# SPECIFICATION

**ITEM: DIELECTRIC CERAMIC FILTER**
**PART NUMBER: CF-16600252**

| ISSUED | CHECKED | CHECKED | CHECKED | APPROVED |
|---|---|---|---|---|
| | | | | |

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## 1. APPLICATION

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

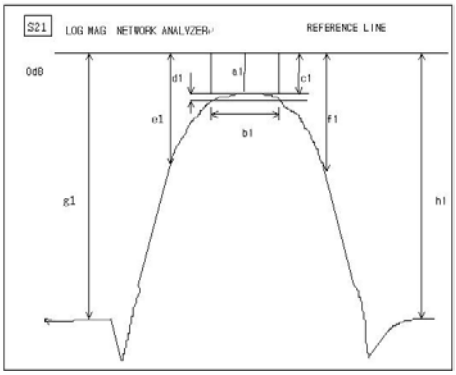
## 2. PART NUMBER

| | |
|---|---|
| PART NO | CF-16600252 |
| PACKAGING | PLASTIC TRAY |

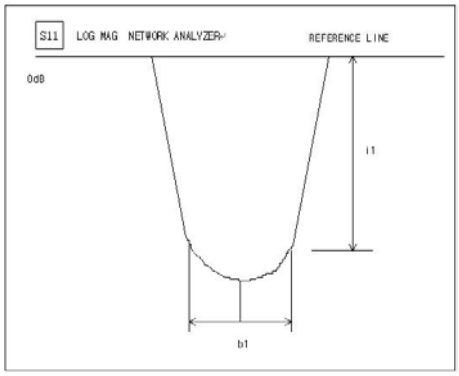
## 3. SPECIFICATIONS

| NO | ITEMS | | | SPECIFICATION |
|---|---|---|---|---|
| 1 | Center Frequency (Fo) | | - | 1660 MHz |
| 2 | Pass Band Width (PB) | | - | Fo+/-12.5 MHz |
| 3 | Insertion Loss IN PB | | - | 2.0 dB Max |
| 4 | Ripple IN PB | | | 0.8 dB Max |
| 5 | ATTENUATION | At 3320 MHz (2*Fo) | - | 26 dB Min |
| | | At 3700 MHz | - | 26 dB Min |
| 6 | V.S.W.R | IN PB | - | 1.8 :1 MAX |
| 7 | Impedance | | - | 50 Ohms |
| 8 | Maximum Input Power | | - | 1 W (+30dBm) |
| 9 | Operating Temperature Range | | - | -35 - +75°C |

**S21 LOG MAG NETWORK ANALYZER**

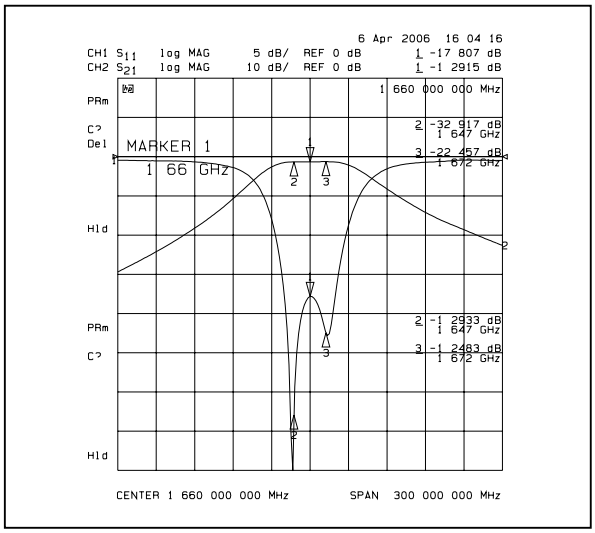


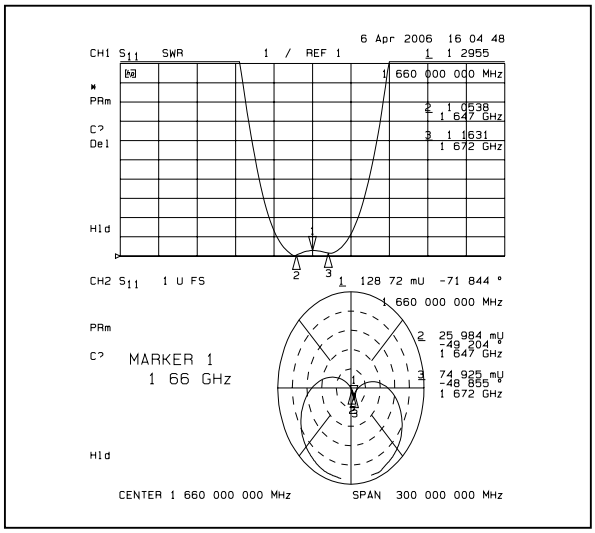

**S11 LOG MAG NETWORK ANALYZER**



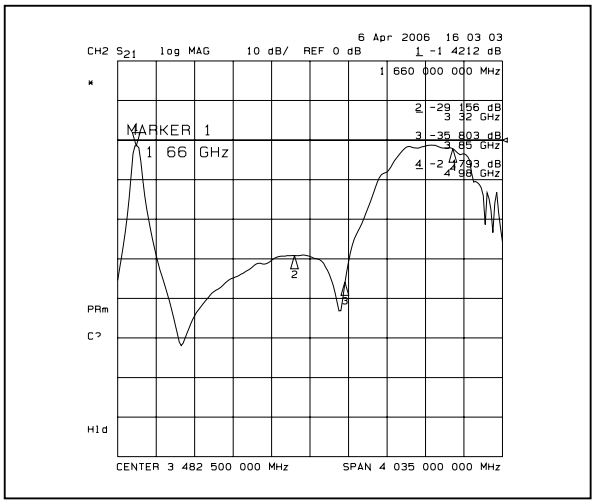
## 4. GRAPHS

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

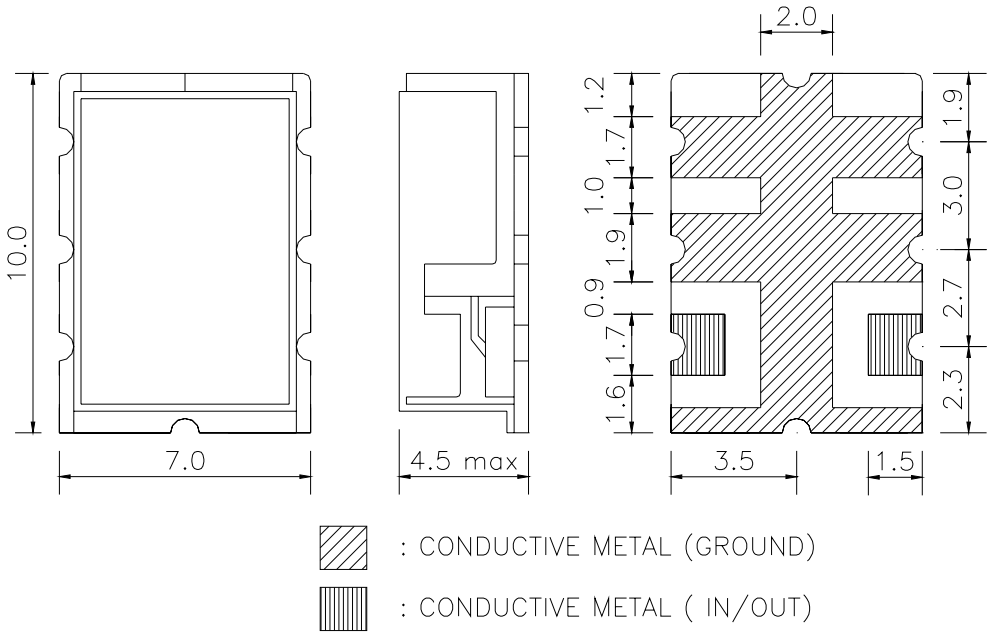



### S21( ATTENUATION)



## 5. 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

※ MARKING

CF-16600252
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.

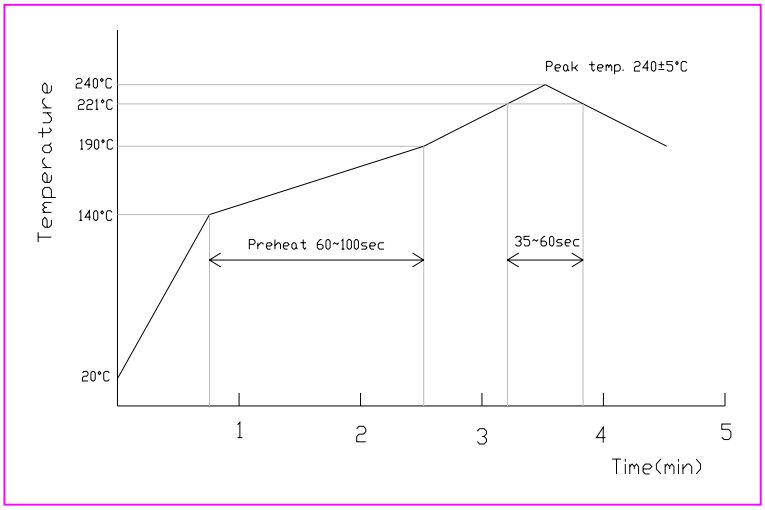
## 6. DEFINITIONS

| TERMS | DESCRIPTION | SPECIFICATION |
|---|---|---|
| Center Frequency | The midpoint of through band pass filter pass band, normally expressed as the arithmetic mean of the -3db point. Also called fo. | 3. SPECIFICATION |
| Pass Band Width | The width of the pass band of a filter referenced to the minimum insertion loss point in the pass band. The pass band of a filter is stated as -1.0dB bandwidth. | |
| Insertion Loss | The loss of the filter, in db, measured at center frequency relative to a through line (0 dB). | |
| Attenuation | Reduction of RF powder through a filter measured in dB, at desired band and referenced to 0 dB. (Filter to be removed from circuit) | |
| Pass Band Ripple | Variations in loss in the pass band of the filter, superimposed upon the fundamental shape of the pass band. | |
| V.S.W.R in Pass Band | The ratio of the maximum value of a standing wave to its minimum value, related to the return loss in pass band. | |

## 7. RELIABILITY TEST AND CONDITIONS

| ITEM | TEST CONDITIONS | REQUIREMENTS |
|---|---|---|
| Resistance to solder heat | Preheat temperature : 120 to 150℃<br>Preheat time: 1 to 1.5 min<br>Solder temperature: 260 +/- 10℃<br>Dipping time: 10 +/- 0.5 sec | No damage such as cracks should be caused in chip element. |
| Solderability | Preheat temperature: 120 to 150℃<br>Preheat time: 1 to 1.5 min<br>Solder temperature: 235 +/- 5℃<br>Dipping time: 5 +/- 1 sec | More than 80% of the terminal electrode shall be covered with new solder |
| Heat resistance (High-temperature Load) | Temperature: 85 +/- 2℃<br>Applied voltage: Rated voltage<br>Applied current: Rated current<br>Recovery: 1 to 2hrs of recovery under the standard condition after the removal from test chamber. | No mechanical damage. After test, the device shall satisfy the specification in section 3. |
| Thermal shock (Temperature cycle) | Conditions for 1 cycle<br>Step 1: + 85℃ 15 min<br>Step 2 : - 30℃ 15 min<br>Number of cycle: 10 | No mechanical damage. After test, the device shall satisfy the specification in section 3. |
| Humidity Resistance | Temperature: 40 +/- 2℃<br>Humidity: 90 to 95% RH<br>Duration: 96 +/- 5 hrs<br>Recovery: 1 to 2hrs of recovery under the standard condition after the removal from test chamber. | No mechanical damage. After test, the device shall satisfy the specification in section 3. |
| Vibration | Frequency: 10 ~ 50 Hz<br>Amplitude: 1.52 ㎜ ( 0.060 inches)<br>Direction: X, Y and Z<br>Time: each 30 min for all directions | No mechanical damage. After test, the device shall satisfy the specification in section 3. |
| | | |

## 8. REFLOW SOLDERING STANDARD CONDITIONS




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