SPECIFICATION

COMMERCIALLY AVAILABLE

ITEM: DIELECTRIC CERAMIC FILTER
PART NUMBER: CF-18420753

Revision Made: 12/10/08 changed package and reflow
7/15/10…added length value on Dimension..9mm

ISSUED	CHECKED	CHECKED	CHECKED
10/17/03 ** 12/10/08 **	**7/13/2010 SW**	**7/14/2010 BF**	
7/15/10 kn	**7/15/2010 SW**	**7/19/2010 BF**	
***FILTRO**NETICS Inc*			

1. APPLICATION

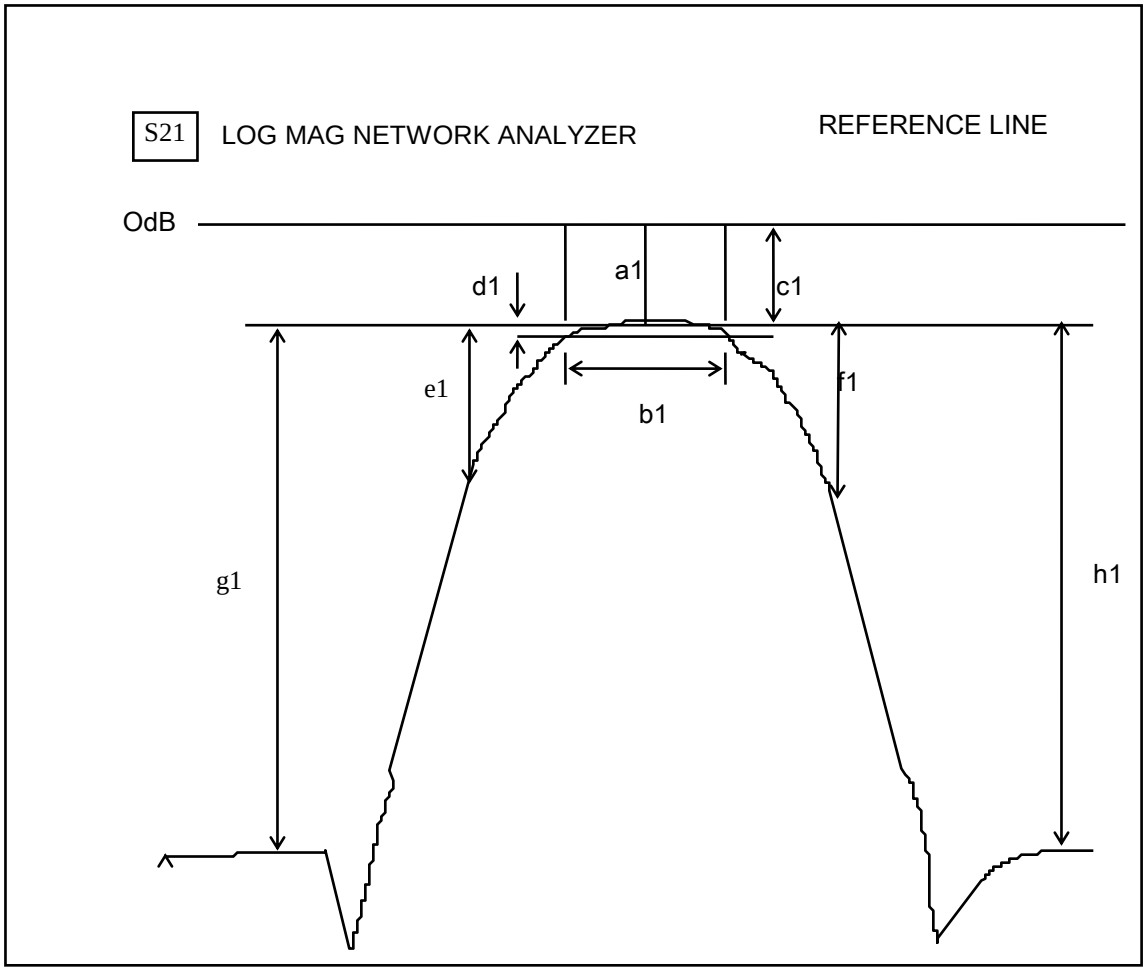
THIS SPECIFICATION APPLIES TO BAND PASS FILTER USING DIELECTRIC RESONATORS.

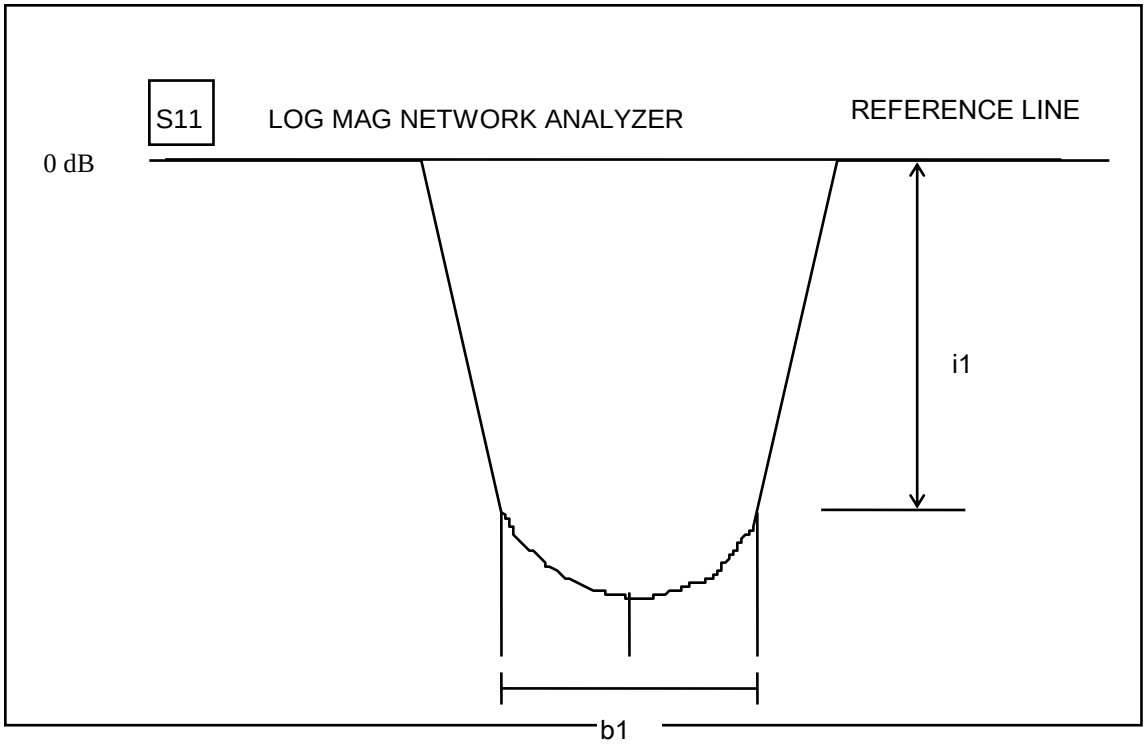
2. PART NUMBER

PART NO	CF-18420753

3. SPECIFICATIONS

1	Center Frequency (F_0)		a1	1842.5 MHz
2	Pass Band Width(PB)		b1	F_0 +/-37.5 MHz
3	Ripple IN PB		d1	0.8 dB max
4	V.S.W.R IN PB		b1	1.8 max
5	Insertion Loss IN PB		b1	2.2 dB max
6	Attenuation	F_0 +/-80	e1~f1	8 dB min
		F_0 -400 MHz	g1	45 dB min
		F_0 +400 MHz	h1	45 dB min
		MHz	h1	dB min
7	Impedance			50Ω
8	Maximum Input Power			1 W (+30 dBm)
9	Group Delay Time in PB			nSec max
10	Operating Temperature Range			-20°C to +70°C

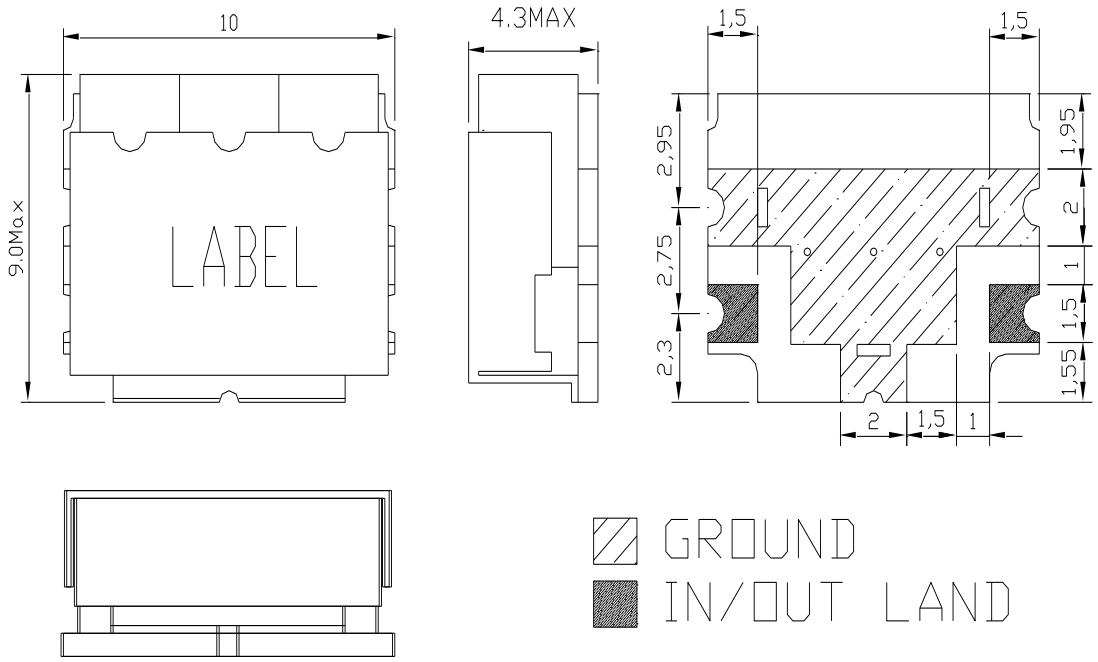

S21
LOG MAG NETWORK ANALYZER
REFERENCE LINE
OdB
d1
a1
c1
e1
b1
f1
g1
h1


S11
LOG MAG NETWORK ANALYZER
REFERENCE LINE
0 dB
i1
b1

4. SPECIFICATION:

CHARACTERISTICS	DESCRIPTION	SPECIFICATION
CENTER FREQUENCY	THE MIDPOINT OF THROUGH BANDPASS FILTER PASSBAND, NORMALLY EXPRESSED AS THE ARITHMETIC MEAN OF THE -3 dB POINT. ALSO CALLED F_0.	3. SPECIFICATION
PASS BAND WIDTH	THE WIDTH OF THE PASSBAND OF A FILTER REFERENCED TO THE MINIMUM INSERTION LOSS POINT IN THE PASSBAND. THE PASSBAND OF A FILTER IS STATED AS –0.5 dB BANDWIDTH.	
INSERTION LOSS	THE LOSS OF THE FILTER, IN dB, MEASURED AT CENTER FREQUENCY OR AT THE MINIMUM LOSS POINT OF THE PASSBAND RELATIVE TO A THROUGH LINE (0 dB).	
ATTENUATION	REDUCTION OF RF POWER THROUGH A FILTER, MEASURED IN dB, AT DESIRED BAND AND INSERTION LOSS AT F_0 (FILTER REMOVED FROM CIRCUIT)	
PASSBAND RIPPLE	VARIATIONS IN LOSS IN THE PASSBAND OF THE FILTER, SUPERIMPOSED UPON THE FUNDAMENTAL SHAPE OF THE PASSBAND.	
V.S.W.R in PB	THE RATIO OF THE MAXIMUM VALUE OF A STANDING WAVE TO ITS MINIMUM VALUE, RELATED TO THE RETURN LOSS IN PASSBAND.	

5. 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

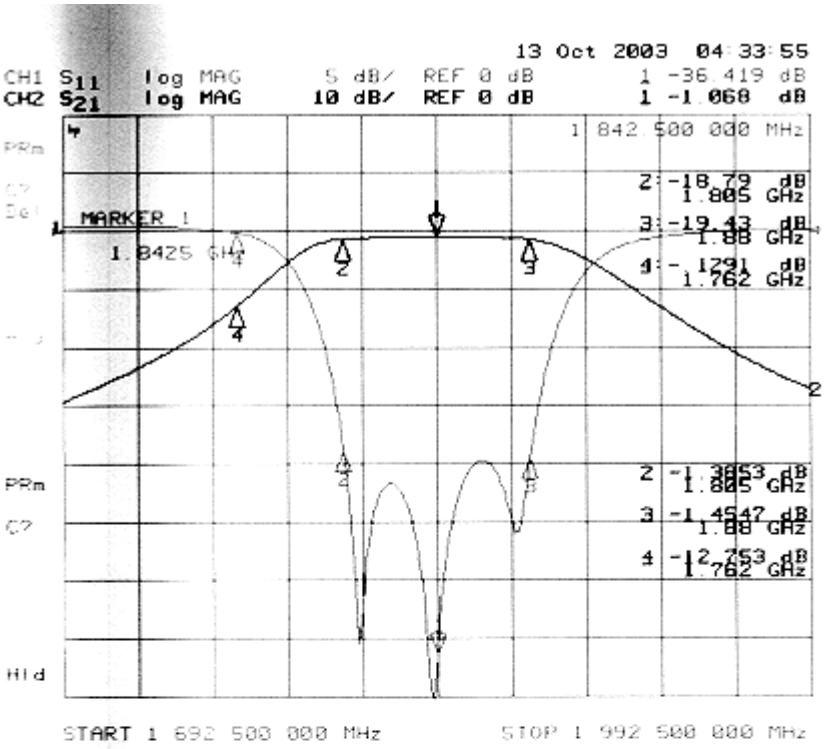
MARKING (ink)
Part No: **CF-18420753**
Filtronetics

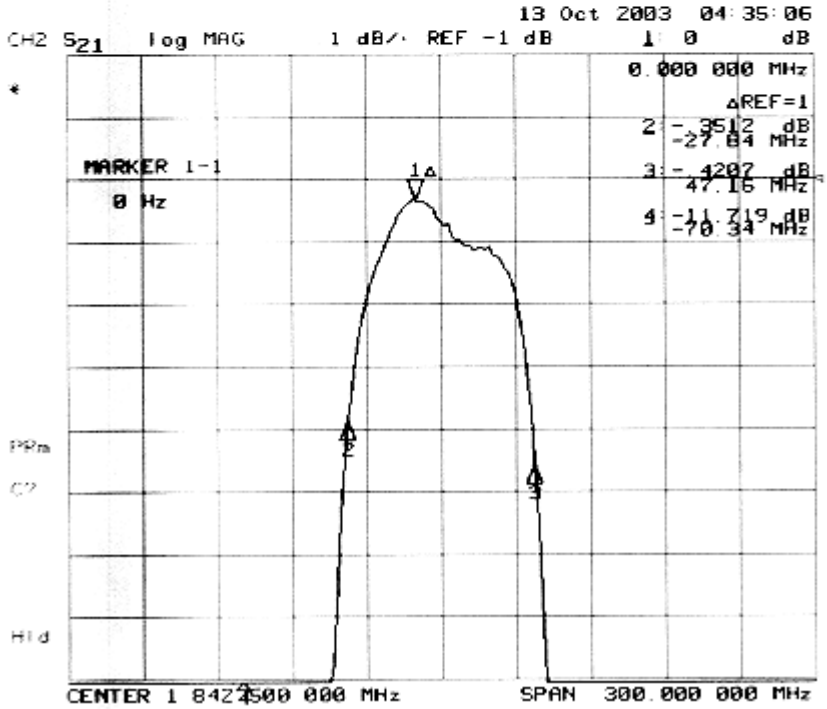
UNIT: MM
TOLERANCE: +/-0.5MM
IN/OUT LAND: +/-0.3MM

- CAUTIONS:
  1. When handling products, be careful not to damage the outer-electrode.
  2. When handling 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.

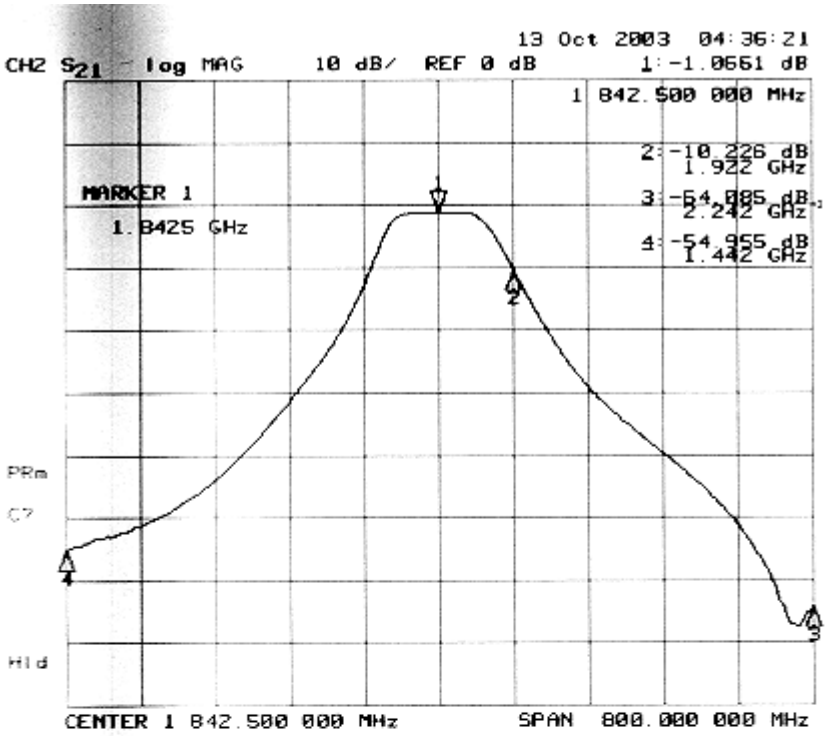
6. GRAPH:

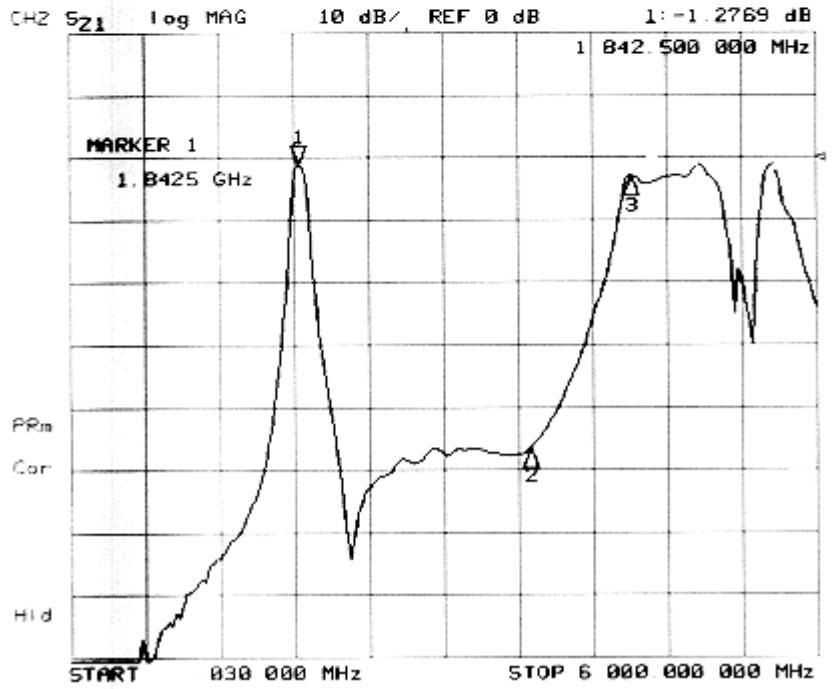
S21 vs. S11- PASS BANDWIDTH, IL, RIPPLE, RETURN LOSS, ATTENUATION





S21- Attenuation

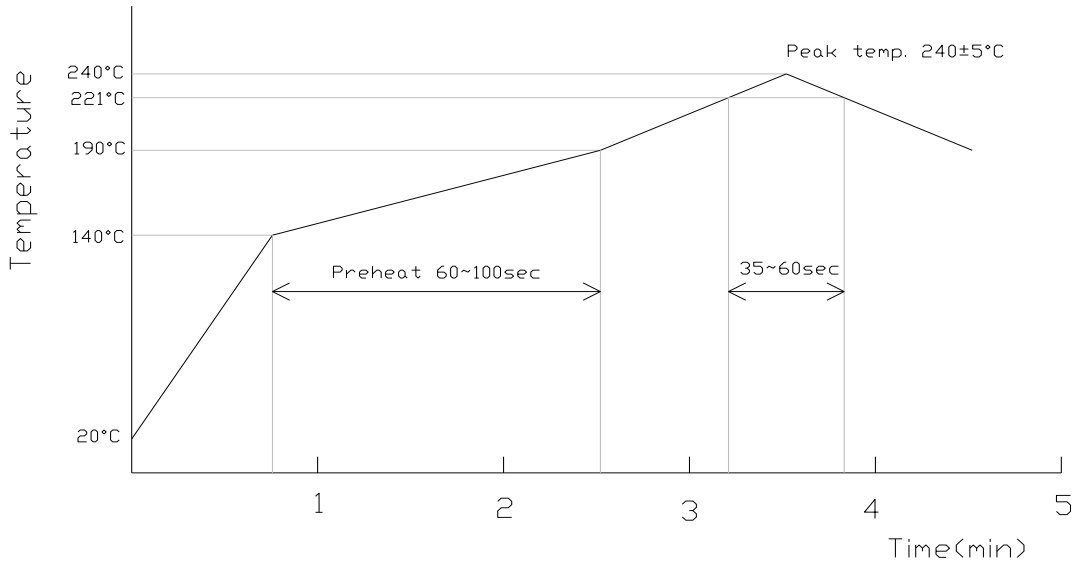




7. RELIABILITY TEST AND CONDITIONS:

ITEM	TEST CONDITIONS	REQUIREMENTS
Operating Temp. range		**- 20℃ ~ + 75℃**
Resistance to solder heat	**Preheat temperature : 120 to 150℃** **Preheat time : 1 to 1.5 min** **Solder temperature : 260 +/- 10℃** **Dipping time : 10 +/- 0.5 sec**	**No damage such as cracks should Be caused in chip element.**
Solderability	**Preheat temperature : 120 to 150℃** **Preheat time : 1 to 1.5 min** **Solder temperature : 235 +/- 5℃** **Dipping time : 5 +/- 1 sec**	**More than 80% of the terminal electrode shall be covered with new solder**
Heat resistance (High-temperature load)	**Temperature : 75 +/- 2℃** **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** **: + 75℃ 15 min** **Step 2** **: - 20℃ 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℃** **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 ㎜ (0.060 inches)** **Direction and time : X, Y and Z Directions for 30 min each.**	**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**
- **Solder Cream: Sn96.5/Ag3.5**