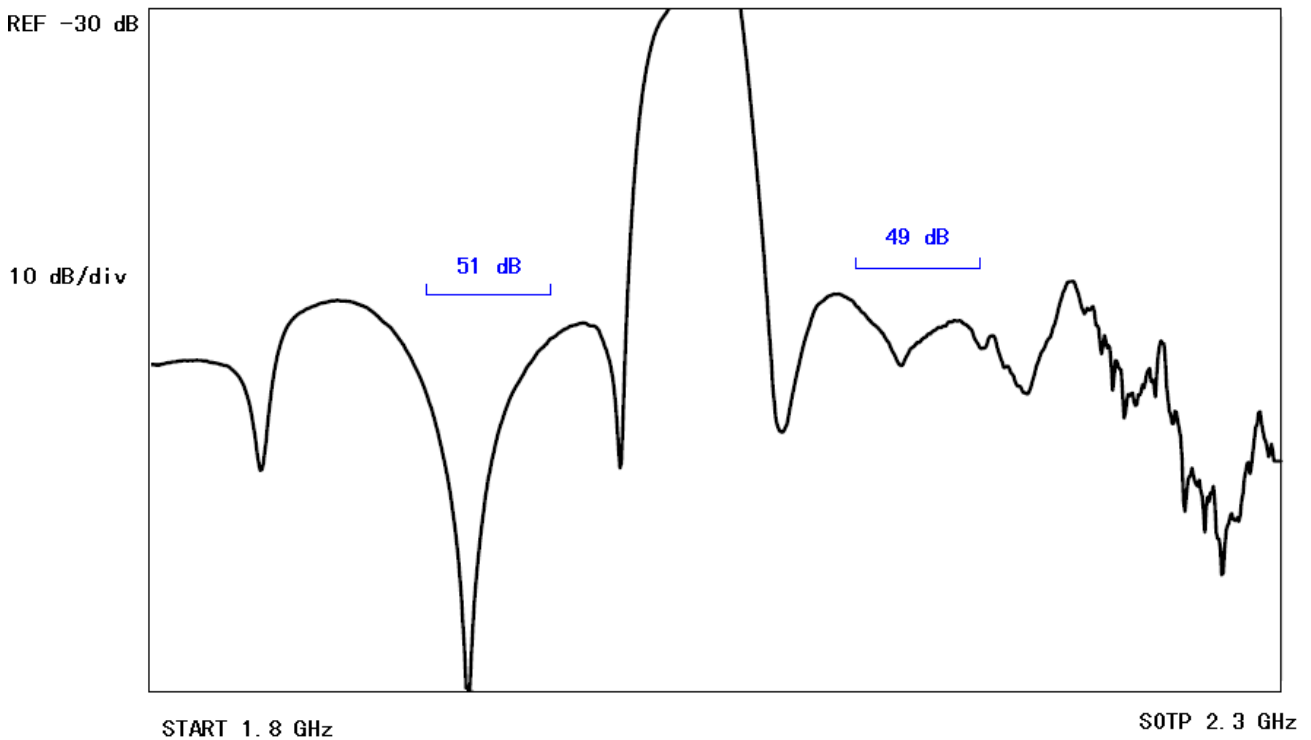
Electrical Characteristics TX-RX:

Item	Minimum	Typical	Maximum	Unit
Isolation	-	-	-	
1922.4MHz-1977.6MHz	47	49		dB
2112.4MHz-2167.6MHz	47	50		dB

RoHS Compliant

Electrostatic Sensitive Device

Typical Frequency Response TX-RX

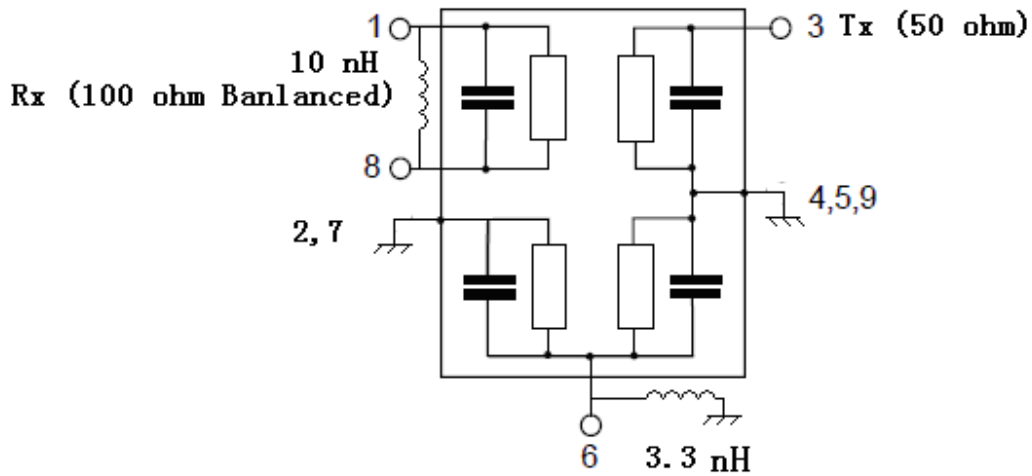


Requirements: The SAW filter shall remain within the electrical specifications after tests.

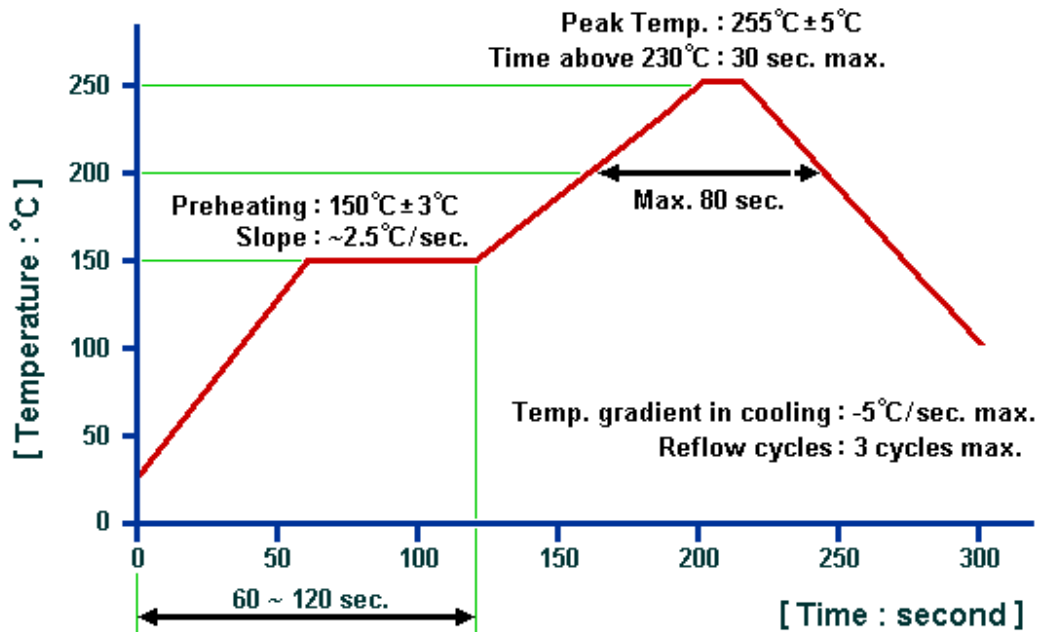
Remarks

- 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 Soldering Profile



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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