

SPECIFICATION
COMMERCIALY AVAILABLE

ITEM: DIELECTRIC CERAMIC FILTER
PART NUMBER CF-08810254A

Revision Made:

| ISSUED / REVISION | ENGINEER APPROVED | DOCUMENT CHECKED | DRAFTSMAN | DOCUMENT CHECKED |
|-------------------|-------------------|------------------|-----------|------------------|
| 11/17/2006 ** | 3/17/2010 SRJ | 3/17/2010 BF | | |
| | | | | |

1. APPLICATION

THIS SPECIFICATION APPLIES TO BAND PASS FILTER USING DIELECTRIC RESONATORS.

2. PART NUMBER

| | |
|------------------|----------------------|
| PART NO | CF-08810254A |
| PACKAGING | Tape and Reel |

3. SPECIFICATIONS

| | | | |
|----|------------------------------------|------------------------|---------------------|
| 1 | Center Frequency (Fo) | 881.5 MHz | |
| 2 | Pass Band Width | Fo ±12.5 MHz | |
| | 3 dB BW | 41 MHz ±2.5 MHz | |
| 3 | Insertion Loss @ Fo | 2.7 dB max | |
| 4 | Ripple in PB | 0.7 dB max | |
| 5 | Attenuation | @ 828 MHz | 38 dBc min |
| | | @ 935 MHz | 31.3 dBc min |
| 6 | Return Loss in PB | 13 dB min | |
| 7 | Impedance | 50Ω | |
| 8 | Maximum Input Power | 1 W (+30dBm) | |
| 9 | Group Delay @ Fo | 22ns ±1.0ns max | |
| 10 | Operating Temperature Range | -40°C to +85°C | |
| 11 | RoHS Compliant | Yes | |

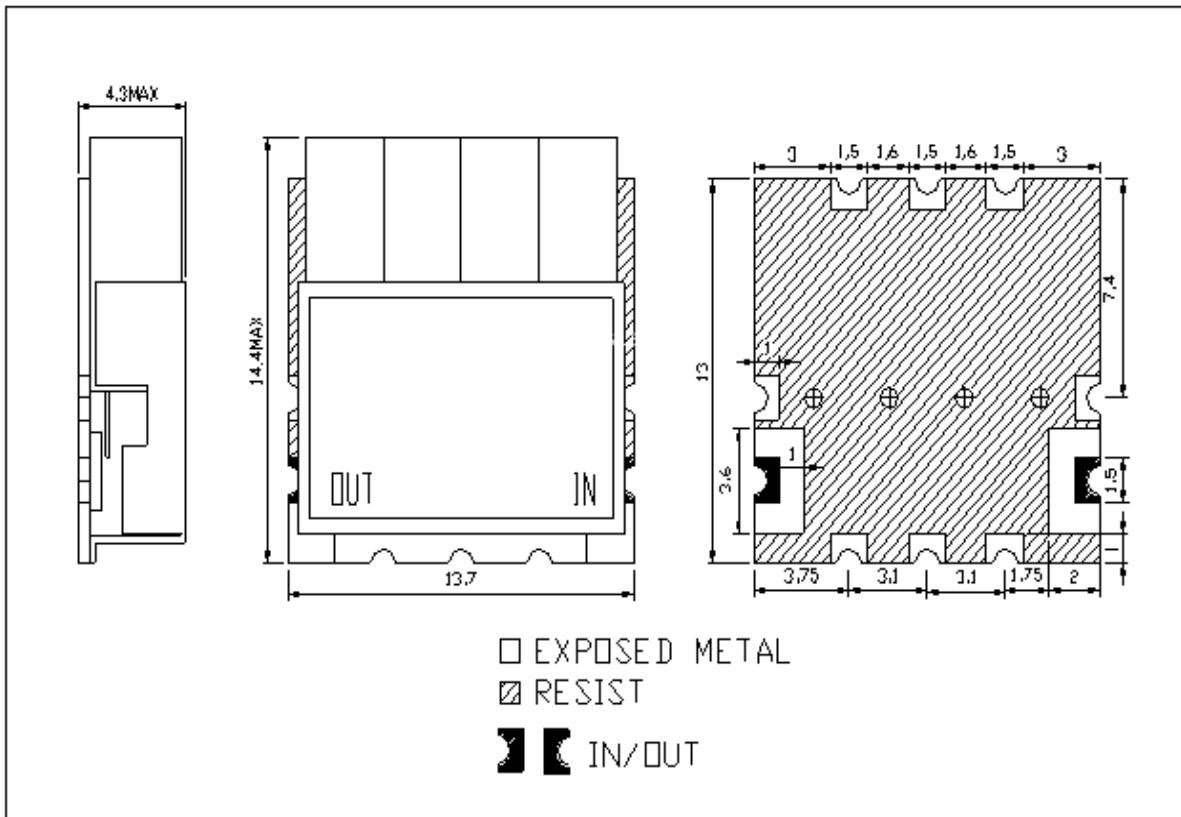
4. DIMENSIONS

IN/OUT LAND

TOLERANCE: +/-0.3MM

UNIT: MM

TOLERANCE: +/-0.5MM



| 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 |
| 2) | DIMENSION: 4.0MM x 4.0MM |

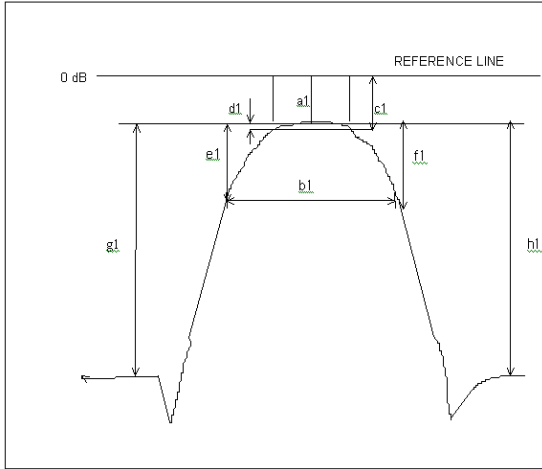
| MARKING |
|--------------|
| Filtronetics |
| CF-08810254A |
| D/C |

● CAUTIONS:

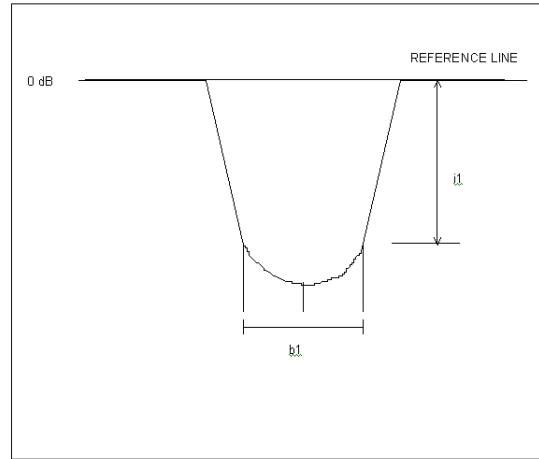
1. When handling products, be careful not to damage the outer-electrode.
2. When handling these products be careful not to touch the outer-electrode with bare hands or solder-ability is reduced.
3. Do not apply excessive pressure or shock to product in handling or in transportation or damage to the ceramic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

5. GRAPHS

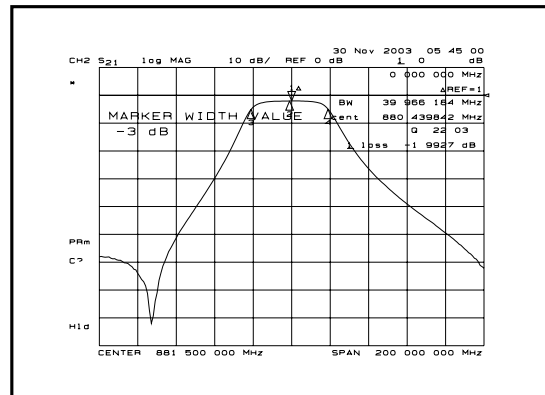
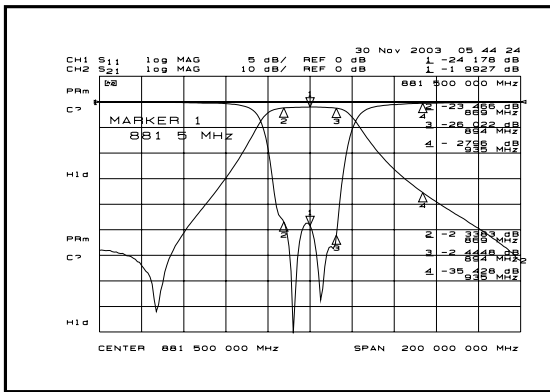
S21 LOG MAG NETWORK ANALYZER



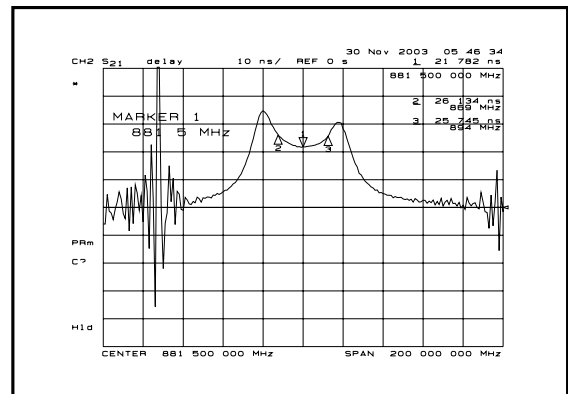
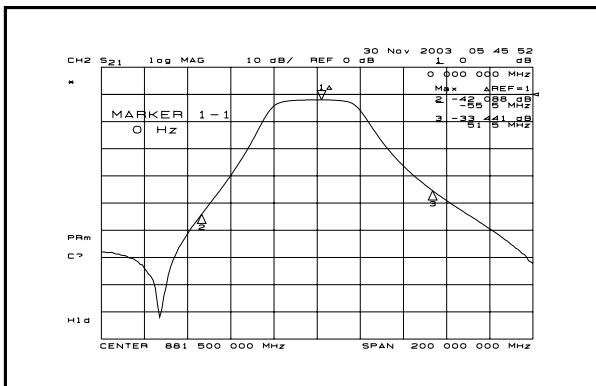
S11 SWR NETWORK ANALYZER



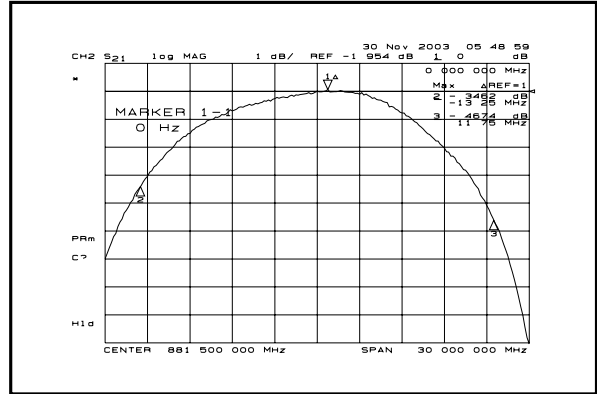
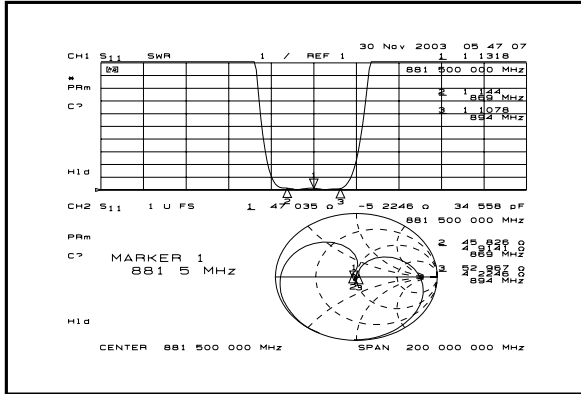
S21 VS S11 (Insertion Loss, Return Loss, 3dB band widths)



S21 (ATTENUATION, GROUP DELAY)



S21 VS S11 (V.S.W.R, SMITH CHART, RIPPLE)



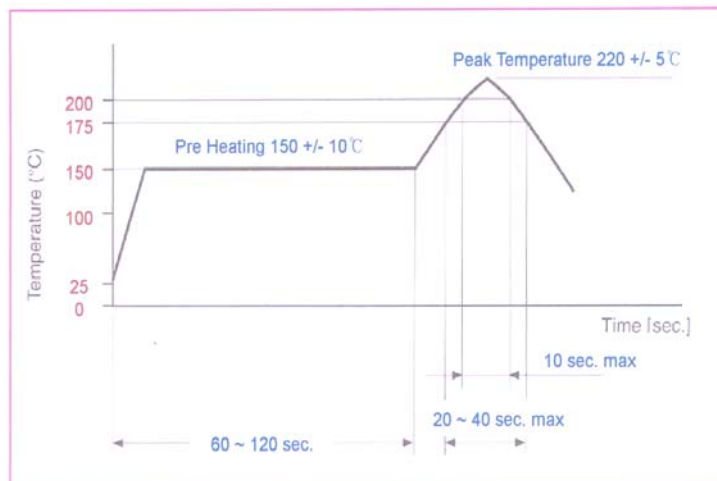
6. DEFINITIONS

| 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 power 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 |
|---|--|--|
| Operating Temp. Range | - 45°C ~ + 85°C | - 40°C ~ + 70°C |
| Resistance to solder heat | Preheat temperature : 120 to 150°C Preheat time: 1 to 1.5 min Solder temperature: 260 +/- 10°C Dipping time: 10 +/- 0.5 sec | No damage such as cracks should be caused in chip element. |
| Solderability | Preheat temperature: 120 to 150°C Preheat time: 1 to 1.5 min Solder temperature: 235 +/- 5°C 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°C Applied voltage: Rated voltage Applied current: Rated current 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 Step 1: + 85°C 15 min Step 2 : - 30°C 15 min Number of cycle: 10 | No mechanical damage. After test, the device shall satisfy the specification in section 3. |
| Humidity Resistance | Temperature: 40 +/- 2°C Humidity: 90 to 95% RH Duration: 96 +/- 5 hrs 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 Amplitude: 1.52 mm (0.060 inches) Direction: X, Y and Z 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
- Hot plates
- Solder Cream: Sn64/Pb36