SPECIFICATION

COMMERCIALLY AVAILABLE

CERAMIC FILTER
PART NUMBER: CFN-21403

Revision Made: changed the PB frequency/high & low

ISSUED	CHECKED	CHECKED	CHECKED	APPROVED
2/25/10 kn 3/23/10 kn	**3/22/2010 SRJ**			

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1. APPLICATION

THIS SPECIFICATION APPLIES TO NOTCH FILTER USING DIELECTRIC RESONATORS.

2. PART NUMBER

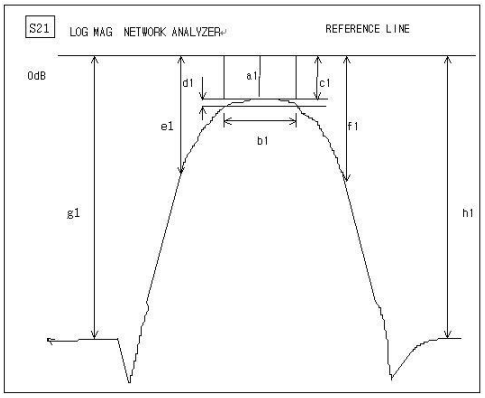
PART NO	CFN-21403
PACKAGING	PLASTIC TRAY

3. SPECIFICATIONS

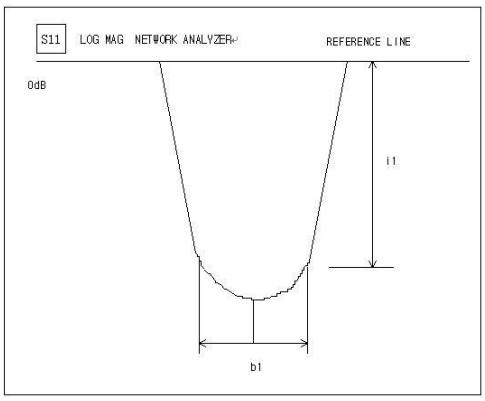
NO	ITEMS		Ref.	SPECIFICATION
1	Center Frequency (Fn)		a1	2140 MHz
2	Pass Band Low Frequency			30 KHz to 2050 MHz
	Pass Band High Frequency			2300 MHz to 2700 MHz
3	Notch Pass Band [Absolute Value]	2110 MHz to 2170 MHz		30 dB Min
4	Insertion Loss From 50 MHz to 2050 MHz			3.0 dB Max
	Insertion Loss From 2300 to 2700 MHz			3.0 dB Max
5	Impedance			50Ω
6	Maximum Input Power			1 W (+30 dBm)
7	Operating Temperature Range			-30℃ - +70℃

***Measurement for the lower Frequency range is from 30 KHz**

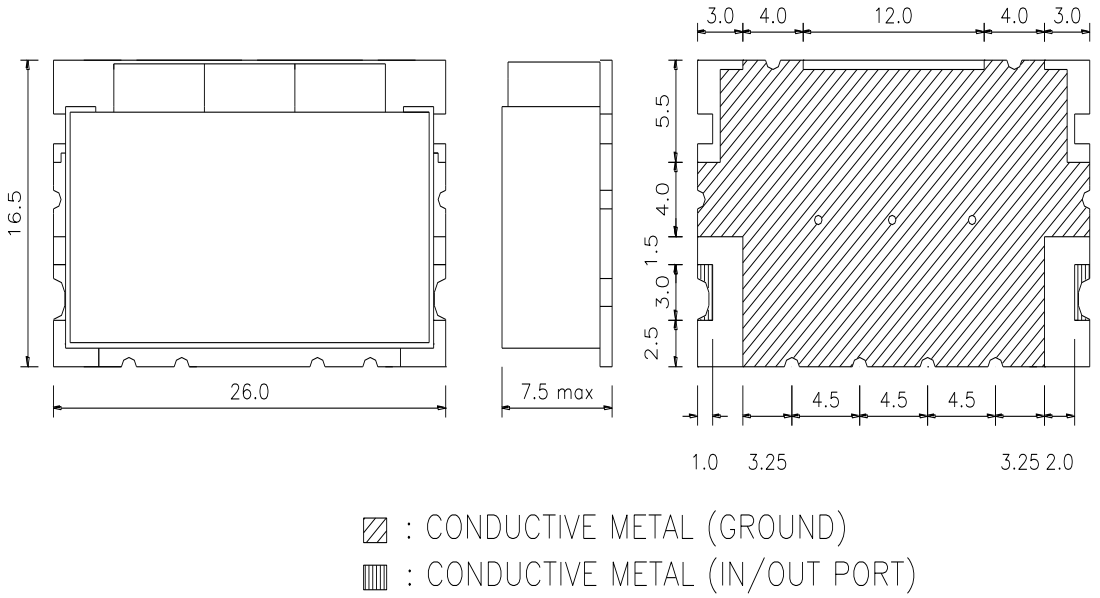
S21 LOG MAG NETWORK ANALYZER



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

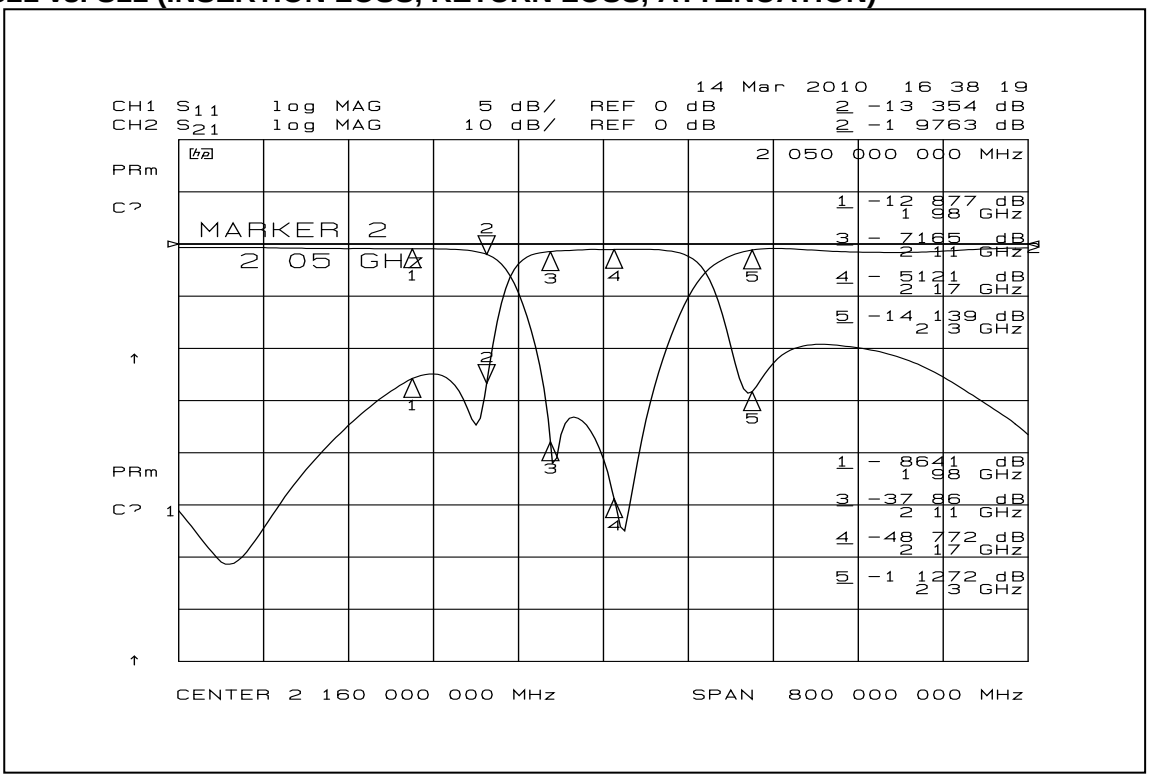
Part No: CFN-21403
Filtronetics, Inc
Date Code

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

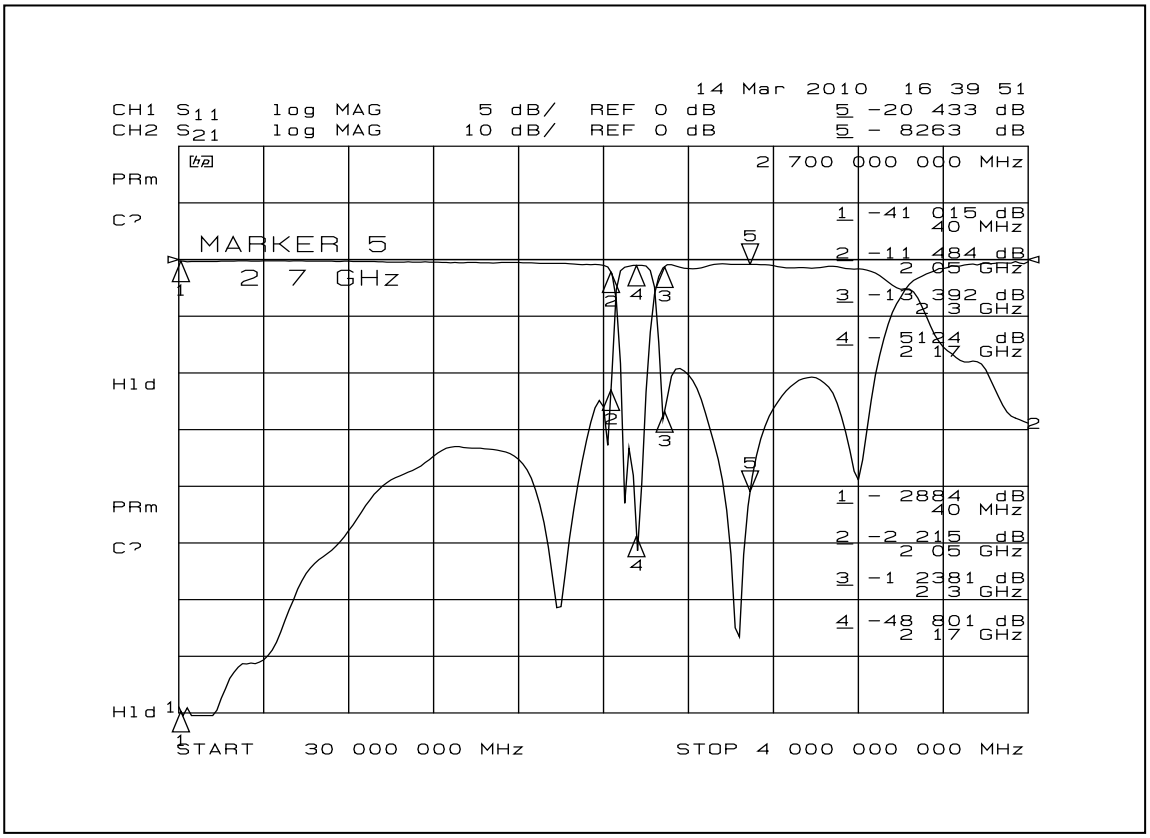
- CAUTIONS:
  1. When handling products, be careful not to damage the outer-electrode.
  2. When handling this product be careful not to touch the outer-electrode with bare hands or solder-ability is reduced.
  3. Do not apply excessive pressure or shock to product in handling or in transportation or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

5. GRAPHS

S21 vs. S11 (INSERTION LOSS, RETURN LOSS, ATTENUATION)



S21 (OUT BAND)



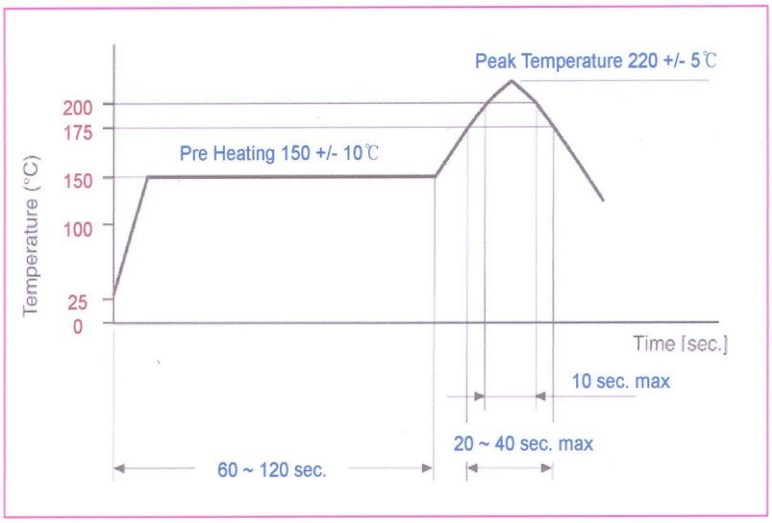
6. DEFINITIONS

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
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: 1.52mm (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