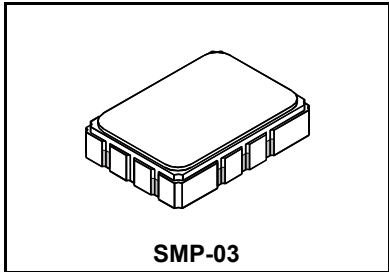


- Designed for 802.16 and WIMAX Receiver IF Application
- Low Insertion Loss
- 5.0 X 7.0 mm Surface-Mount Case
- Differential or Single Ended Input and Output
- Complies with Directive 2002/95/EC (RoHS)

RoHS  
Compliant

SF2073B

456.00 MHz  
SAW Filter



**Absolute Maximum Ratings**

| Rating   | Value          | Units |
|--|----------------|-------|
| Maximum Incident Power in Passband                           | +13            | dBm   |
| Max. DC voltage between any 2 terminals                      | 30             | VDC   |
| Storage Temperature Range                                    | -40 to +85     | °C    |
| Suitable for lead-free soldering - Max Soldering Temperature | 260°C for 30 s |       |

**Electrical Characteristics**

| Characteristic                                | Sym  | Notes          | Min | Typ     | Max  | Units   |
|---|--|----------------|-----|---------|------|---------|
| Nominal Frequency                             | $f_N$  |                |     | 456.000 |      | MHz     |
| Minimum Insertion Attenuation                 | $\alpha_{min}$   |                |     | 12.5    | 14.5 | dB      |
| Amplitude Variation                           | $f_N \pm 5.0$ MHz<br>$f_N \pm 5.2$ MHz   | $\Delta\alpha$ |     | 0.6     | 1.5  | dB p-p  |
|   |  |                |     | 0.8     | 2.5  |         |
| Absolute Group Delay (at $f_N$ )              |  |                |     | 0.5     | 0.7  | $\mu$ s |
| Group Delay Variation (p-p)                   | $f_N \pm 5.0$ MHz  |                |     | 35      | 100  | ns      |
| Relative Attenuation                          | 256 to 360 MHz<br>360 to 416.0 MHz<br>416 to 443 MHz<br>468 to 656 MHz<br>656 to 946 MHz |                | 35  | 50      |      | dB      |
|   |  |                | 38  | 64      |      |         |
|   |  |                | 35  | 40      |      |         |
|   |  |                | 35  | 40      |      |         |
|   |  |                | 50  | 60      |      |         |
| Temperature Range                             | Operating<br>Storage   |                | -40 |         | 85   | °C      |
|   |  |                | -40 |         | 85   |         |
| Case Style                                    | SMP-03 7 x 5 mm Nominal Footprint  |                |     |         |      |         |
| Lid Symbolization (YY=year, WW=week, S=shift) | RFM SF2073B YYWWS  |                |     |         |      |         |

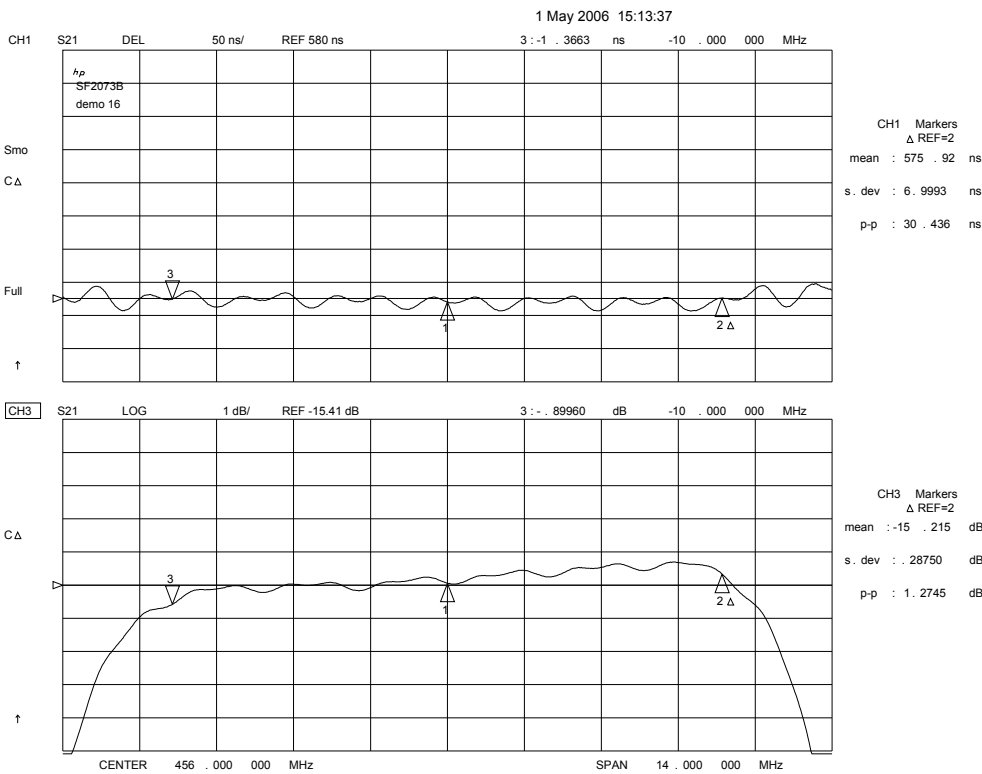
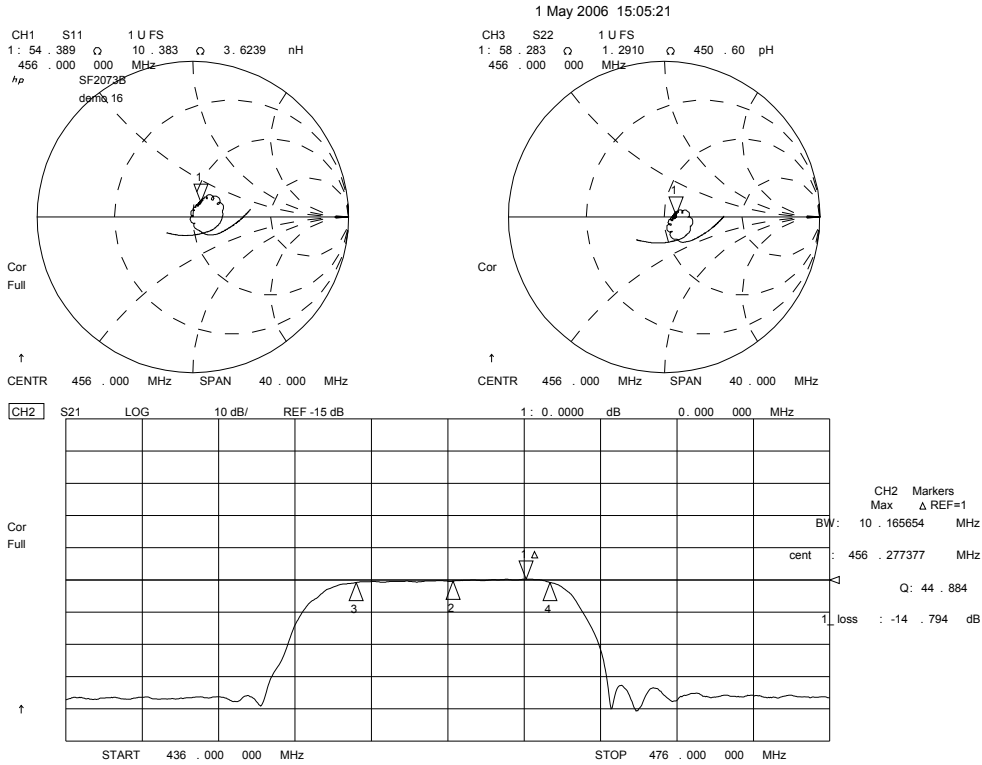
- I. 200 ohm Matching .....page 2
- II. 50 ohm Matching .....page 4
- III. SMI 7035 Matching .....page 6

**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

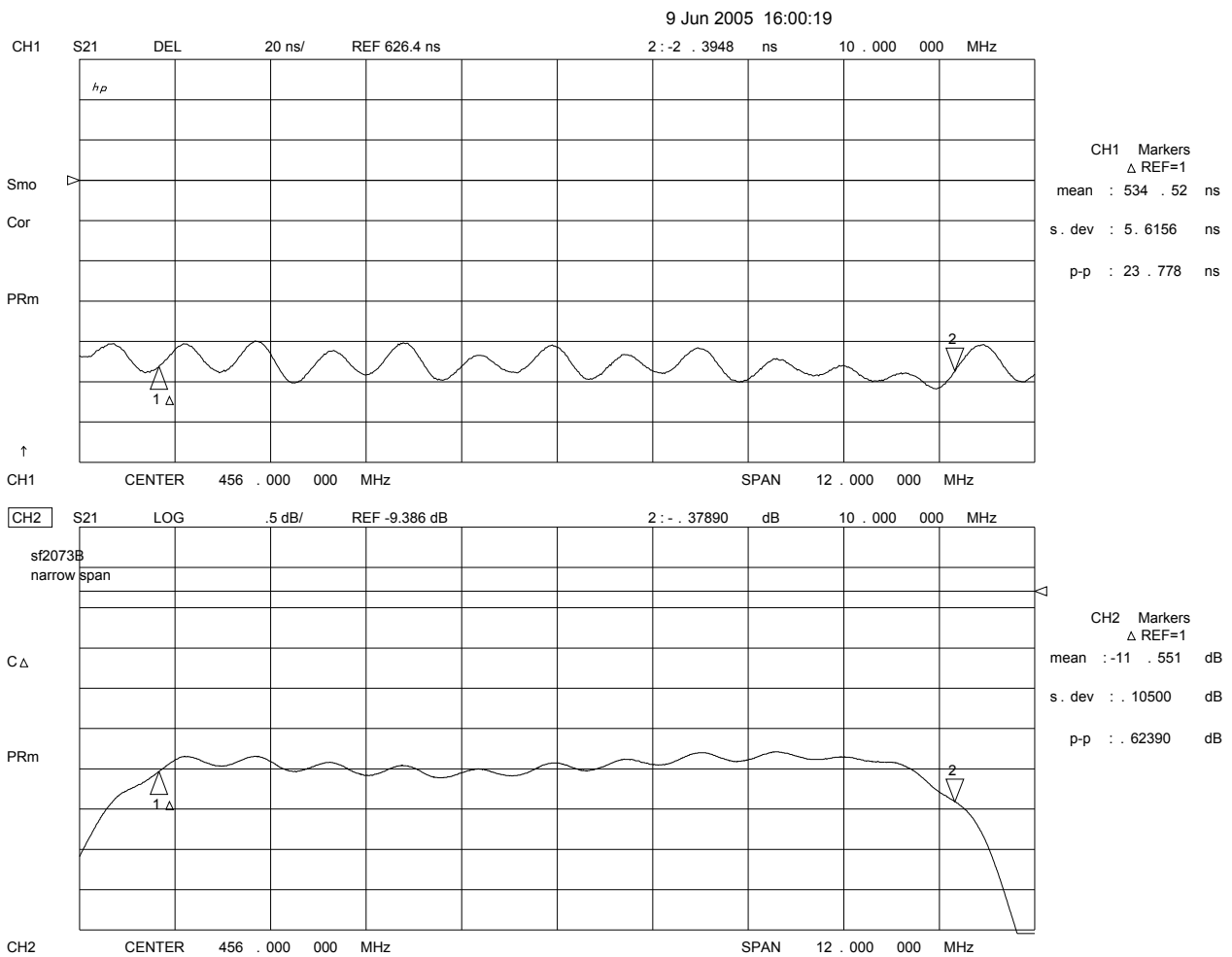
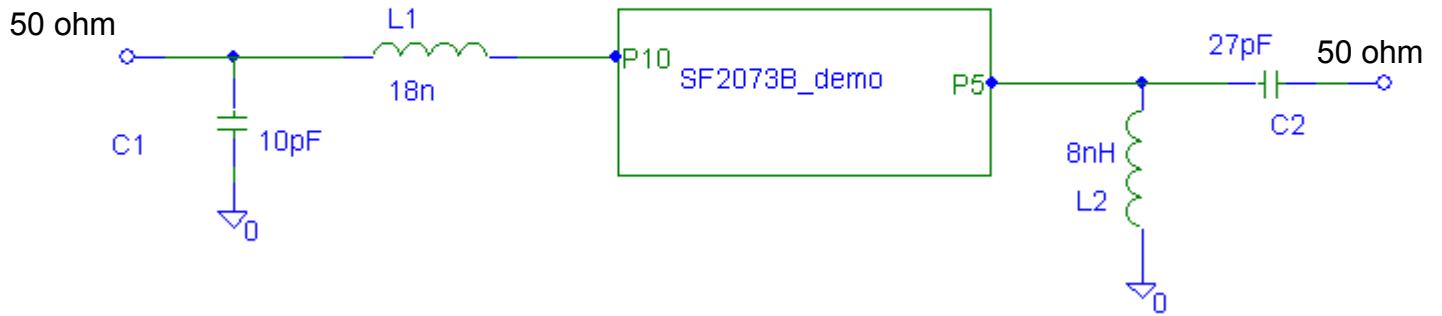
**NOTES:**

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

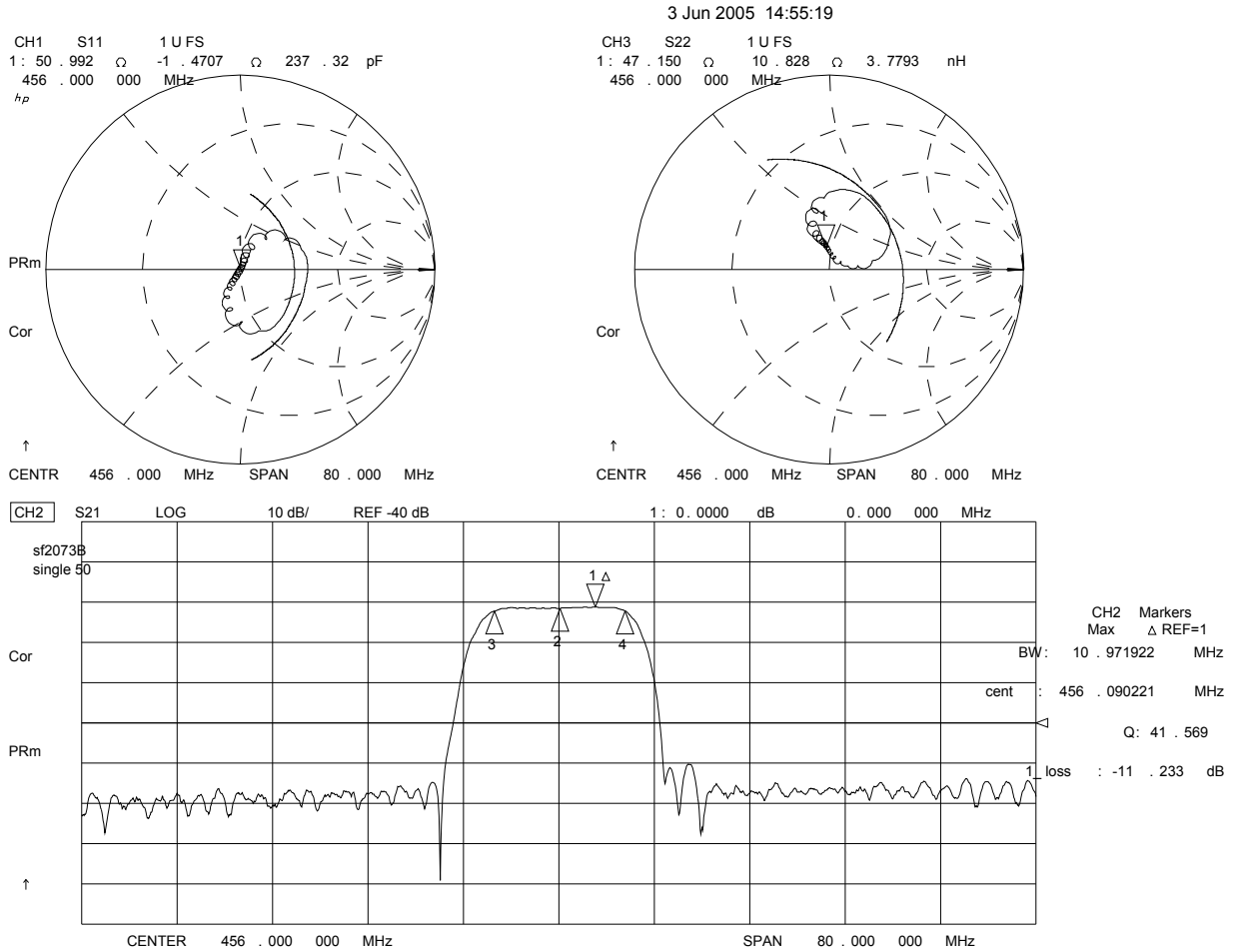
# I. Impedance Matching for Differential 200 Ohm Load: Coilcraft Inductors (SAW Matched to 200 Ohms Balanced, 4:1 Transformers Account for 2dB of Loss)



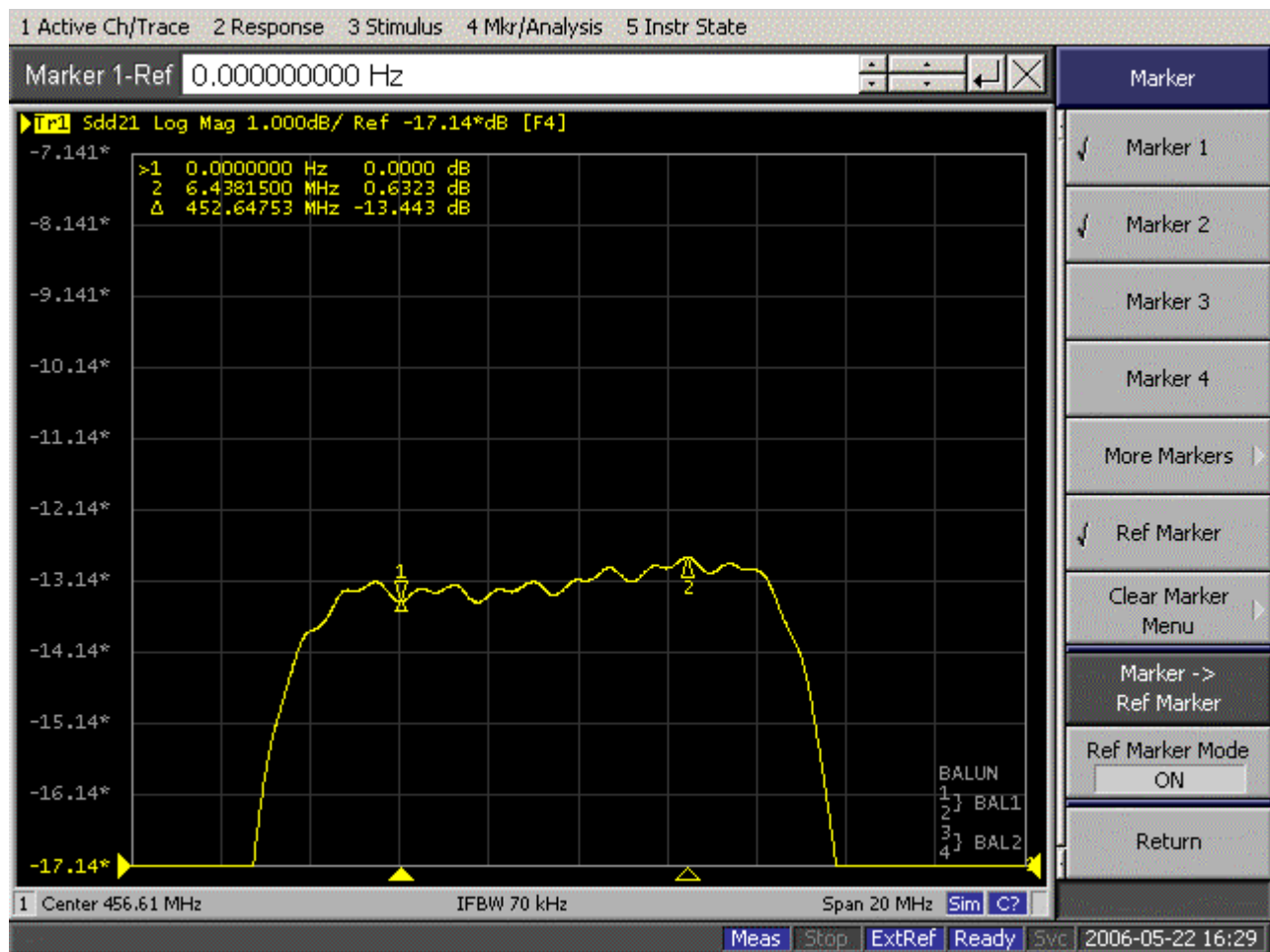
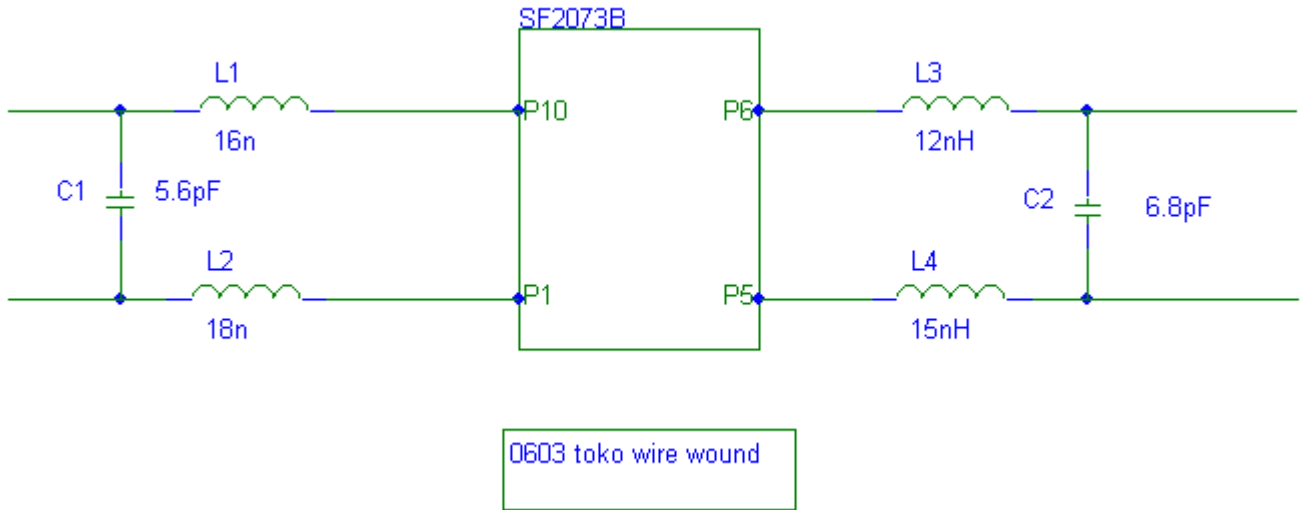
## II. Impedance Matching for Single Ended 50 Ohm load

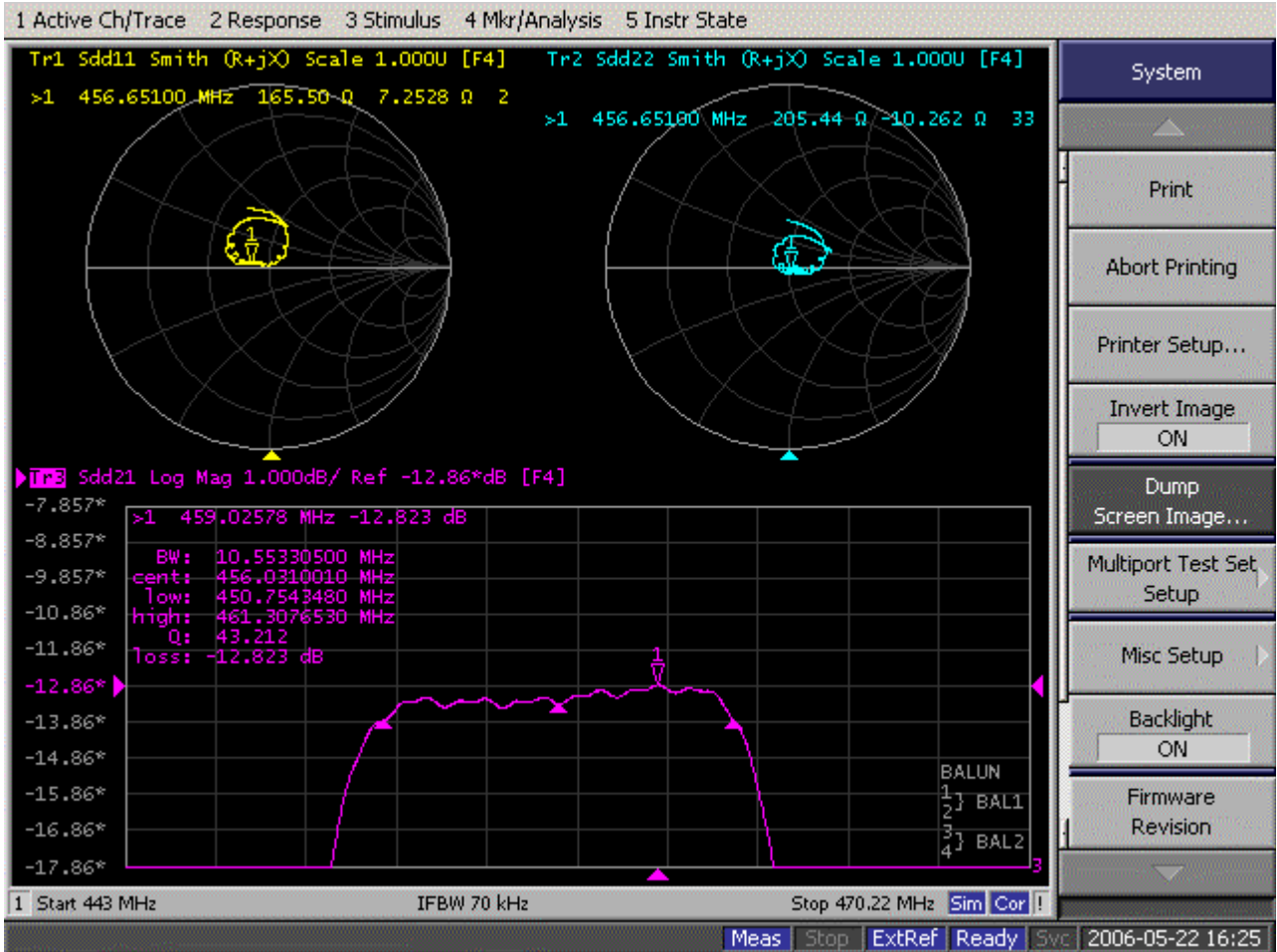


## II. Impedance Matching for Single Ended 50 Ohm load (continued)



### III. Impedance Matching on SMI Radio Board: SMI 7035

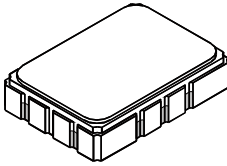




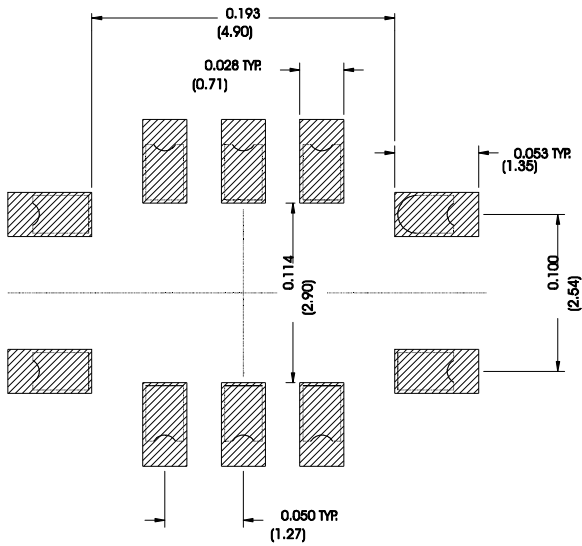
# SMP-03 Case

## 10-Terminal Ceramic Surface-Mount Case

### 7 x 5 mm Nominal Footprint



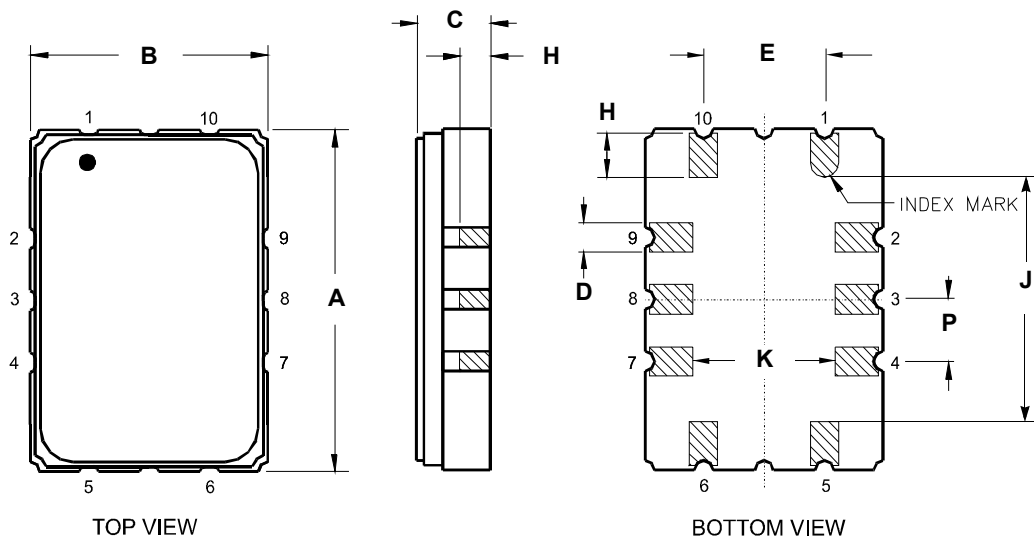
Recommended PCB Footprint



| Dimension | mm   |      |      | Inches |       |       |
|-----------|------|------|------|--------|-------|-------|
|           | Min  | Nom  | Max  | Min    | Nom   | Max   |
| A         | 6.80 | 7.00 | 7.20 | 0.268  | 0.276 | 0.283 |
| B         | 4.80 | 5.00 | 5.20 | 0.189  | 0.197 | 0.205 |
| C         | 1.50 | 1.65 | 2.00 | 0.059  | 0.065 | 0.079 |
| D         | .47  | 0.60 | .73  | 0.019  | 0.024 | 0.029 |
| E         | 2.41 | 2.54 | 2.67 | 0.095  | 0.100 | 0.105 |
| H         | 0.87 | 1.0  | 1.13 | 0.034  | 0.039 | 0.044 |
| J         | 4.87 | 5.00 | 5.13 | 0.192  | 0.197 | 0.202 |
| K         | 2.87 | 3.00 | 3.13 | 0.113  | 0.118 | 0.123 |
| P         | 1.14 | 1.27 | 1.40 | 0.045  | 0.050 | 0.055 |

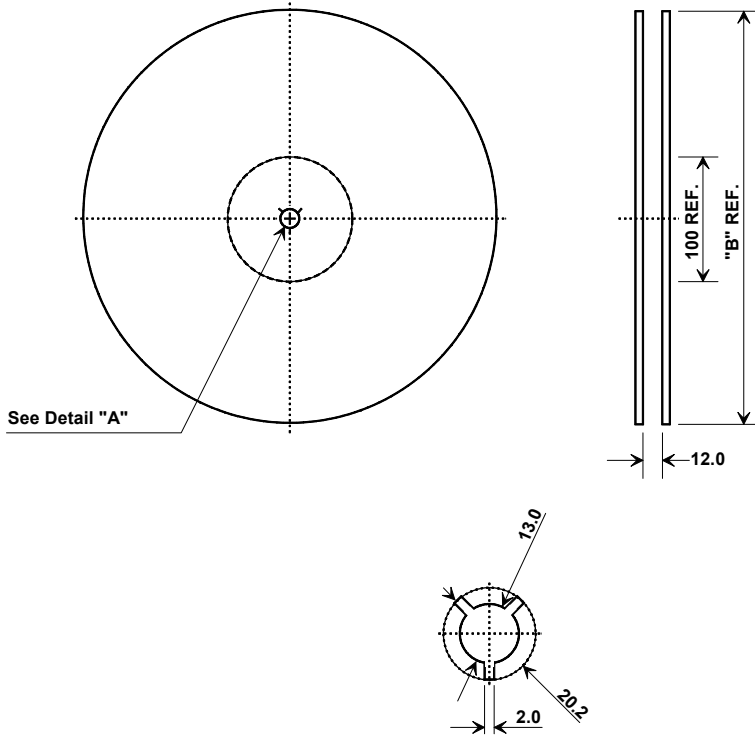
| Materials              |  |
|------------------------|--|
| Solder Pad Termination | Au plating 30 - 60 μinches (76.2-152 μm) over 80-200 μinches (203-508 μm) Ni.    |
| Lid                    | Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 μinches Thick |
| Body                   | Al <sub>2</sub> O <sub>3</sub> Ceramic   |
| Pb Free                |  |

| Electrical Connections |                  |                  |
|------------------------|------------------|------------------|
| Connection             |                  | Terminals        |
| Port 1                 | Input or Return  | 10               |
|                        | Return or Input  | 1                |
| Port 2                 | Output or Return | 5                |
|                        | Return or Output | 6                |
| Ground                 |                  | All others       |
| Single Ended Operation |                  | Return is ground |
| Differential Operation |                  | Return is hot    |



## Tape and Reel Specifications

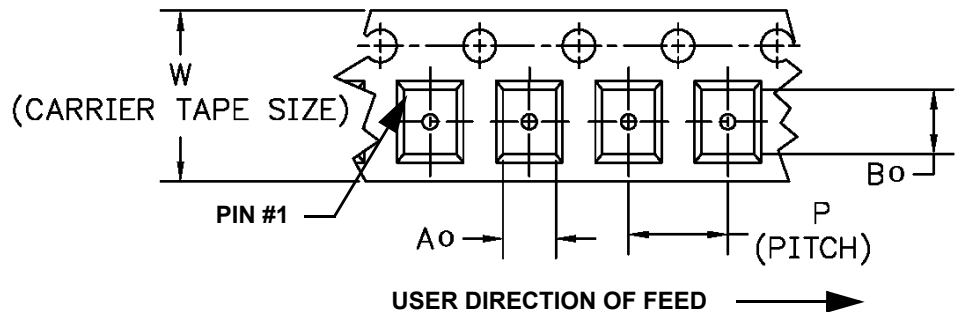
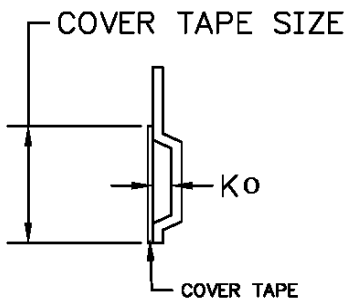
Tape and Reel Standard per ANSI/EIA-481



| "B"    |             | Quantity Per Reel |
|--------|-------------|-------------------|
| Inches | millimeters |                   |
| 7      | 178         | 500               |
| 13     | 330         | 2000              |

### COMPONENT ORIENTATION and DIMENSIONS

| Carrier Tape Dimensions |         | Tolerance |
|-------------------------|---------|-----------|
| <b>Ao</b>               | 5.5 mm  | ± 0.1mm   |
| <b>Bo</b>               | 7.5 mm  | ± 0.1mm   |
| <b>Ko</b>               | 2.0 mm  | ± 0.1mm   |
| <b>Pitch</b>            | 8.0 mm  | ± 0.1mm   |
| <b>W</b>                | 16.0 mm | ± 0.2mm   |





## Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C+0/-5°C peak (10 seconds).
4. Time: 5 times maximum.

