

SPECIFICATION

COMMERCIALY AVAILABLE

CERAMIC FILTER
PART NUMBER: CF-16010705

ISSUED / REVISION	ENGINEER APPROVED	DOCUMENT CHECKED	DRAFTSMAN	DOCUMENT CHECKED
2/23/05 **				
9/21/11 DS	12/02/2011 TFG		12/02/2011 GL	

FILTRONETICS Inc

1. APPLICATION

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

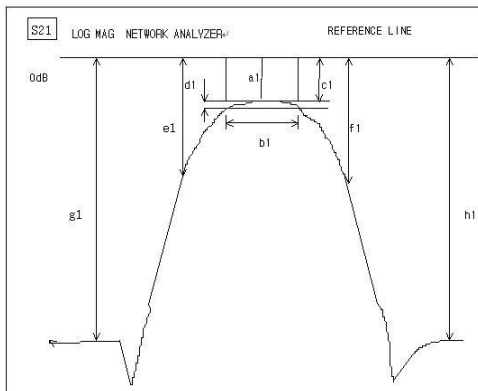
2. PART NUMBER

PART NO	CF-16010705
PACKAGING	PLASTIC TRAY

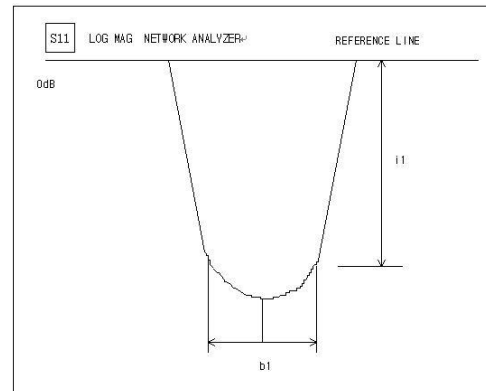
3. SPECIFICATIONS

NO	ITEMS	Ref.	SPECIFICATION	
1	Center Frequency (Fo)	a1	1601 MHz	
2	1.0 dB Band Width	b1	54 MHz Min	
3	3.0 dB Band Width	b1	70 MHz Min	
4	Insertion Loss At Fo	a1	2.5 dB Max	
5	V.S.W.R (With in Fo+/-24MHz)		1.6 : 1	
6	Attenuation	1442 to 1541.5MHz	g1	22.5dBc Min
		1660.5 to 1760MHz	h1	12dBc Min
		1289 to 1409MHz	g1	55dBc Min
		1793 to 1913MHz	h1	50dBc Min
7	Amplitude flatness	Fc+/-24MHz	Linear	-
			Parabolic	0.6dB Max
8	Group Delay	Fc+/-24MHz	Linear	-
			Parabolic	4.5ns max
9	Impedance		50Ω	
10	Maximum Input Power		1 W (+30dBm)	
11	Operating Temperature Range		-40 - +85°C	

S21 LOG MAG NETWORK ANALYZER

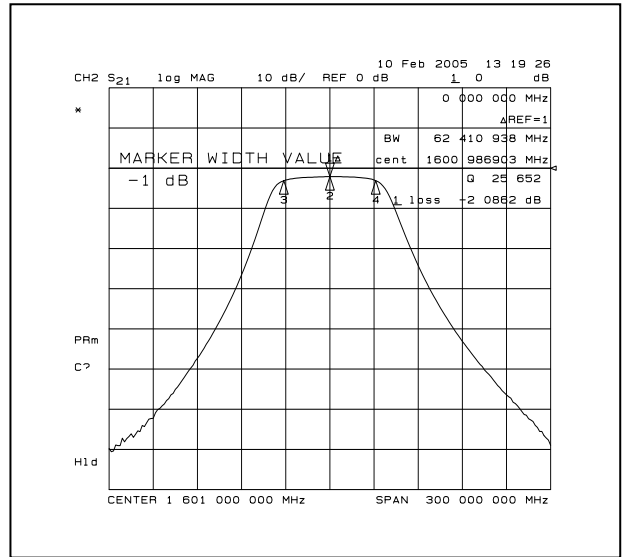
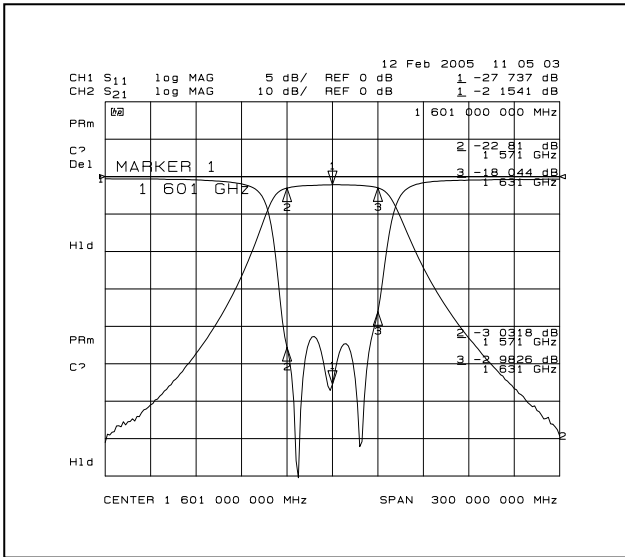


S11 LOG MAG NETWORK ANALYZER

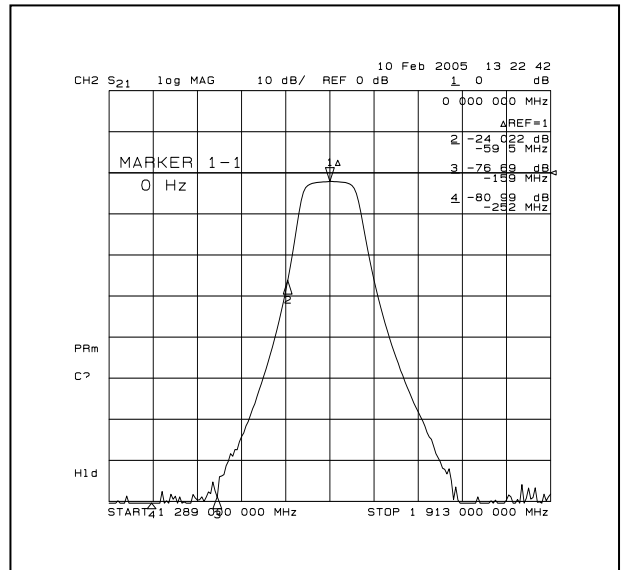
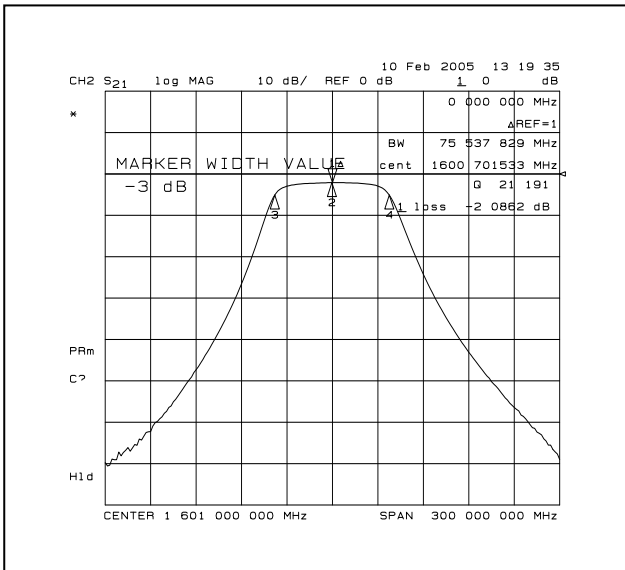


4. GRAPHS

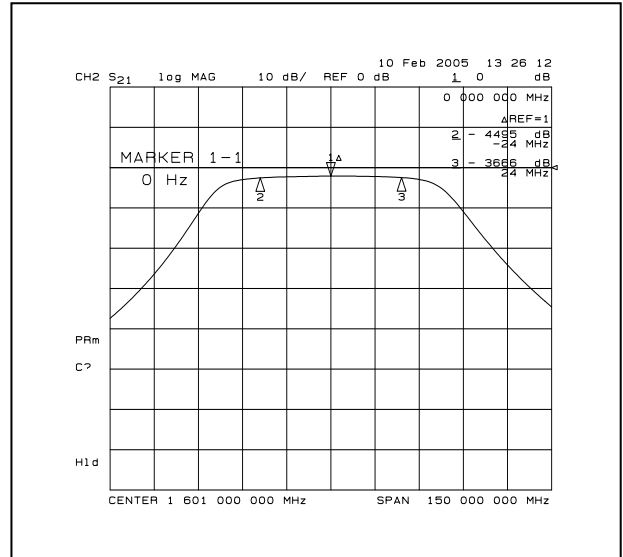
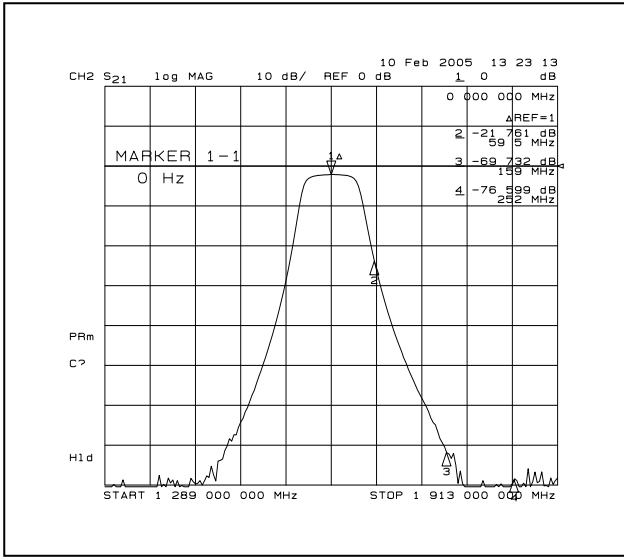
S21 & S11 (INSERTION LOSS, RETURN LOSS, 1dB BAND WIDTH)



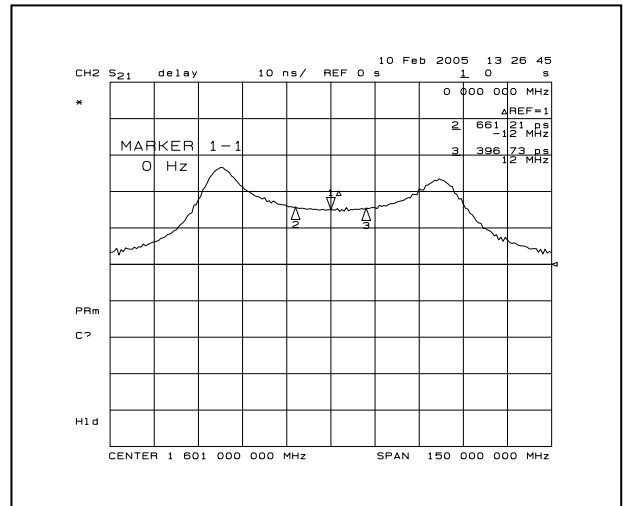
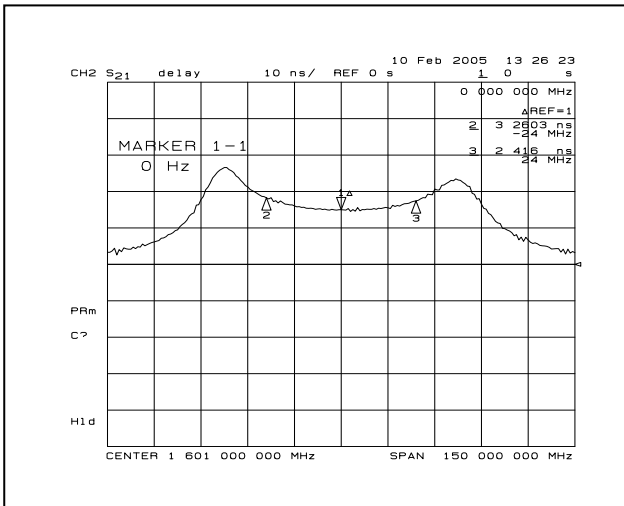
S21 (3dB BAND WIDTH, ATTENUATION)



S21 (ATTENUATION, Fo+/-24MHz RIPPLE)



S21 (GROUP DELAY AT Fo+/-24MHz, Fo+/-12MHz)



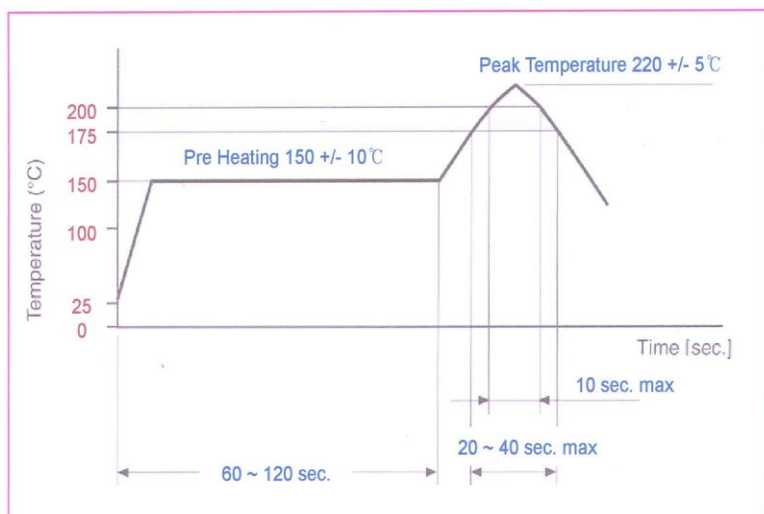
6. DEFINITIONS

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 f_0 .	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: 1.52 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