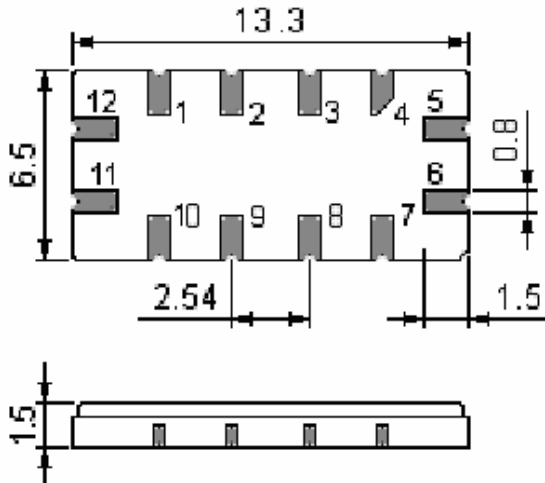


SAW FILTER PART NO.: ACTF2153-140-SMP53

The **ACTF2153-140-SMP53** is a high performance IF band pass filter in a surface-mount ceramic **SMP-53** case with center frequency **140.00** MHz.

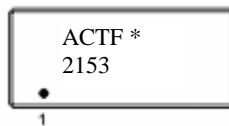
1. Package Dimension (SMP-53)



Pin	Configuration
5	Output
6	Output-Ground
11	Input
12	Input -Ground
Others	Be grounded

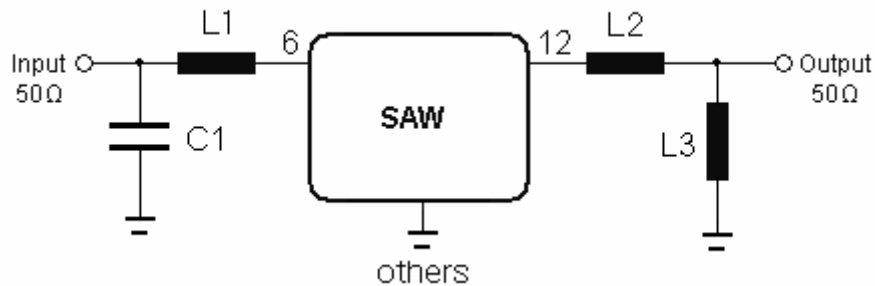
Unit: mm

2. Marking



- The logo "ACT" indicates our product mark
- The character "F" indicates the type of SAW component. Including: F (filter), R (resonator) etc.
- The "2153" indicates the model name of SAW component
- The dot "." indicates terminal 1
- * Date code

3. Matching Network (Input and output unbalanced)



L1=120nH L2=82nH
 C1=36pF L3=68nH

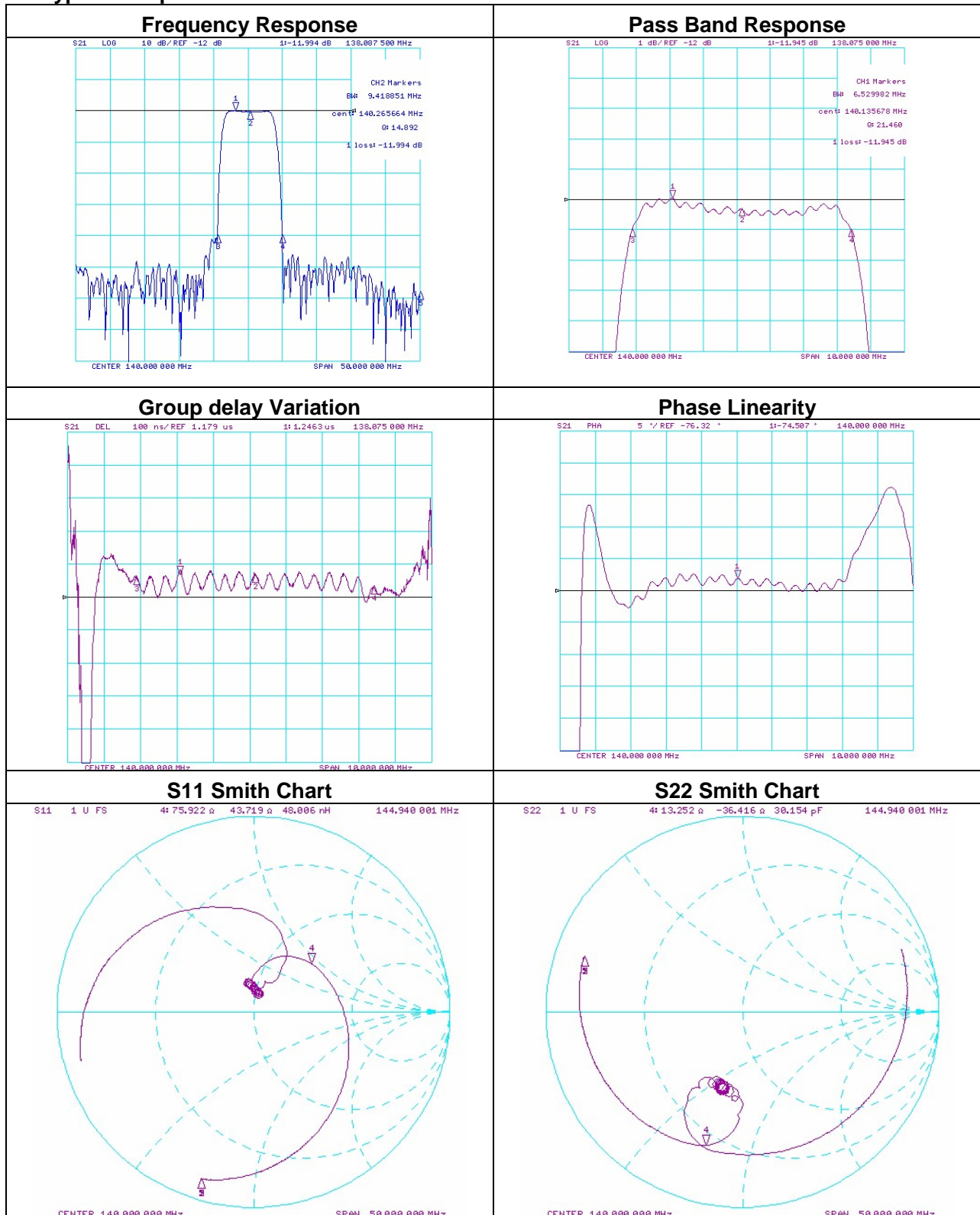
Iss 1 C1u Date 13-7-2011

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.

ISO9001 Registered
<http://www.actcrystals.com>

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

4. Typical Response



Iss 1 C1u Date 13-7-2011

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5. Performance

5-1. Maximum Ratings

Rating		Value	Unit
Source Power	P_S	25	dBm
DC Voltage	V_{DC}	0	V
Storage Temperature Range	T_{stg}	-40 to +85	°C
Operating Temperature Range	T_A	-40 to +85	°C

5-2. Electronic Characteristics

Parameter	Unit	Min.	Typ.	Max.
Center Frequency	MHz		140.0	
Insertion Loss* @CF	dB	-	12.0	14.0
1dB Bandwidth	MHz	6.0	6.5	-
3dB Bandwidth	MHz	-	7.2	-
40dB Bandwidth	MHz	-	9.4	10.5
Ultimate Attenuation @CF+/-7.5MHz	dB	42	48	-
Input Return Loss	dB	10	-	-
Output Return Loss	dB	6	-	-
Passband Ripple CF+/-3.0MHz	dB	-	0.5	1.0
Group Delay Variation	nsec	-	70	120
Absolute Delay	usec	-	1.23	
Temperature Coefficient	PPM/°C		-18	
ESD/MSD	1A/1			
Operational Temperature	°C	-45		85

CAUTION: Electrostatic Sensitive Device. Observe precautions for handling!

1. The frequency f_c is defined as the midpoint between the 3dB frequencies.
2. Unless noted otherwise, all measurements are made with the filter installed in the specified test fixture that is connected to a 50Ω test system with VSWR≤1.2:1. The test fixture L and C are adjusted for minimum insertion loss at the filter center frequency, f_c . Note that insertion loss, bandwidth, and passband shape are dependent on the impedance matching component values and quality.
3. Unless noted otherwise, specifications apply over the entire specified operating temperature range.
4. The specifications of this device are based on the test circuit shown above and subject to change or obsolescence without notice.
5. All equipment designs utilizing this product must be approved by the appropriate government agency prior to manufacture or sale.
6. 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.