

SPECIFICATION

COMMERCIALY AVAILABLE

ITEM: DIELECTRIC CERAMIC FILTER

PART NUMBER: CF-16000015

No Pure Tin

Revised by: :DS-added polyimide marking 1/18/2010

ISSUED	CHECKED	CHECKED	CHECKED	APPROVED
7/2007xx			08/27/2013 GL	08/27/2013 TFG

FILTRONETICS Inc

1. APPLICATION

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

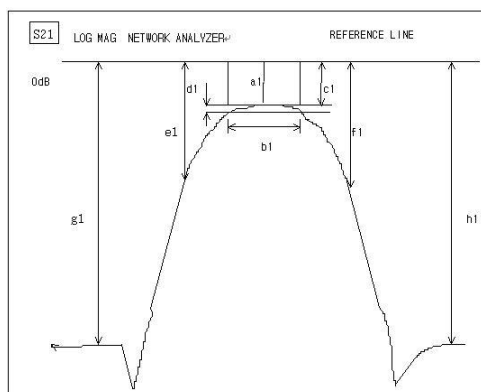
2. PART NUMBER

PART NO	CF-16000015
PACKAGING	PLASTIC TRAY

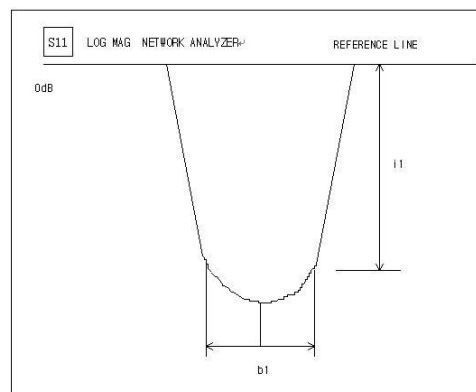
3. SPECIFICATIONS

NO	ITEMS	Ref.	SPECIFICATION
1	Center Frequency (Fo)	a1	1600 MHz
2	3.0dB Band Width	b1	Fo+/-1 MHz min
3	Insertion Loss AT Fo	a1	2.0 dB Max
4	V.S.W.R AT Fo+/-1MHz	-	1.75:1 Min
5	Attenuation [absolute value]	At 53~320 MHz	60 dB Min
		At 420~1280 MHz	40 dB Min
		At 1920~2530 MHz	50 dB Min
		At 2530~3520 MHz	50 dB Min
6	Impedance	-	50Ω
7	Maximum Input Power	-	1 W (+30dBm)
8	Operating Temperature Range	-	-35 ~ +85°C
9	Workmanship		IPC-A-610 Class 3

S21 LOG MAG NETWORK ANALYZER

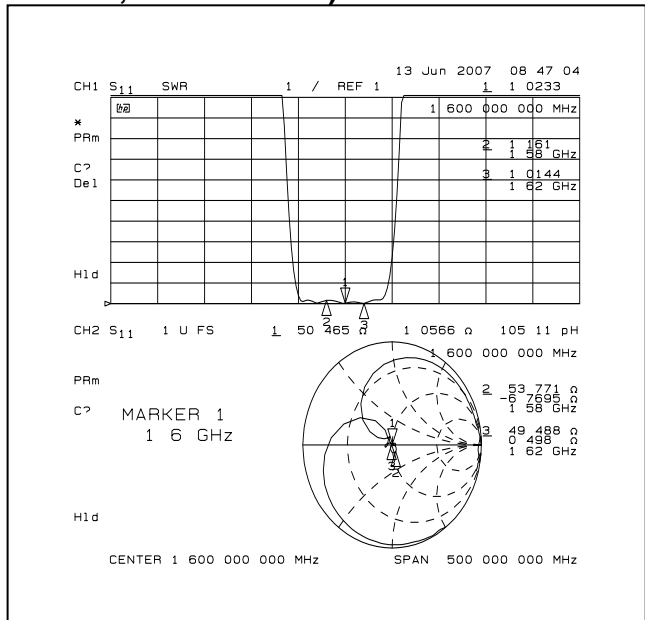
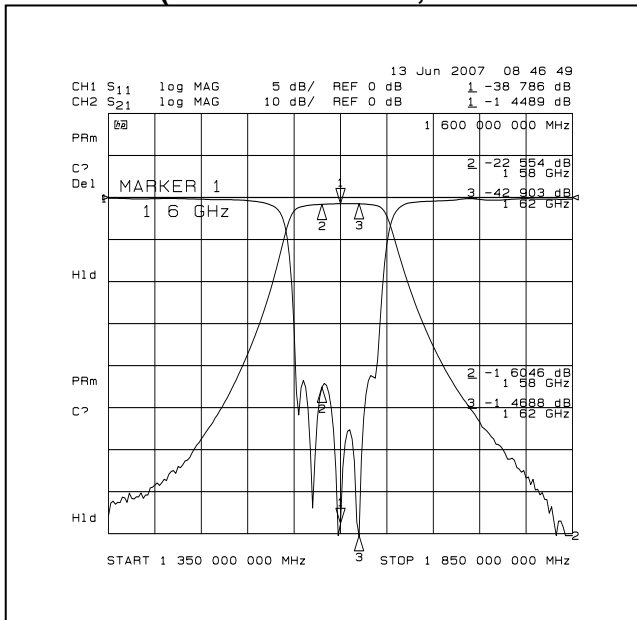


S11 LOG MAG NETWORK ANALYZER

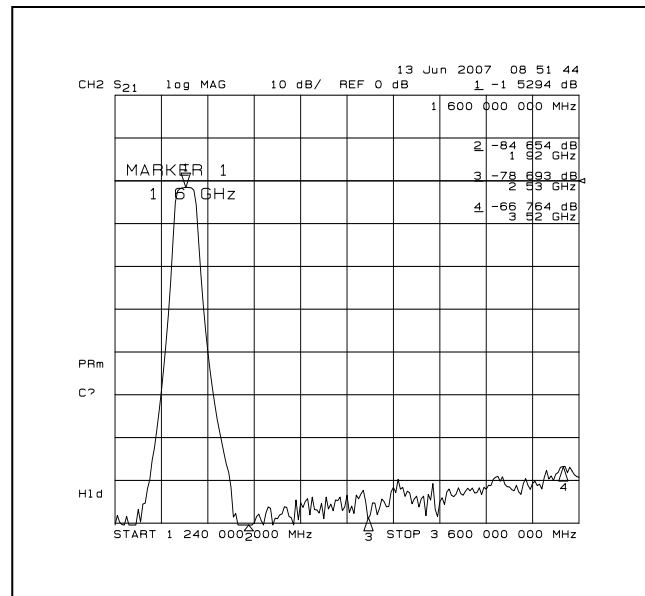
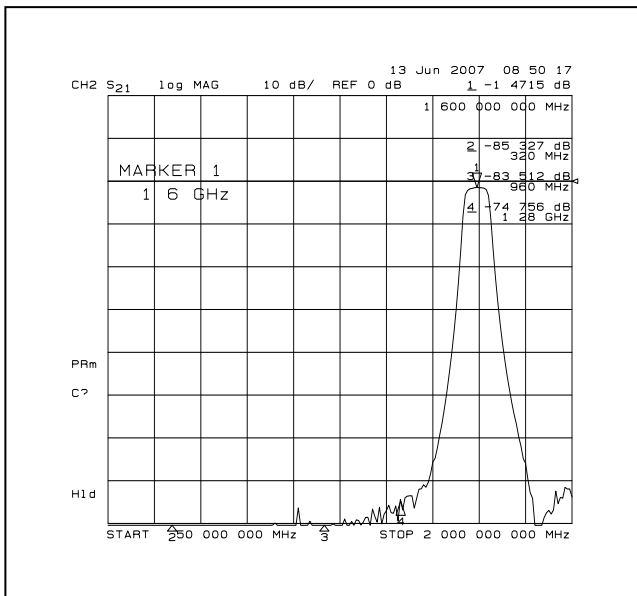


4. GRAPHS

S21 vs S11 (INSERTION LOSS, RETURN LOSS, V.S.W.R, SMITH CHART)



S21 (ATTENUATION)



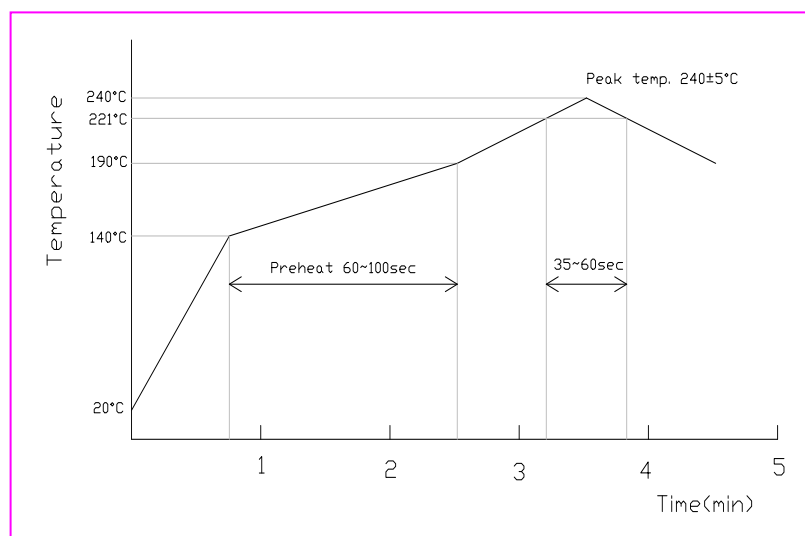
6. DEFINITIONS

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
- Solder Cream: Sn96.5/Ag3.5