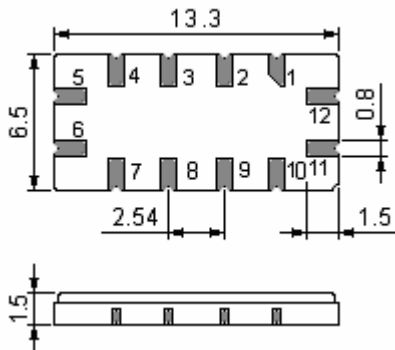


The **ACTF2170-70.0-SMP-53** is a high performance IF bandpass filter in a surface-mount ceramic **SMP-53** case with center frequency **70.00** MHz.

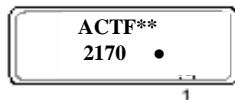
1. Package Dimension (SMP-53)



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

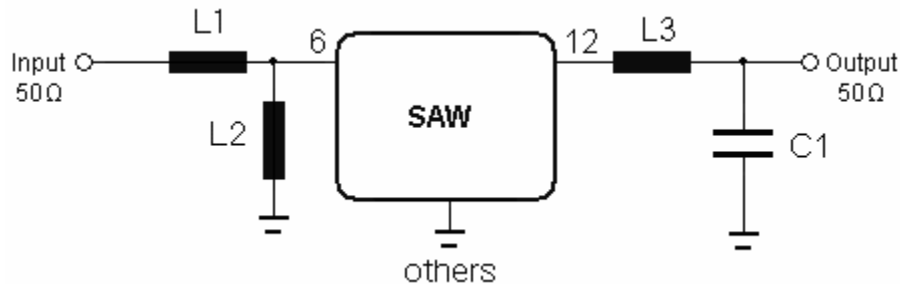
Unit: mm

2. Marking



- The logo "ACT" indicates our product's mark
- The character "F" indicates the type of SAW component. Including: F (filter), R (resonator) etc.
- The "2170" indicates the model name of SAW component
- The dot "•" indicates terminal 1

3. Matching Network (Input and output unbalanced)



L1=410nH L2=135nH
 C1=60pF L3=110nH

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

In line with our ongoing policy of product evolution and improvement, the above specification may subject to change without notice 1

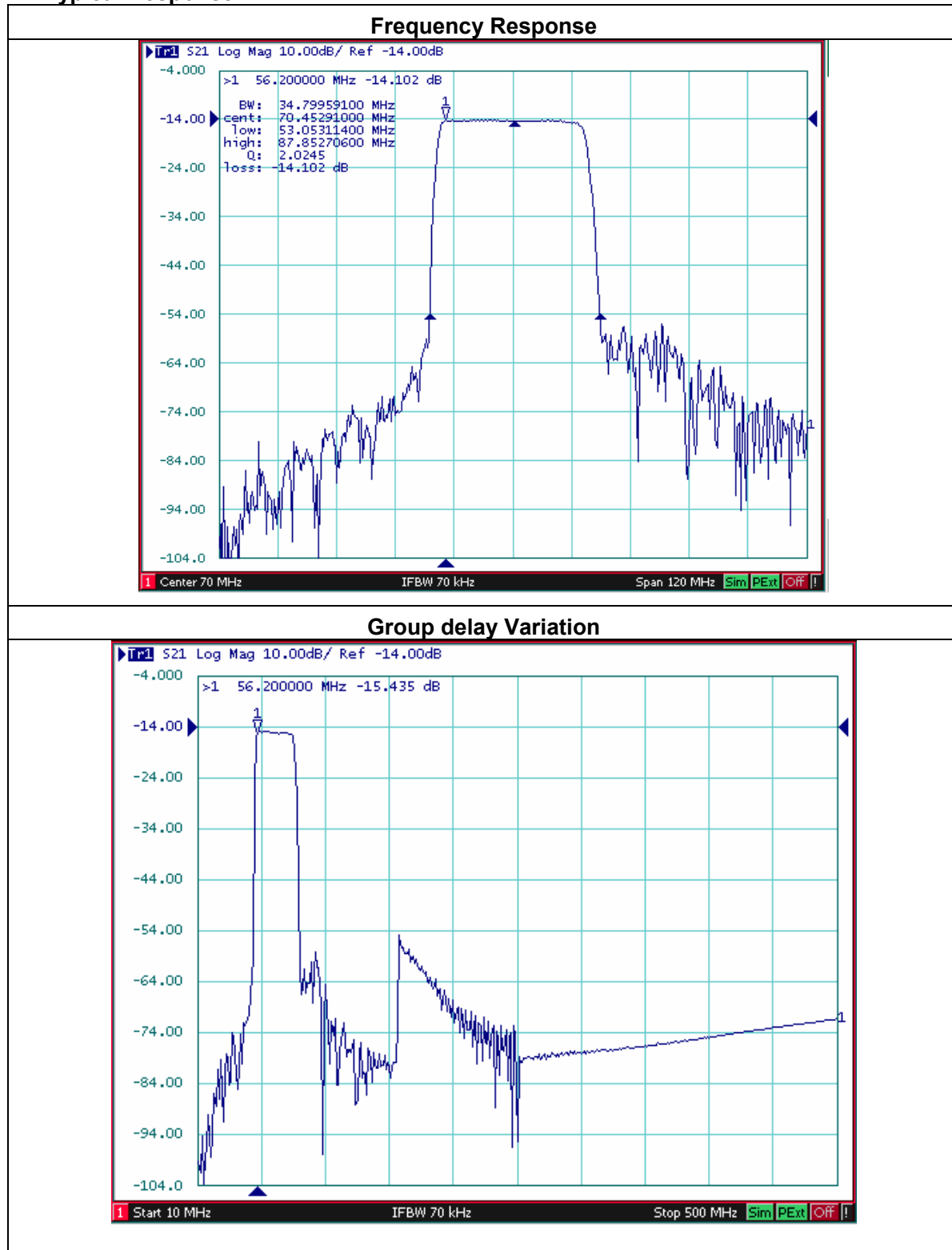
ISO9001:2000 Registered

For quotations or further information please contact us at:

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

<http://www.actcrystals.com>

4. Typical Response



In line with our ongoing policy of product evolution and improvement, the above specification may subject to change without notice 2

ISO9001:2000 Registered

For quotations or further information please contact us at:

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

<http://www.actcrystals.com>

5. Performance

5-1. Maximum Ratings

| Rating | | Value | Unit |
|-----------------------------|-----------|------------|------|
| Source Power | P_S | 18 | 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

| Characteristic | | Minimum | Typical | Maximum | Unit |
|--|--------------------|----------|----------|---------|--------|
| Center Frequency f_C | | -- | 70.0 | -- | MHz |
| Insertion Loss (@70.00MHz) IL | | -- | 14.5 | 16.0 | dB |
| Pass band width | -1dB BW BW_1 | 27.0 | 29.0 | 36.0 | MHz |
| | -40dB BW BW_{40} | | 34.8 | | MHz |
| Ultimate Rejection <F _c -18MHz >F _c +18MHz | | 40 40 | 50 50 | | dB |
| Amplitude Ripple | | | 0.8 | 1.2 | dB |
| Phase Linearity (90% of 1dB Bandwidth) | | | 5.0 | 10 | degree |
| Group Delay at f_C (@25□) τ_C | | | 1.12 | -- | μs |
| Group Delay Ripple (f _c +/-14MHz) $\Delta\tau$ | | -- | 80 | 120 | ns |
| Temperature Coefficient of Frequency TC_f | | -- | -70 | -- | ppm/K |

ⓘ CAUTION: Electrostatic Sensitive Device. Observe precautions for handling!

© ACT 2012. All Rights Reserved.

NOTE:

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.

In line with our ongoing policy of product evolution and improvement, the above specification may subject to change without notice 3

ISO9001:2000 Registered

For quotations or further information please contact us at:

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

<http://www.actcrystals.com>