

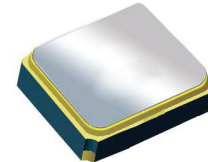
# Surface Mount 1575.42MHz SAW Filter

AFS20A53-1575.42-T3

Moisture Sensitivity Level (MSL) – This product is Hermetically Sealed and not Moisture Sensitive - MSL = N/A: Not Applicable



RoHS  
Compliant



2.0 x 1.6 x 0.9 mm

## FEATURES:

- 2.0 x 1.6 x 0.9 mm low profile SMT package
- Low Insertion loss
- Excellent selectivity with high out-of-band rejection

## APPLICATIONS:

- Wireless Communication
- Remote Control
- Cellular Phones

## ELECTRICAL SPECIFICATIONS:

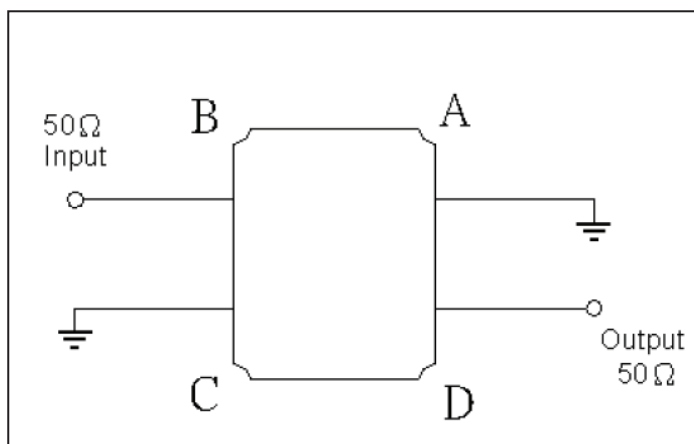
### Maximum Ratings

| Item                        | Value            |
|-----------------------------|------------------|
| Input Power Level           | +20 dBm max.     |
| DC Permissive Voltage       | 3.0V DC max.     |
| Operating Temperature Range | -55°C to + 105°C |
| Storage Temperature Range   | -55°C to + 105°C |

| Parameters                                      | Minimum | Typical | Maximum | Units    | Notes                |
|-------------------------------------------------|---------|---------|---------|----------|----------------------|
| Center Frequency ( $f_c$ )                      |         | 1575.42 |         | MHz      |                      |
| Insertion Loss (IL)                             |         | 2.1     | 3.0     | dB       | 1565.42 ~ 1585.42MHz |
| Effective Bandwidth                             | 20      | 53      |         | MHz      |                      |
| Amplitude Ripple                                |         | 1.3     | 2.0     | dB       | 1565.42 ~ 1585.42MHz |
| Worst-Case Input / Output Return Loss           | 8       | 11      |         | dB       | 1565.42 ~ 1585.42MHz |
| Group Delay                                     |         | 4       | 26      |          | 1565.42 ~ 1585.42MHz |
| Stop-band Attenuation<br>(Referenced to 0.0 dB) | 15      | 19      |         | dB       | 300 ~ 1500MHz        |
|                                                 | 15      | 21      |         |          | 1650MHz ~ 1900MHz    |
|                                                 | 15      | 21      |         |          | 1900MHz ~ 3000MHz    |
| Source Impedance ( $Z_S$ )                      |         | 50      |         | $\Omega$ | See note # 1         |
| Load Impedance ( $Z_L$ )                        |         | 50      |         | $\Omega$ | See note # 1         |

**Note #1:** No matching network required for operation into 50 $\Omega$ 's

## TEST CIRCUIT:

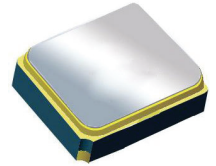


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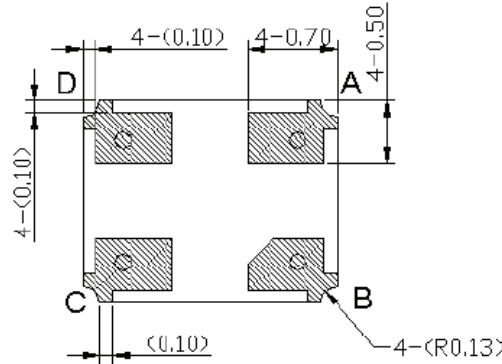
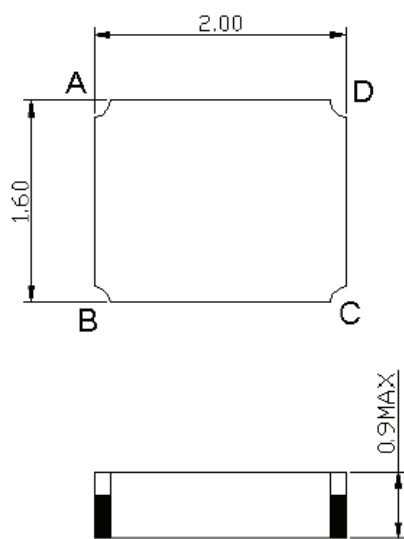


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2.0 x 1.6 x 0.9 mm

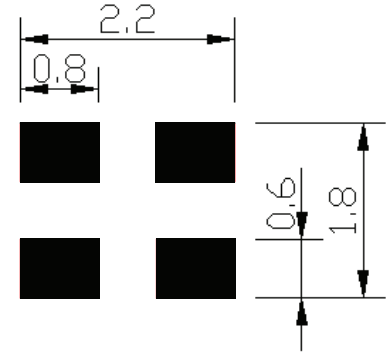
## OUTLINE DIMENSIONS:



|       |        |
|-------|--------|
| #B:   | Input  |
| #D:   | Output |
| #A,C: | Ground |

\* All Dimensions are in mm

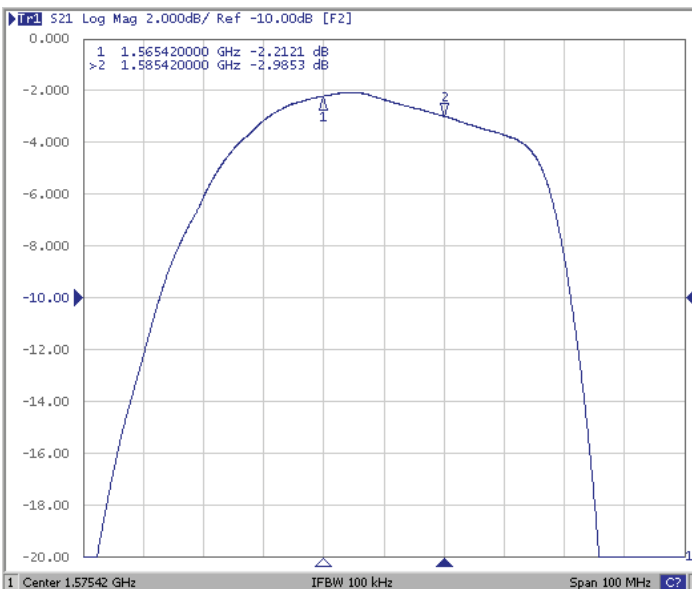
## Recommended Land Pattern:



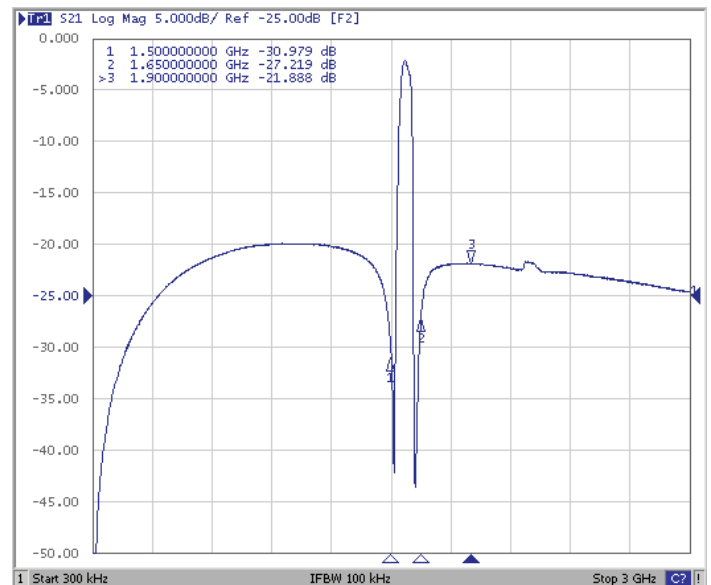
\*All Dimensions are in mm

## FREQUENCY CHARACTERISTICS:

### Filter Frequency Response (Narrowband)



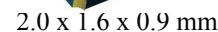
### Filter Frequency Response (Wideband)



Detail S-parameter information (.s2p file) available upon request



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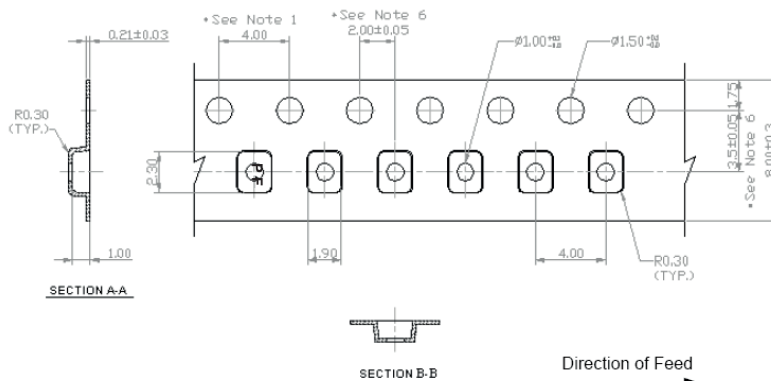


**RoHS**  
Compliant

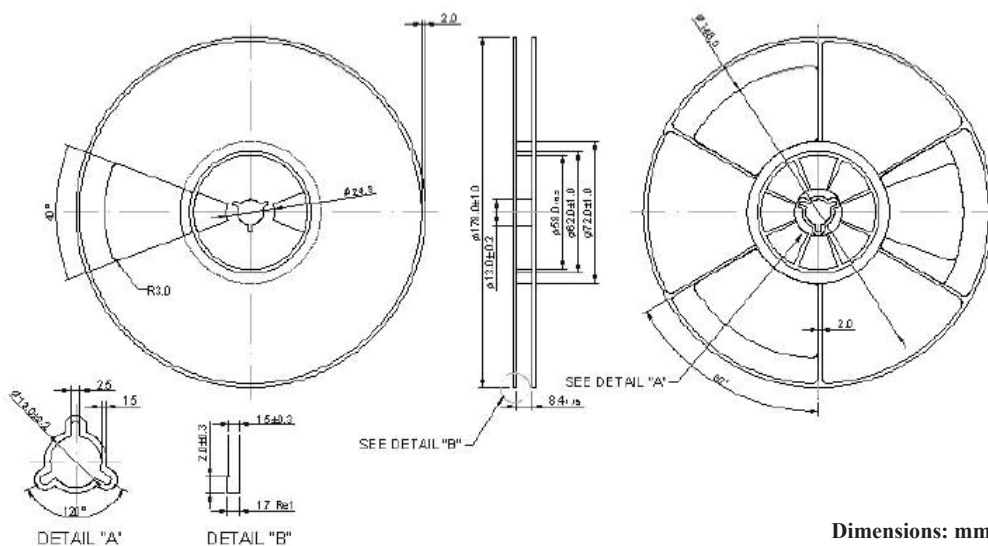
The graph shows the temperature profile of a 300W heater over 360 seconds. The temperature starts at 25°C, rises to a peak of 260°C at 220 seconds, and then decreases to 105°C at 360 seconds.

| Time (Sec) | Temp (Deg C) |
|------------|--------------|
| 0          | 25           |
| 20         | 25           |
| 40         | 145          |
| 60         | 145          |
| 80         | 155          |
| 100        | 155          |
| 120        | 165          |
| 140        | 175          |
| 160        | 185          |
| 180        | 215          |
| 200        | 250          |
| 220        | 260          |
| 240        | 245          |
| 260        | 175          |
| 280        | 145          |
| 300        | 145          |
| 320        | 130          |
| 340        | 115          |
| 360        | 105          |

**Reel Count : 7" = 3k units**



**Dimensions: mm**



**Dimensions: mm**

ABRACON IS  
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Components Supply Platform

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