

SPECIFICATION

COMMERCIALY AVAILABLE

CERAMIC FILTER
PART NUMBER: CF-04030133

ISSUED	CHECKED	CHECKED	CHECKED	APPROVED
8/17/09 kn				
7/19/12 DS	09/07/2012 TFG		09/07/2012 GL	

FILTRONETICS Inc

1. APPLICATION

THIS SPECIFICATION APPLIES TO BAND PASS FILTER USING DIELECTRIC RESONATORS.

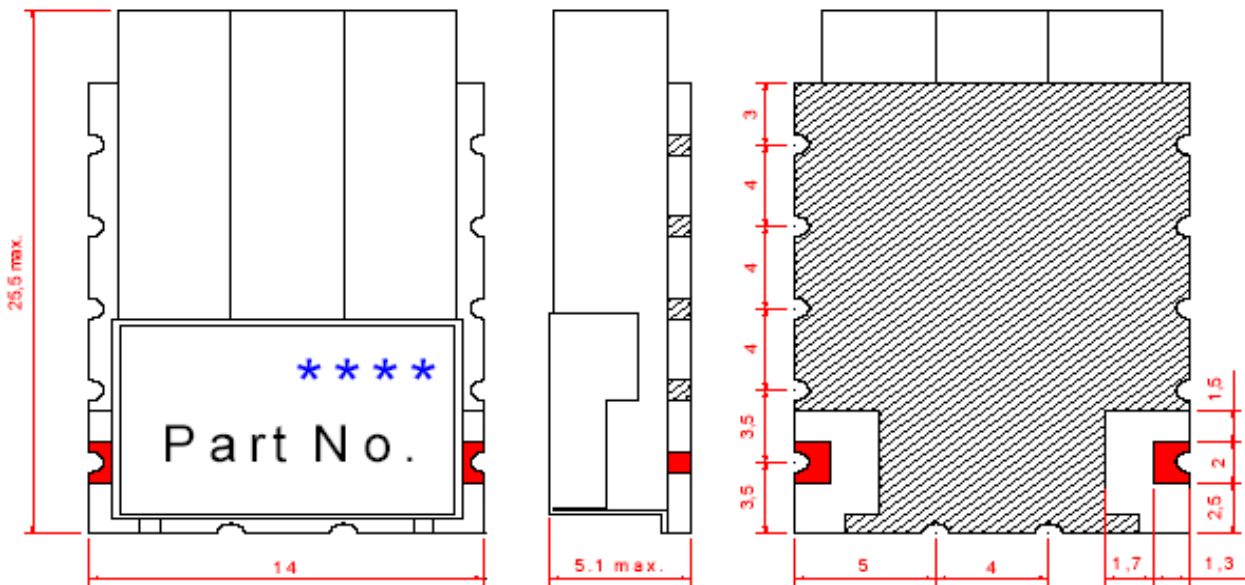
2. PART NUMBER: CF-04030133

3. SPECIFICATIONS

No.	Parameter	Unit	Specification
1	Center Frequency	MHz	403.2
2	Bandwidth	MHz	$F_c \pm 6.6(396.6 \sim 409.8\text{MHz})$
	1.0dB Bandwidth		13.2 min.
	60dB Bandwidth		266 max.
3	Insertion Loss in BW $F_o \pm 6.6$ MHz	dB	2.0 max.
4	Ripple in BW $F_o \pm 6.6$ MHz	dB	0.6 max.
5	Return Loss in BW	dB	12.0 min.
6	Group Delay Variation $F_o \pm 6.6$ MHz	nSec.	10.0 max.
7	Input Power	Watt	1 max.
8	IN/OUT Impedance	Ω	50
9	Operating Temp. Range	$^{\circ}\text{C}$	-40 ~ +85

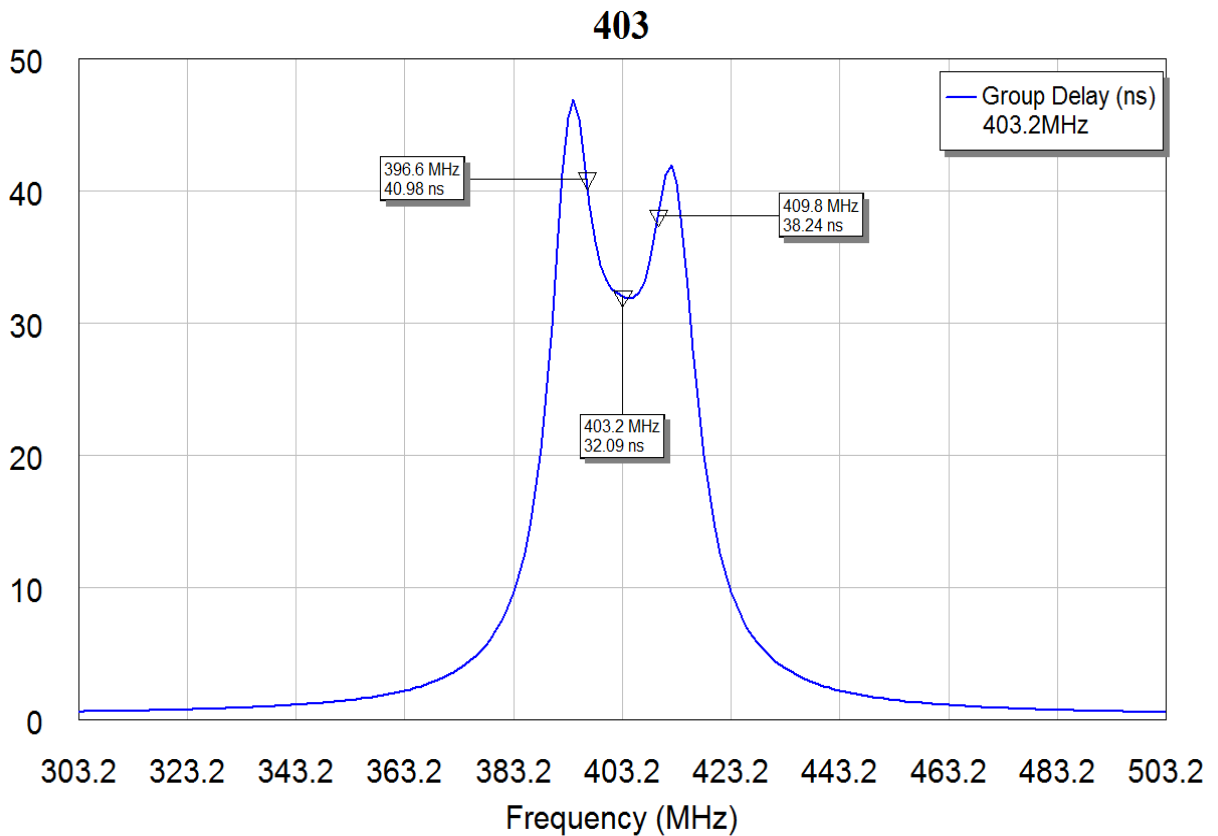
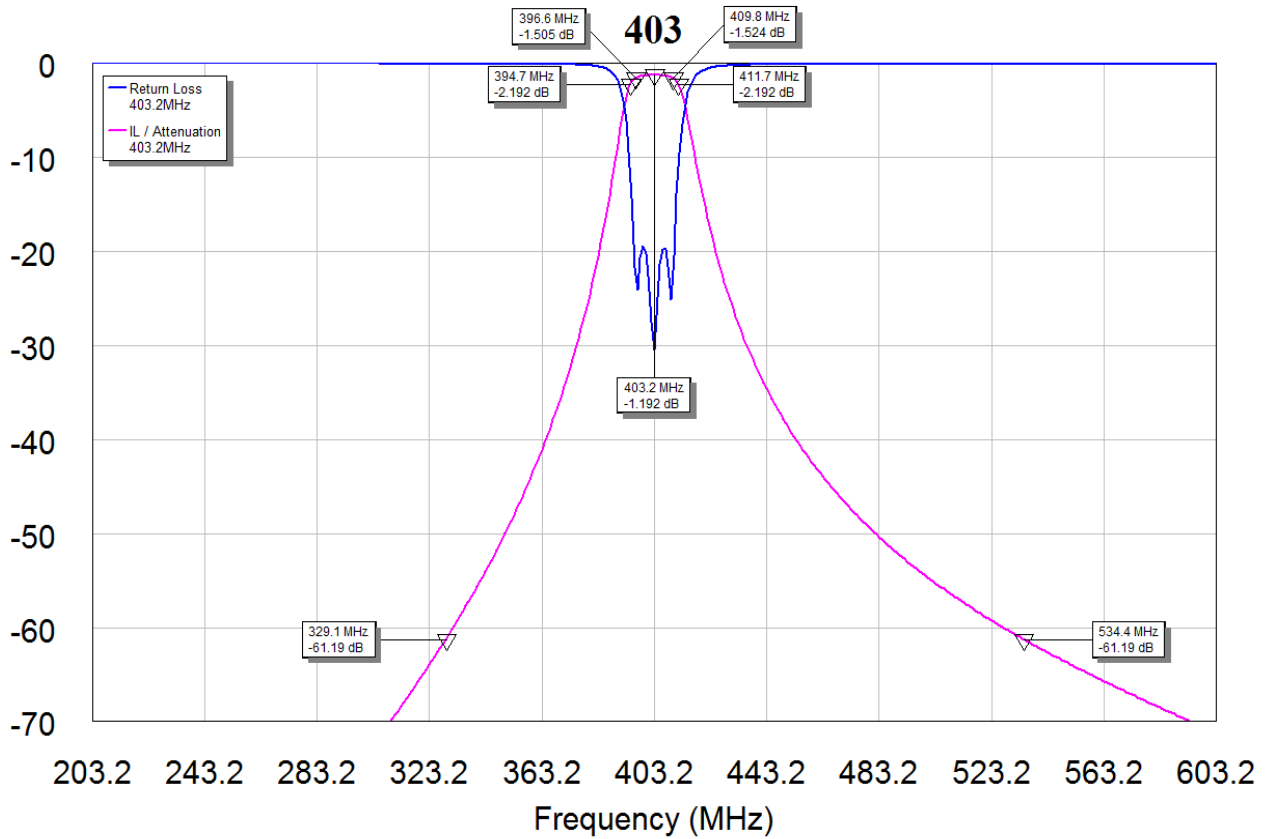
4. DIMENSIONS

Marking: Date Code
 Filtronetics, Inc
 CF-04030133



- Notes :
1. Surface mount package
 2. Dimensions in millimeters
 3. Max reflow temperature 230 $^{\circ}\text{C}$ for 10 sec
 4. If boards are cleaned after installation units must be completely dried
 5. Tolerance unless specified : $\pm .3$
 6. *** -> Date code(YYWW)
- Legend:
 : In / Out Port
 : Ground
 : No metal

5. GRAPHS



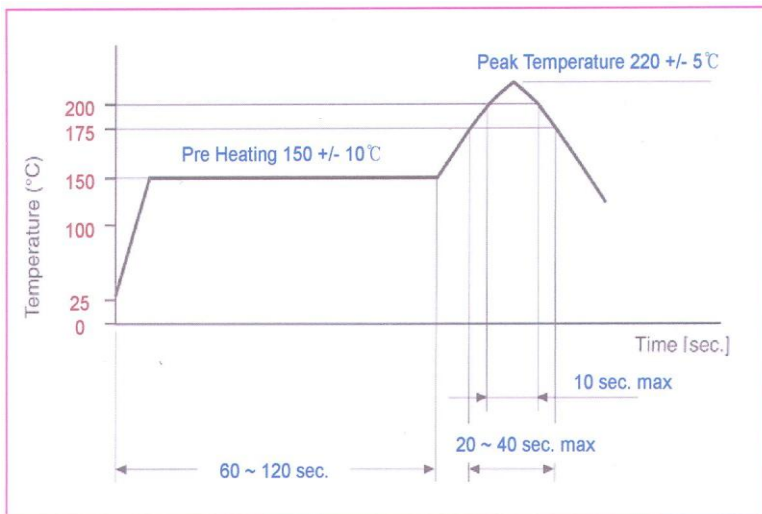
6. DEFINITIONS

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