# SPECIFICATION

## COMMERCIALLY AVAILABLE

**CERAMIC BAND PASS**
**PART NUMBER: CF-22005007**
**RoHS**

**REVISED 7/16/08 – ADDED GROUP DELAY PLOT**

**REVISED 7/18/08 – CHANGED OPERATING TEMP**

**REVISED 7/25/08 – CHANGE RETURN LOSS**

**REVISED 7/31/09 ADDED REFLOW**

| ISSUED | CHECKED | CHECKED | CHECKED | APPROVED |
|---|---|---|---|---|
| 7/8/2008(kn) | **05/22/2014 TFG** | | **05/22/2014 GL** | |
| | | | | |
| | | | | |
| | | | | |

## 1. APPLICATION

THIS SPECIFICATION APPLIES TO BAND PASS FILTER, USING DIELECTRIC RESONATORS.

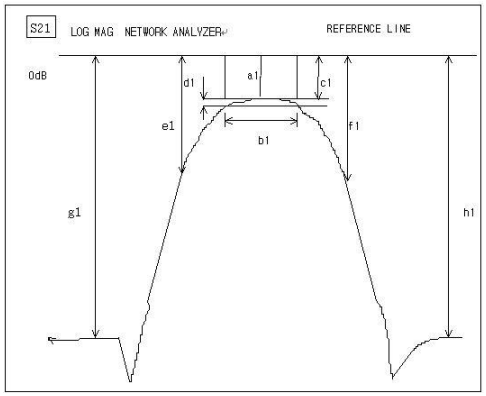
## 2. PART NUMBER

| | |
|---|---|
| **PART NO** | **CF-22005007** |
| **PACKAGING** | **PLASTIC TRAY** |

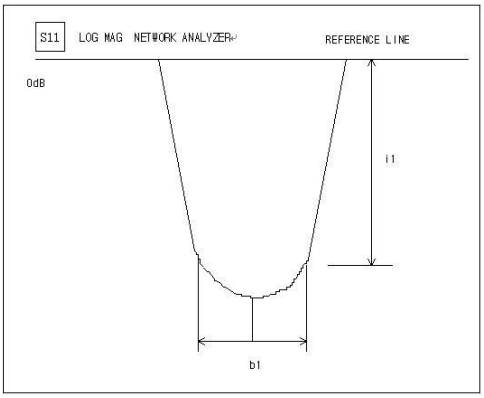
## 3. SPECIFICATIONS

| NO | ITEMS | | Ref. | SPECIFICATION | |
|---|---|---|---|---|---|
| 1 | Center Frequency (Fo) | | - | 2200 MHz | |
| 2 | 1dB Band Width | | - | 500Mhz Min | |
| 3 | Ripple Fo+/-200MHz | | | 0.5dB Max | |
| 4 | Insertion Loss AT Fo | | - | 1.1 dB Max | |
| 5 | Attenuation [Absolute Value] | At Fo+700MHz | - | 60 dB Min | |
| | | At Fo+1600MHz | - | 60 TO 65 dB Typical | |
| 6 | Ultimate Attenuation: 3.8 GHz to 4 GHz | | - | 60 dBc Min | |
| 7 | Return Loss IN Fo+/-250MHz | | - | 12 dB Min | 14 dB Target @ 25°C |
| 8 | Impedance | | - | 50Ω | |
| 9 | Maximum Input Power | | - | 1 W (+30dBm) | |
| 10 | Operating Temperature Range | | - | -40 ~ +75 °C | |

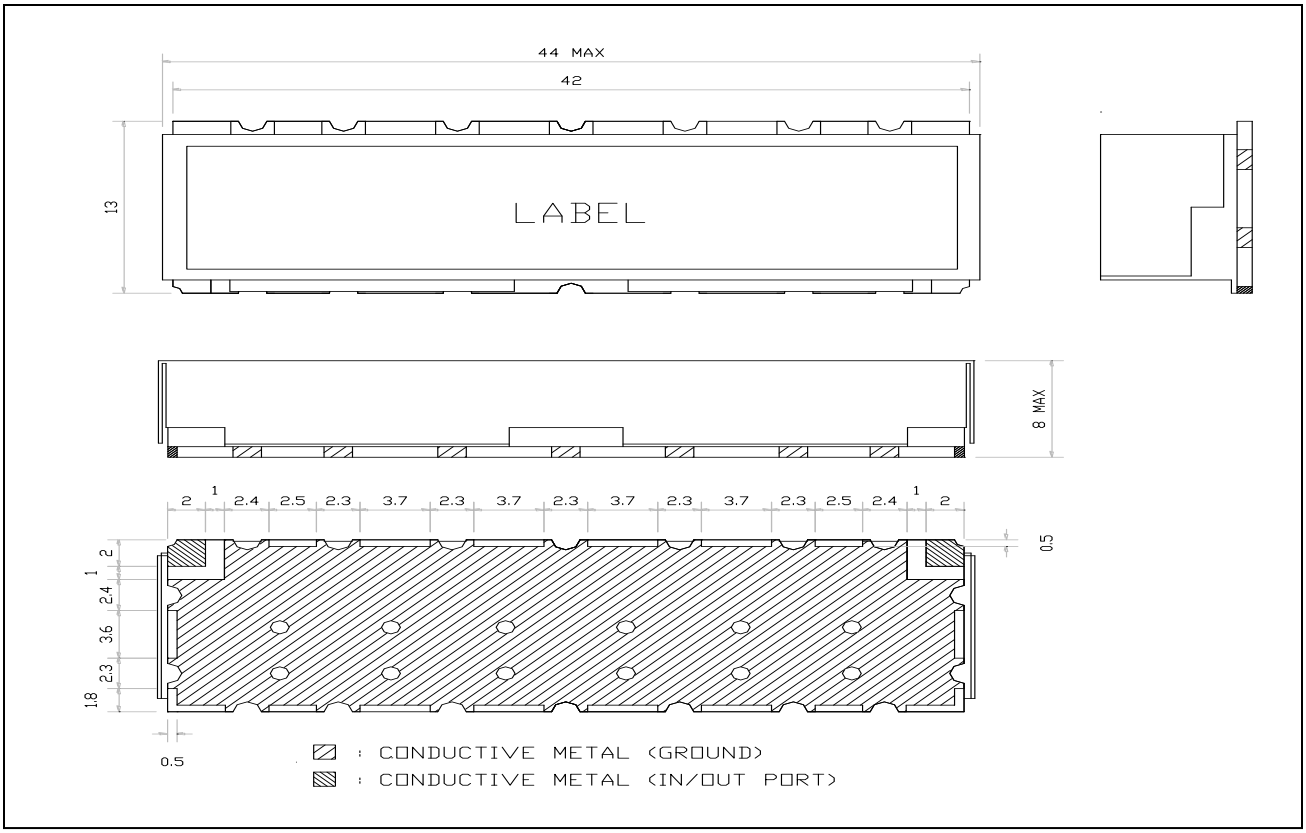
**S21 LOG MAG NETWORK ANALYZER**




**S11 LOG MAG NETWORK ANALYZER**



## 4. DIMENSIONS




MATERIAL SPECIFICATION

1. PCB
   1) MATERIAL: FR4
   2) TERMINALS: Au PLATED
2. METAL CASE
   1) MATERIAL: Sn OR Ni PLATED
3. RESONATOR
   1) COATING MATERIAL: Ag
4. ROHS Compliant

MARKING

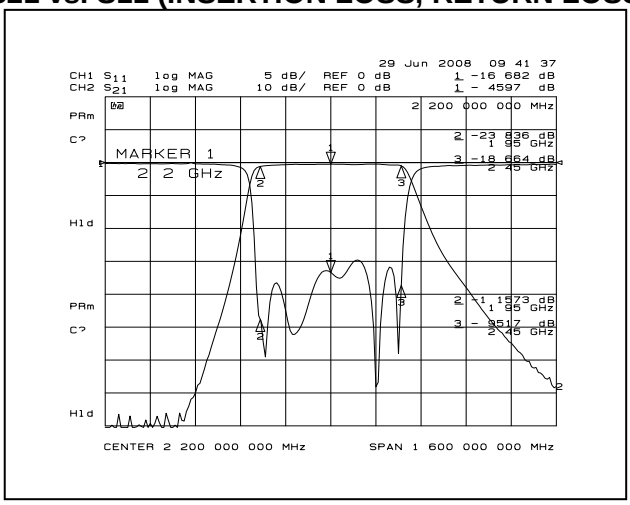
Part No: CF-22005007
Filtronetics, Inc
Date Code

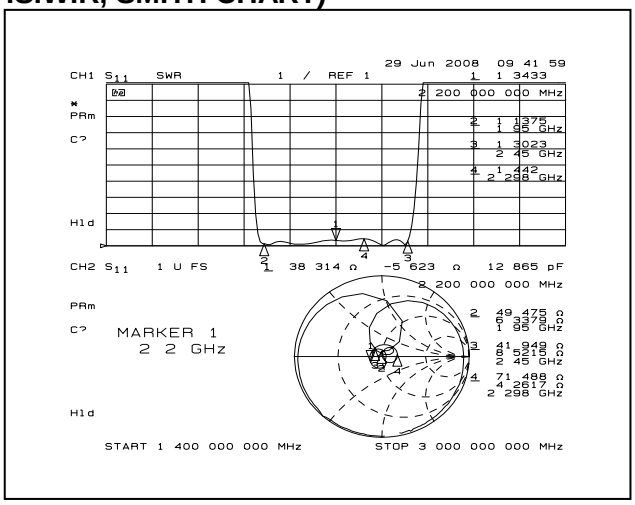
UNIT: MM
TOLERANCE: +/-0.5MM
IN/OUT LAND: +/-0.3MM

- CAUTIONS:
  1. When handling products, be careful not to damage the outer-electrode.
  2. When handling products be careful not to touch the outer-electrode with bare hands or solder-ability is reduced.
  3. Do not apply excessive pressure or shock to product in handling or in transportation or damage to the ceramic filters may result.

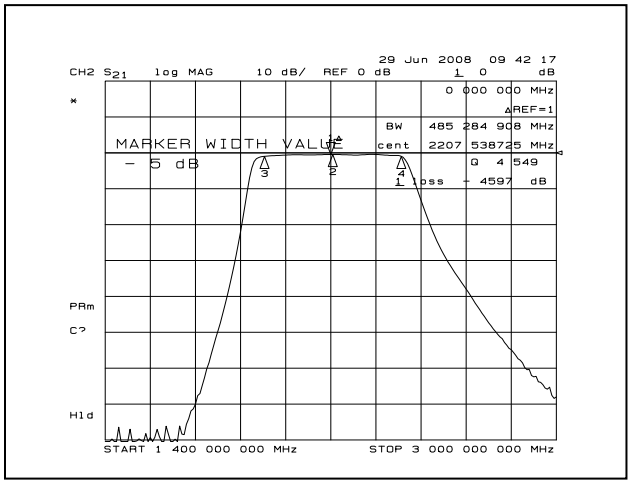
## 5. GRAPHS

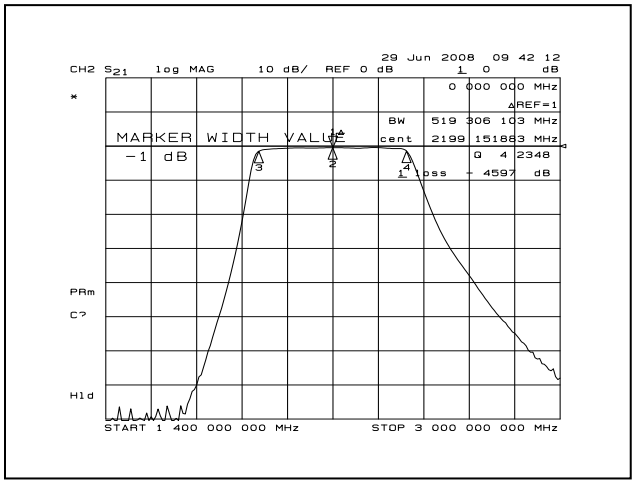
### S21 vs. S11 (INSERTION LOSS, RETURN LOSS, V.S.W.R, SMITH CHART)



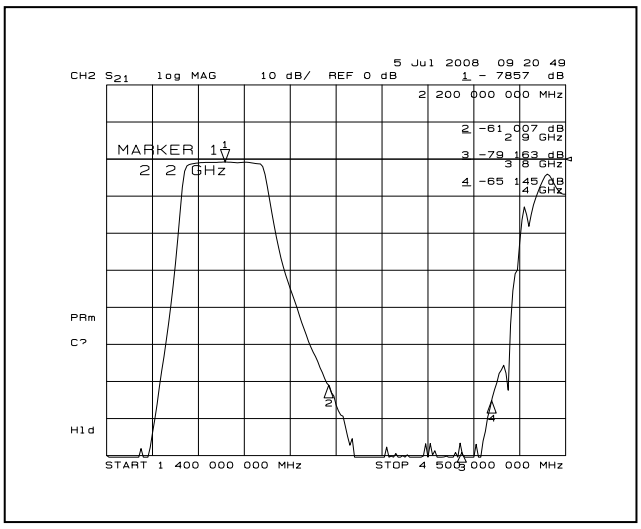



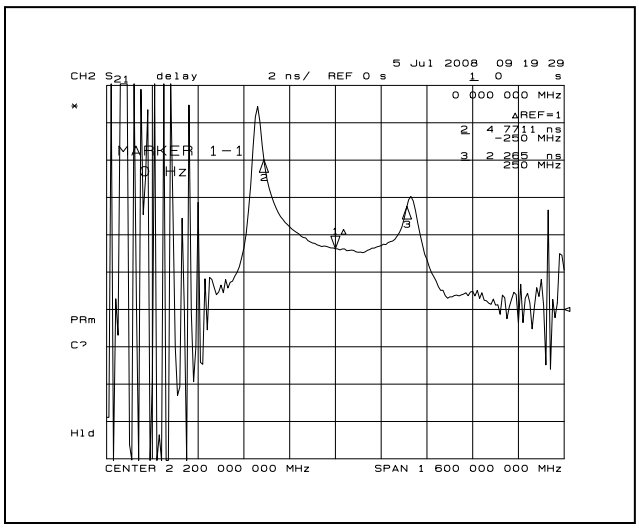

### S21 (0.5dB, 1dB BAND WIDTH)



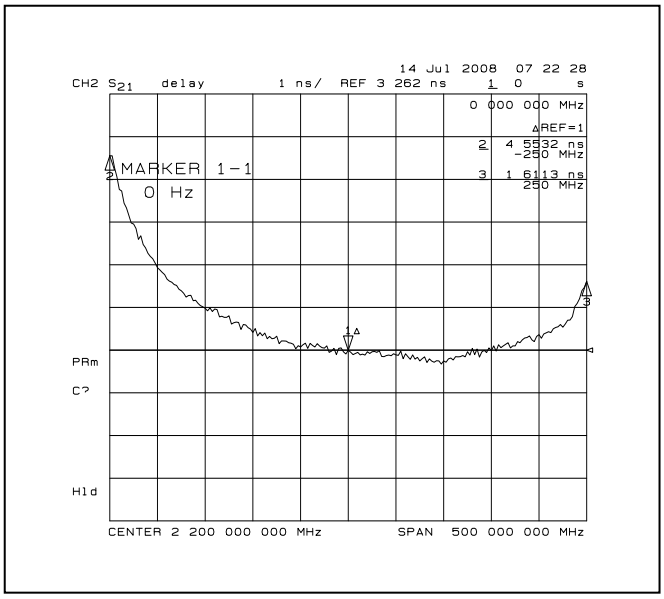



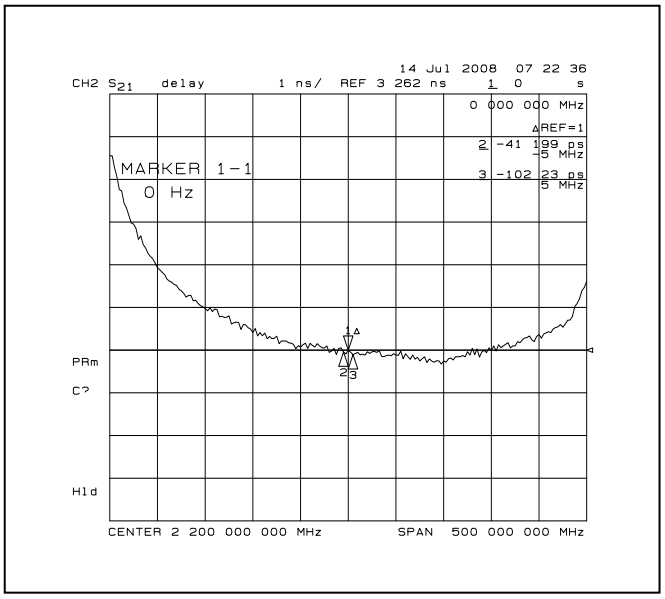

### S21 (ATTENUATION, GROUP DELAY)



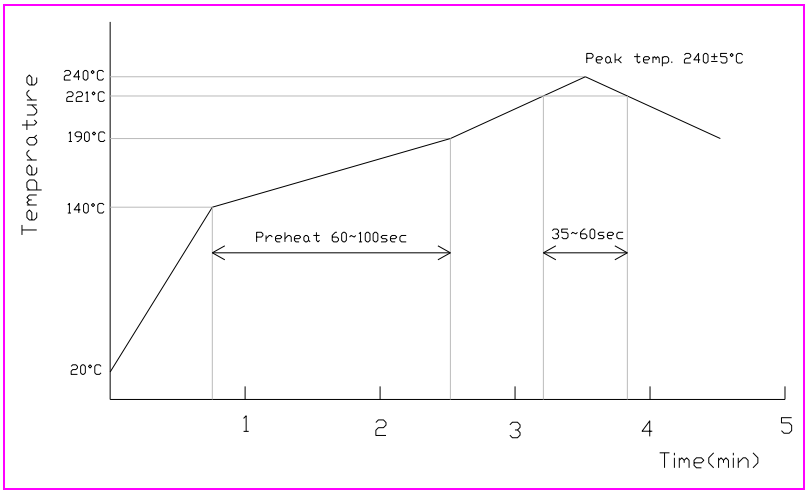



## S21 (GROUP DELAY)




## 6. REFLOW SOLDERING STANDARD CONDITIONS – update July 28, 2009




- Measuring point of temperature In-out terminals of the device.
- Reflow Soldering
- Both convection and infrared rays
- Hot air
- Hot plates
- Solder Cream: Sn96/Ag3/Cu0.5