

# **SPECIFICATION FOR APPROVAL**

COMMERCIALY AVAILABLE

ITEM: DIELECTRIC CERAMIC FILTER

PART NUMBER: CFM-34370253

**9/26/05**

**Tape and Reel**

**Marking**

**11/1/05**

**Length from 6.6 to 6.9 max**

**8/24/06 added land pattern**

ISSUED	CHECKED	CHECKED	CHECKED	APPROVED

# FILTRONETICS Inc

## 1. APPLICATION

THIS SPECIFICATION APPLIES TO BAND PASS FILTER USING DIELECTRIC RESONATORS.

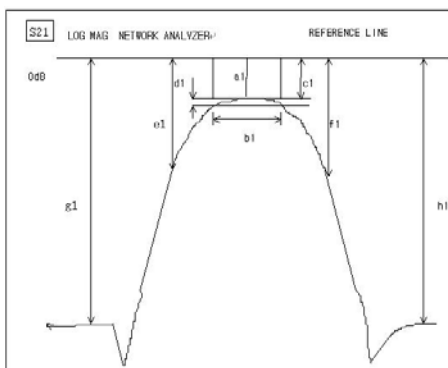
## 2. PART NUMBER

PART NO	CFM-34370253
PACKAGING	Tape and Reel

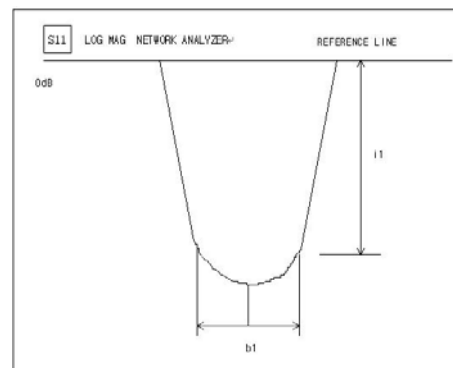
## 3. SPECIFICATIONS

NO	ITEMS		UPLINK
1	Center Frequency (Fo)	a1	3437.5 MHz
2	Pass Band Width (PB)	b1	25 MHz
3	Insertion Loss in PB	c1	3.0 dB Max
4	Ripple in PB	d1	0.5 dB Max
5	Return Loss in PB	i1	15 dB Min
6	Attenuation	At 2475 MHz	35 dB Min
		At 2940 ~ 2971 MHz	40 dB Min
		At 3184 ~ 3211 MHz	35 dB Min
		At 3303 ~ 3330 MHz	30 dB Min
		At 3495 ~ 3520 MHz	13 dB Min
		At 3524 ~ 3551 MHz	15 dB Min
		At 3975 MHz	35 dB Min
7	Impedance		50 Ohms
8	Power Rating		1 W Max
9	Operating Temperature		- 40 to + 85 °C

**S21 LOG MAG NETWORK ANALYZER**

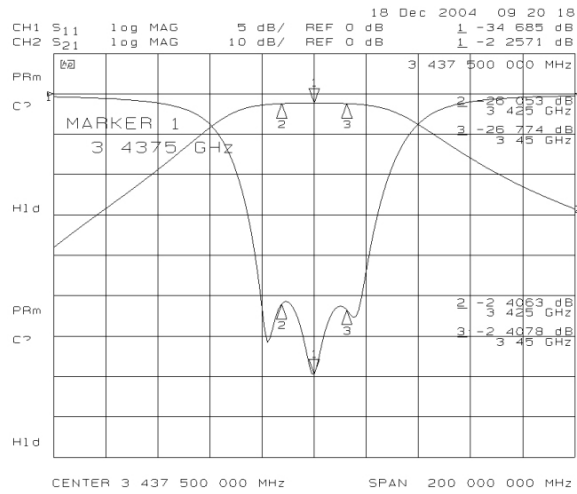


**S11 LOG MAG NETWORK ANALYZER**

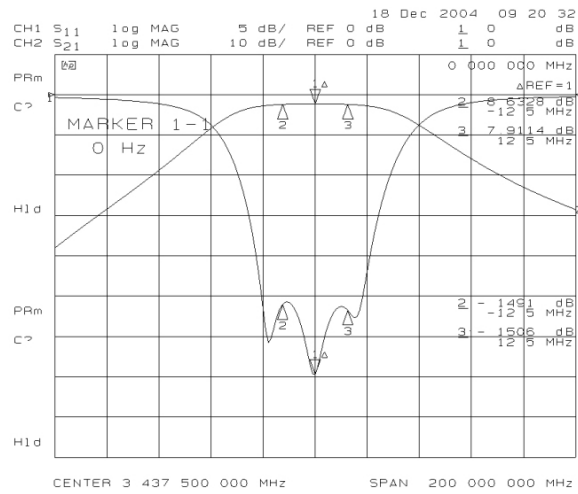


4. GRAPHS

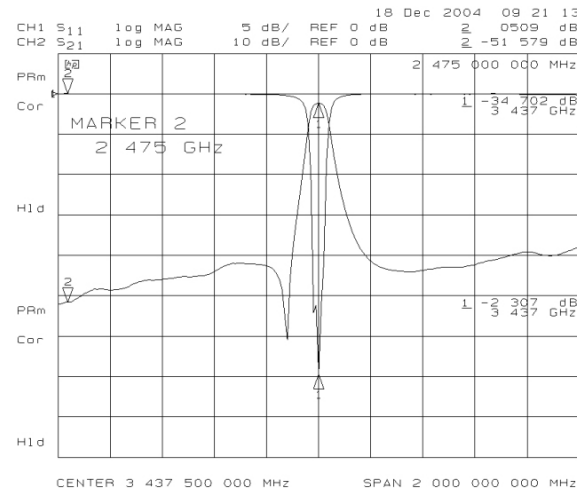
S21 & S11 (INSERTION LOSS, RETURN LOSS)



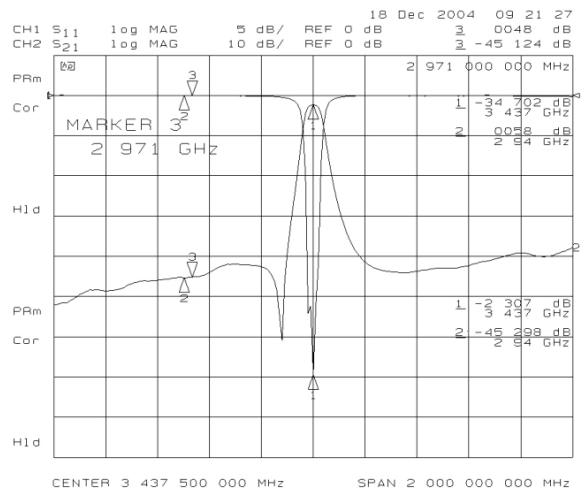
S21 & S11 (RIPPLE)



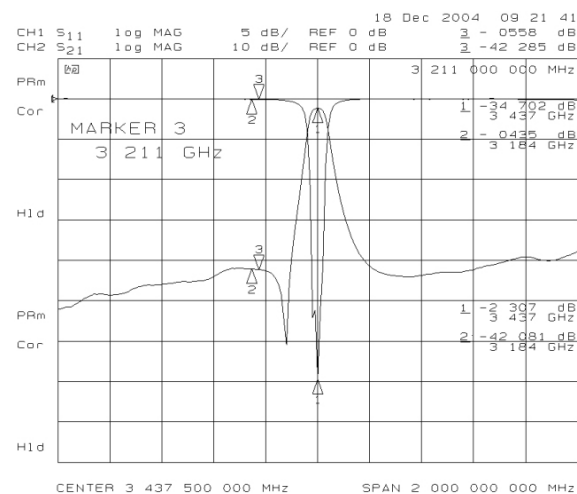
S21 & S11 (ATTENUATION AT 2475MHz)



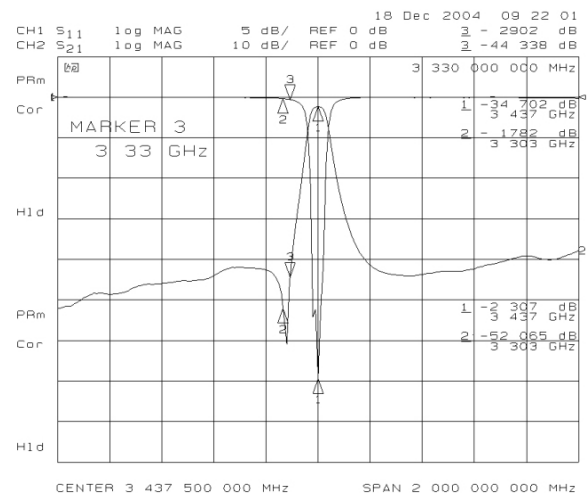
S21 & S11 (ATTENUATION AT 2940 ~ 2971 MHz)



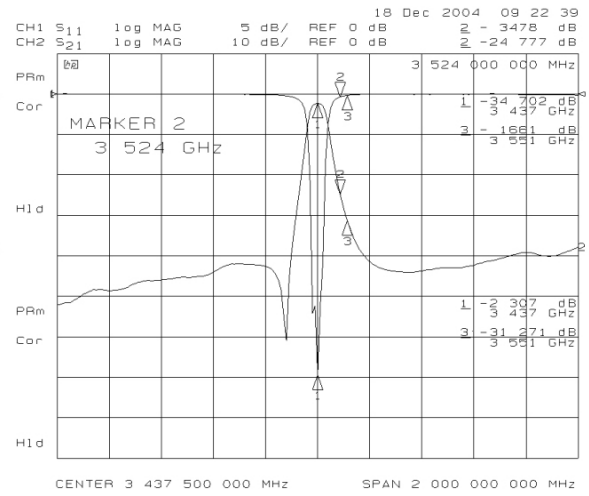
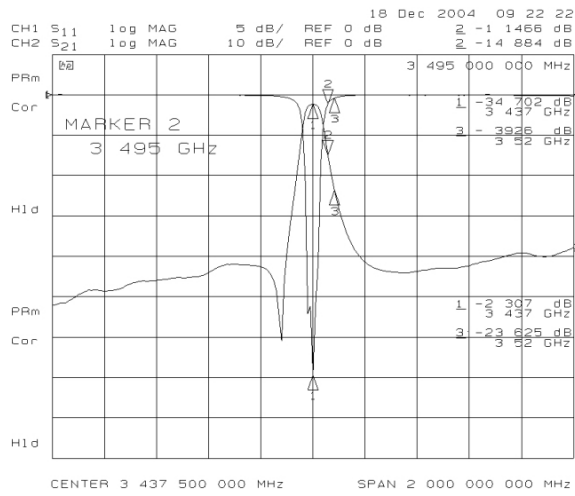
S21 & S11 (ATTENUATION AT 3184 ~ 3211 MHz)



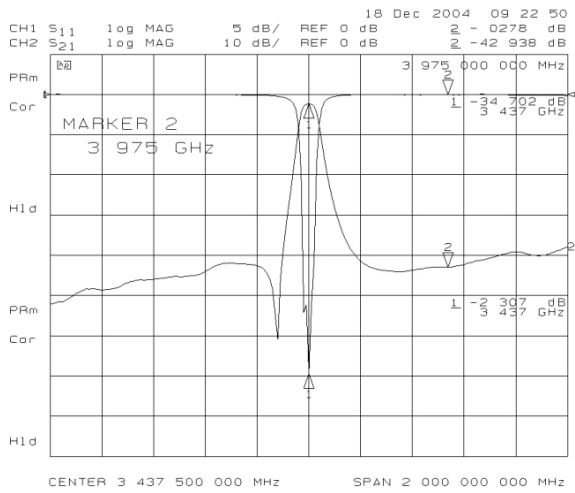
S21 & S11 (ATTENUATION AT 3303 ~ 3330 MHz)



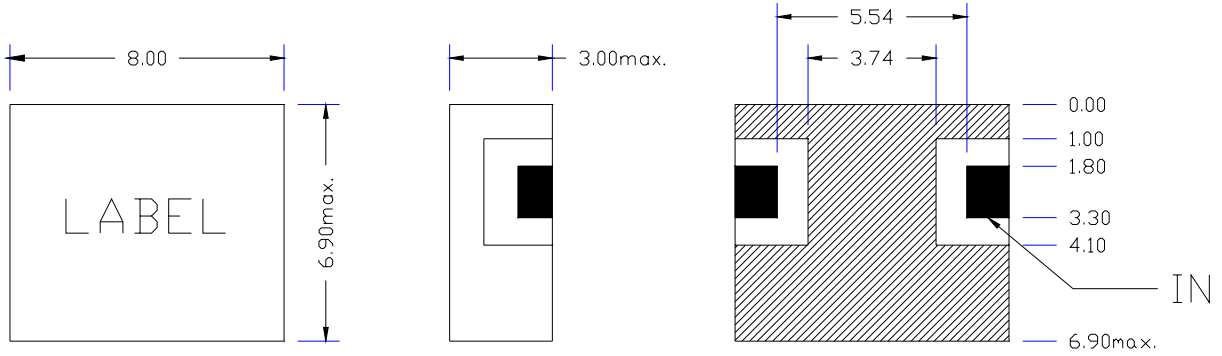
**S21 & S11 (ATTENUATION AT 3495 ~ 3520 MHz) S21 & S11 (ATTENUATION AT 3524 ~ 3551 MHz)**



**S21 & S11 (ATTENUATION AT 3975 MHz)**



5. DIMENSIONS



※ MATERIAL SPECIFICATION

RESONATOR  
 COATING MATERIAL: Ag  
 DIMENSION: 3MM 3POLE

※ MARKING

CFM-34370253  
 DATE CODE

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 solderability 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.

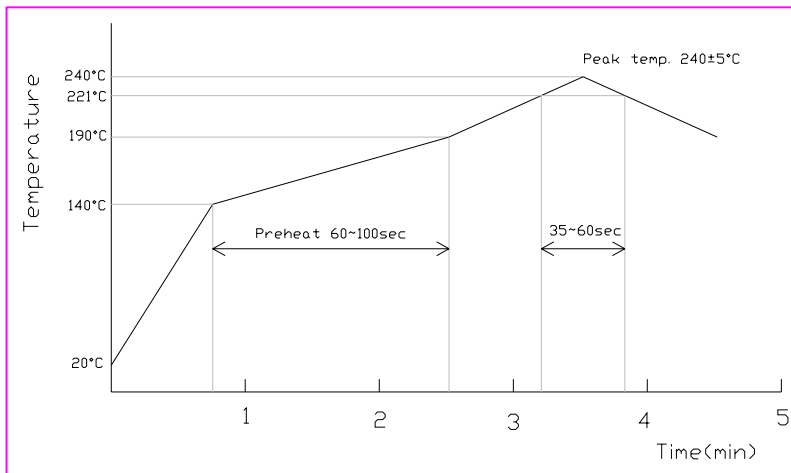
## 6. DEFINITIONS

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 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**

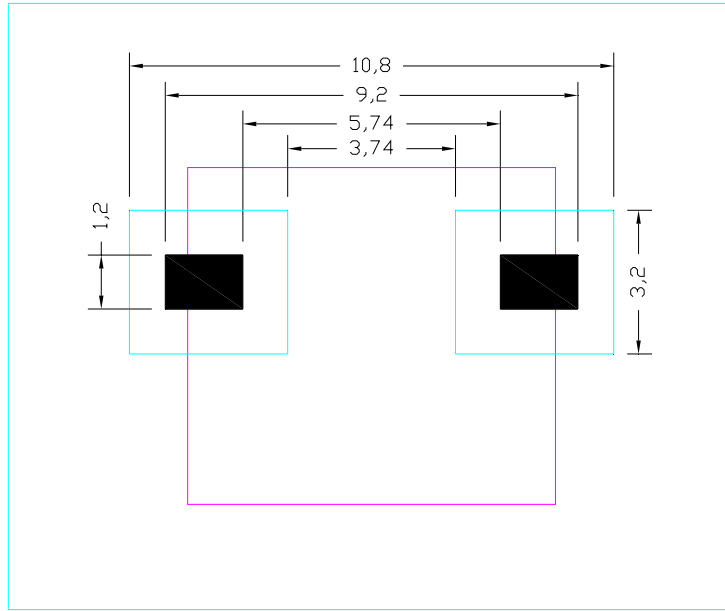
ITEM	TEST CONDITIONS	REQUIREMENTS
Operating Temp. Range	- 45°C ~ + 85°C	- 40°C ~ + 70°C
Resistance to solder heat	Preheat temperature : 120 to 150°C Preheat time: 1 to 1.5 min Solder temperature: 260 +/- 10°C Dipping time: 10 +/- 0.5 sec	No damage such as cracks should be caused in chip element.
Solderability	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**

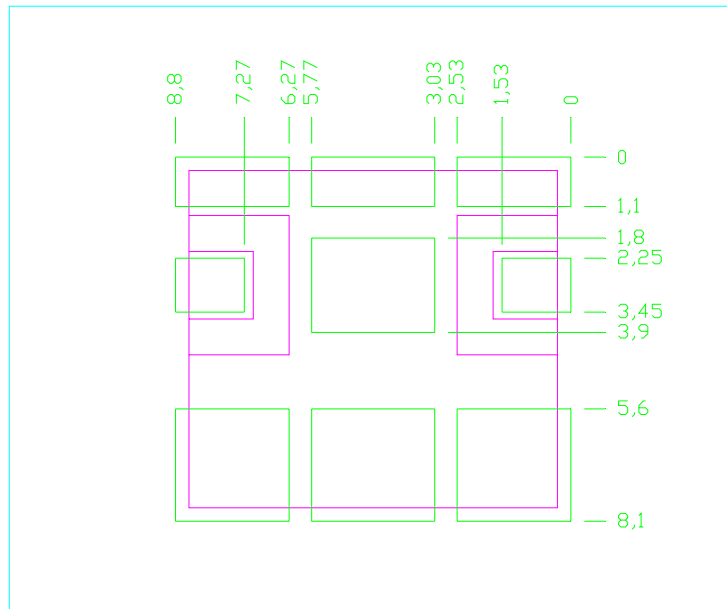


- Measuring point of temperature in-out terminals of the device.
- Reflow Soldering
- Both convection and infrared rays
- Hot air
- Hot plates
- Solder Cream: Sn96.5/Ag3.5

9. RECOMMENDED LAND PATTERN



 : Electrode       : I/O Electrode  
 : Filter



 : Solder       : Filter