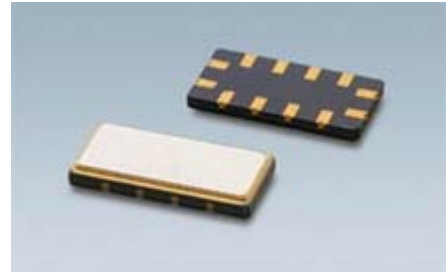


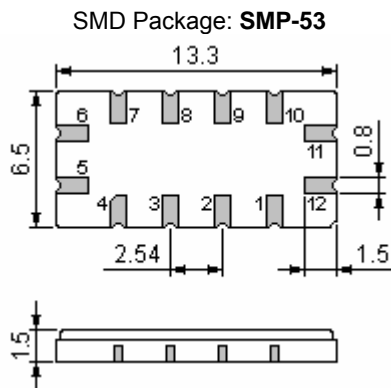
## SAW Filter for Multimedia Applications PART NO.: ACTF2089-140-SMP53

### Features

- Low loss filter for GPS applications
- Usable bandwidth: 16 MHz
- High attenuation
- Single-ended operation
- Surface Mounted Technology (SMT)
- Lead-free production and RoHS compliance



### Package Dimensions

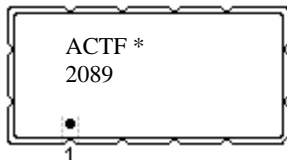


### Pin Configuration

11	Input
5	Output
Others	Ground

Unit: mm

### Marking



Top view      Laser marking

"ND": Manufacturer's mark

"F": SAW filter

"2089": Part number

• : Terminal 1

### Maximum Ratings

Rating		Value	Unit
Source Power	$P_s$	20	dBm
DC Voltage	$V_{DC}$	0	V
Operating Temperature Range	$T_A$	-40 ~ +85	°C
Storage Temperature Range	$T_{stg}$	-40 ~ +85	°C

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In line with our ongoing policy of product evolution and improvement, the above specification may subject to change without notice.  
 For quotations or further information please contact us at: The Busines Centre, Molly Millars Lane, Wokingham, Berkshire RG41 2EY, UK.

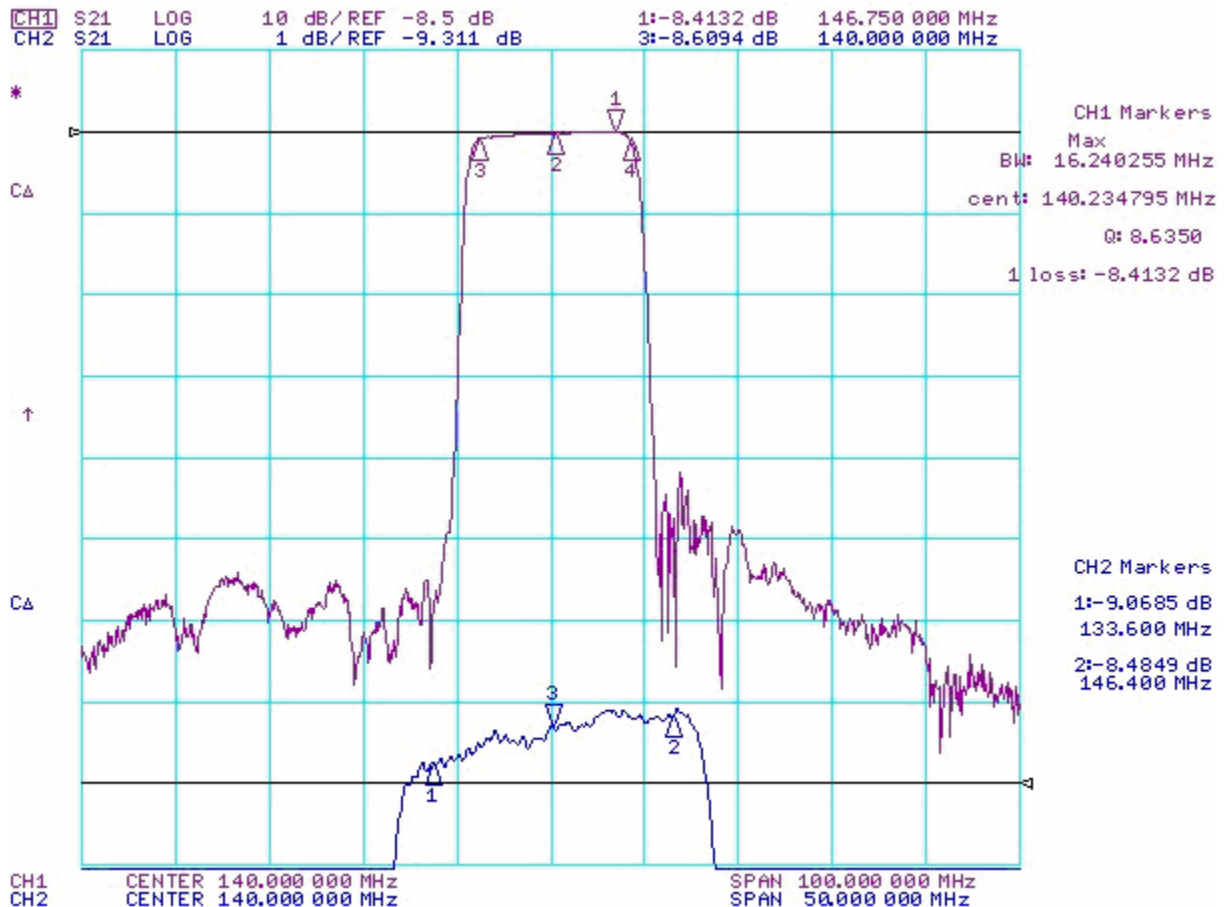
### Electrical Characteristics (@25°C)

Characteristic		Minimum	Typical	Maximum	Unit
Center Frequency	$f_c$	139.60	140.00	140.40	MHz
Insertion Loss (@140.00MHz)	$IL$	--	8.7	11	dB
1dB Bandwidth	$BW_3$	15	16	--	MHz
Passband Ripple 133.60 .... 146.40 MHz	$\Delta\alpha$	--	0.6	1.0	dB
Phase Linearity 133.60 .... 146.40 MHz	$\Delta\phi$	--	10	14	deg
Absolute Group Delay	$\tau$		1.02		$\mu$ s
Group Delay Variation 133.60 .... 146.40 MHz	$\Delta\tau$	--	60	160	ns
Source Impedance			50		$\Omega$
Load Impedance			50		$\Omega$

 **RoHS Compliant**

 **Electrostatic Sensitive Device**

### Typical Frequency Response



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## Stability Characteristics

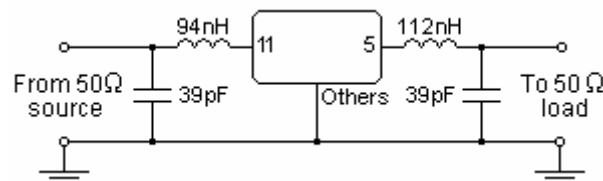
	Test item	Condition of test
1	Mechanical shock	(a) Drops: 3 times on concrete floor (b) Height: 1.0 m
2	Vibration resistance	(a) Frequency of vibration: 10~55Hz (c) Directions: X,Y and Z (b) Amplitude: 1.5 mm (d) Duration: 2 hours
3	Moisture resistance	(a) Condition: 40°C, 90~95% R.H. (c) Wait 4 hours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

## Matching Network



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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