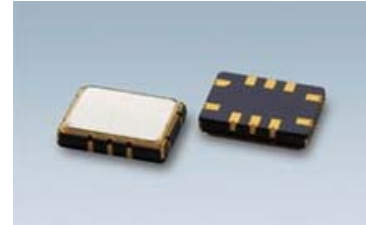


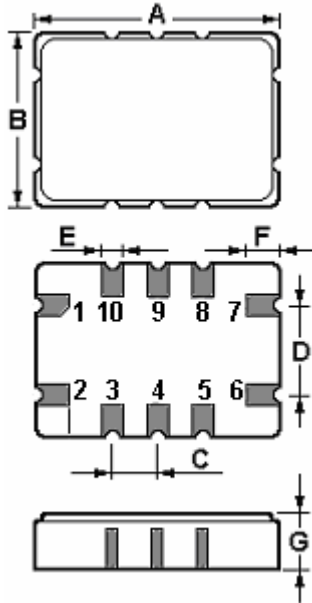
SAW BANDPASS FILTER PART NO.: ACTF2137-140-SMP03

Features

- For IF SAW filter
- Ceramic Package for **Surface Mounted Technology (SMT)**
- Lead-free Production and **RoHS** Compliance



Package Dimensions



Pin		Configuration	
1		Input Ground	
2		Input	
6		Output Ground	
7		Output	
3,5,8,10		Ground	
4,9		Case Ground	
Sign	Data (unit: mm)	Sign	Data (unit: mm)
A	7.0	E	0.6
B	5.0	F	1.0
C	1.27	G	1.5
D	2.54		

Marking



Top View, Laser Marking

- "ND": Manufacturer's mark "F": SAW filter
 "2137": 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
Source Power	P	15	dBm
DC Voltage	V_{DC}	0	V
ESD Voltage (HB)	V_{ESD}	800	V
Operating Temperature Range	T_A	-40 ~ +85	°C
Storage Temperature Range	T_{stg}	-40 ~ +105	°C

Electrical Characteristics

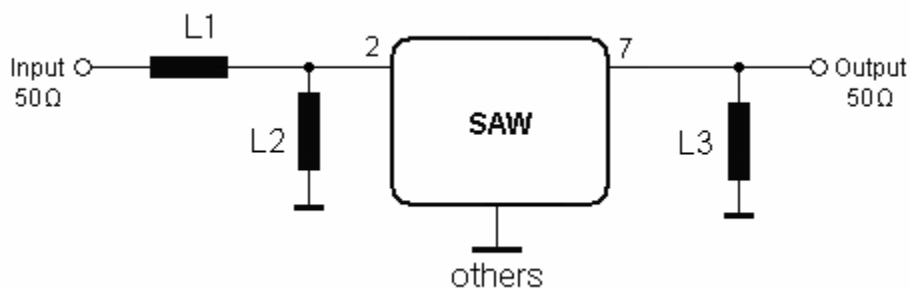
Reference temperature: $T_A = 25\text{ }^\circ\text{C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

Characteristic		Min.	Typ.	Max.	Unit
Center frequency	f_c	—	140.0	—	MHz
Insertion attenuation @ 140.0 MHz	IL	—	7.5	8.5	dB
Pass bandwidth					
$\alpha_{rel} \leq 1\text{ dB}$	BW_1	1.5	1.57		MHz
$\alpha_{rel} \leq 20\text{ dB}$	BW_{20}	—	4.68	4.7	
$\alpha_{rel} \leq 30\text{ dB}$	BW_{30}	—	5.22	5.25	
$\alpha_{rel} \leq 45\text{ dB}$	BW_{45}	—	5.67	6.4	
Passband ripple (p-p)	$\Delta\alpha$		0.3	1	dB
Group delay (@ f_c)	τ	—	0.82		us
Ultimate Rejection		45	48		dB
Temperature Coefficient of Frequency	TC_f	—	20	—	ppm/K

 **RoHS Compliant**

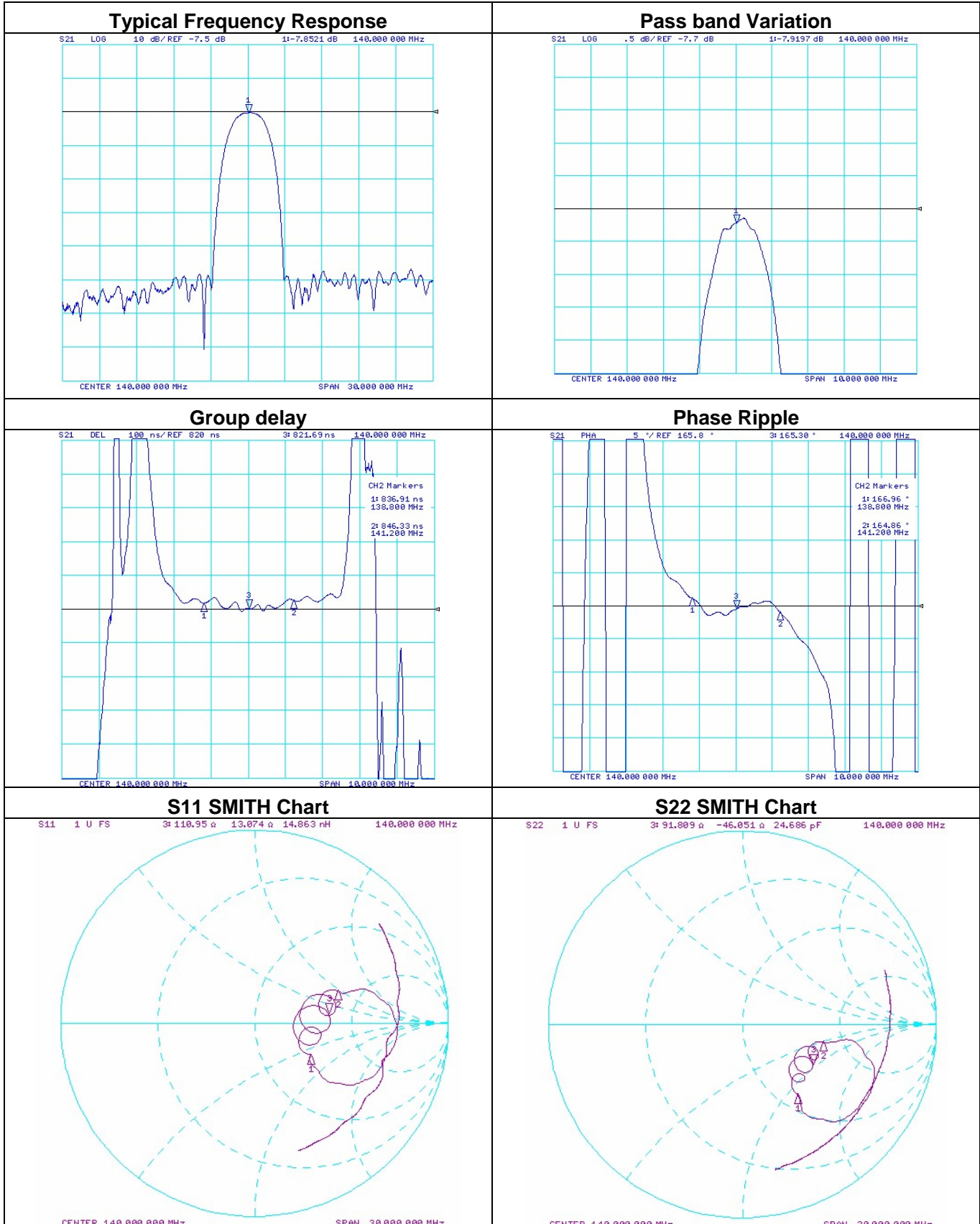
 **Electrostatic Sensitive Device**

Test Matching Network



L1=12nH L2=27nH L3=33nH

(Notes: Component values may change depending on board layout!)



Iss 1 C1u, Date 13-7-2011

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Stability Characteristics

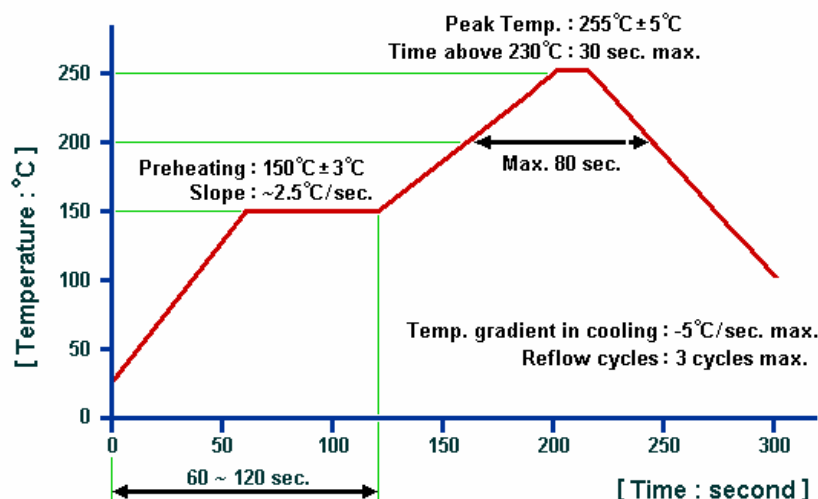
	Test item	Condition of test
1	Mechanical shock	(a) Drops: 3 times on concrete floor (b) Height: 1.0 m
2	Vibration resistance	(a) Frequency of vibration: 10~55Hz (c) Directions: X,Y and Z (b) Amplitude: 1.5 mm (d) Duration: 2 hours
3	Moisture resistance	(a) Condition: 40°C, 90~95% R.H. (c) Wait 4 hours 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.

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.

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