

DOC NO : 1 OF 10
 REPERENCE No :
 DATE : MAY 20, 2003

SPECIFICATION FOR APPROVAL

ITEM: DIELECTRIC CERAMIC FILTER
 PART NUMBER: CF-17510105_

CHANGE DATE	2003. .			
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ISSUED	CHECKED	CHECKED	CHECKED	APPROVED
<i>FILTRONETICS Inc.</i>				

1. APPLICATION

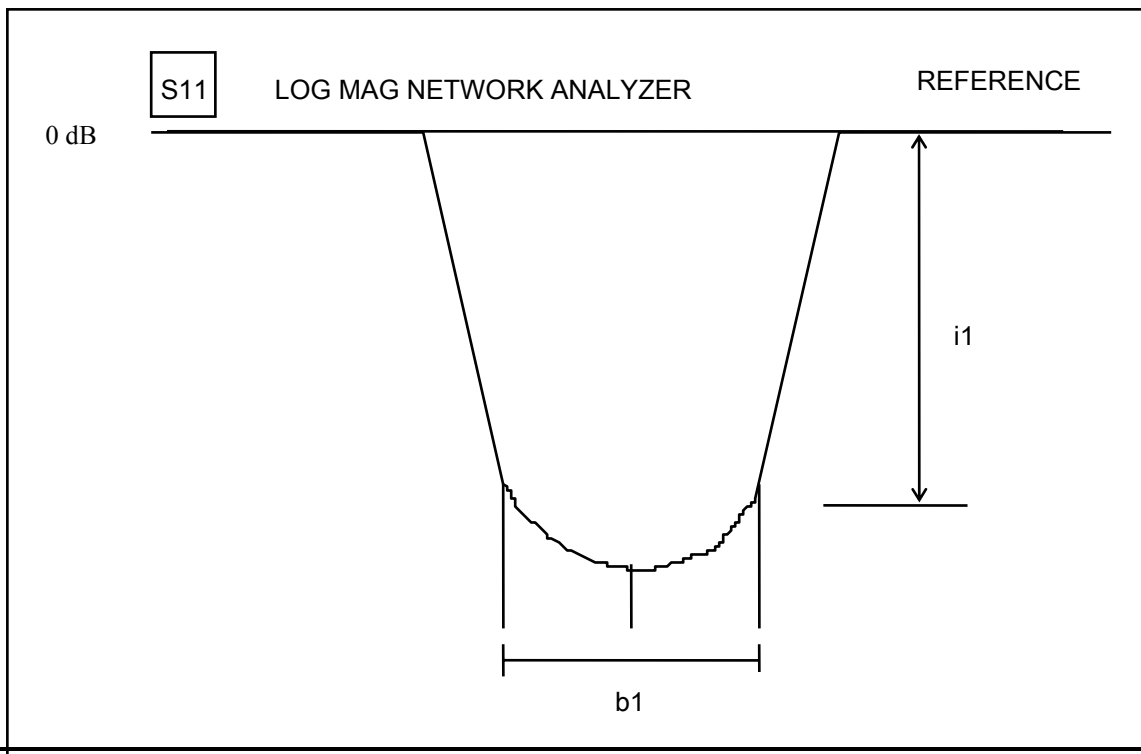
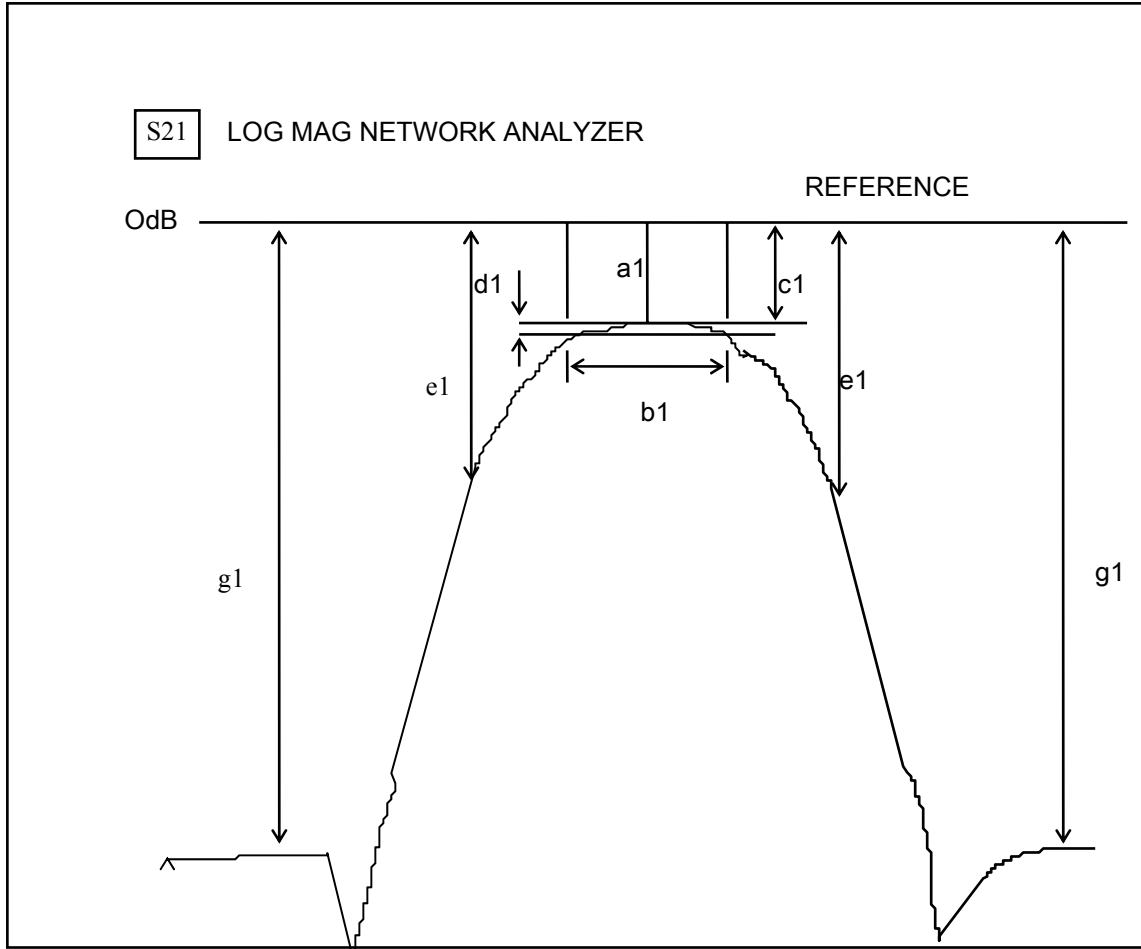
THIS SPECIFICATION APPLIES TO BAND PASS FILTER USING DIELECTRIC RESONATORS.

2. PART NUMBER

PART NO	CF-17510105_
PACKING	PLASTIC TRAY

3. SPECIFICATIONS

1	Center Frequency (fc)	a1	1751 MHz	
2	Band Width(3 dB)	b1	Fo +/- 5 MHz min	
3	Insertion Loss in fc	c1	8.5 dB max	
4	Ripple in fc±1 MHz	d1	1.0 dB max	
5	Attenuation	1631 MHz	g1	80 dB min
		1682 MHz	g1	50 dB min
		1771 MHz	e1	50 dB min
		1852 MHz	g1	60 dB min
			e1	
			e1	
6	Return Loss in fc±1 MHz	i1	14 dB min	
7	Impedance		50Ω	
8	Maximum Input Power		1 W (+30dBm)	
9	Group Delay Variation		ns max	
10	Operating Temperature Range		-20 ~ + 65 degree(°C)	



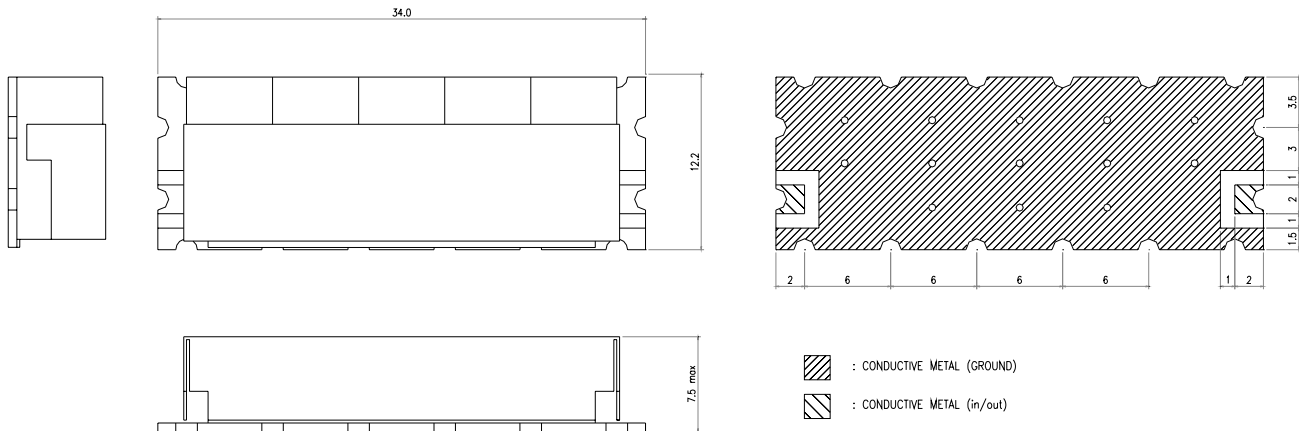
4. SPECIFICATION

CHARACTERISTICS	DESCRIPTION	SPECIFICATION
CENTER FREQUENCY	THE MIDPOINT OF THROUGH BANDPASS FILTER PASSBAND, NORMALLY EXPRESSED AS THE ARITHMETIC MEAN OF THE -3dB 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 -1.0dB 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 POWDER THROUGH A FILTER, MEASURED IN dB, AT DESIRED BAND AND REFERENCED TO 0 dB. (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

UNIT : mm

TOLERANCE : +/- 0.3mm

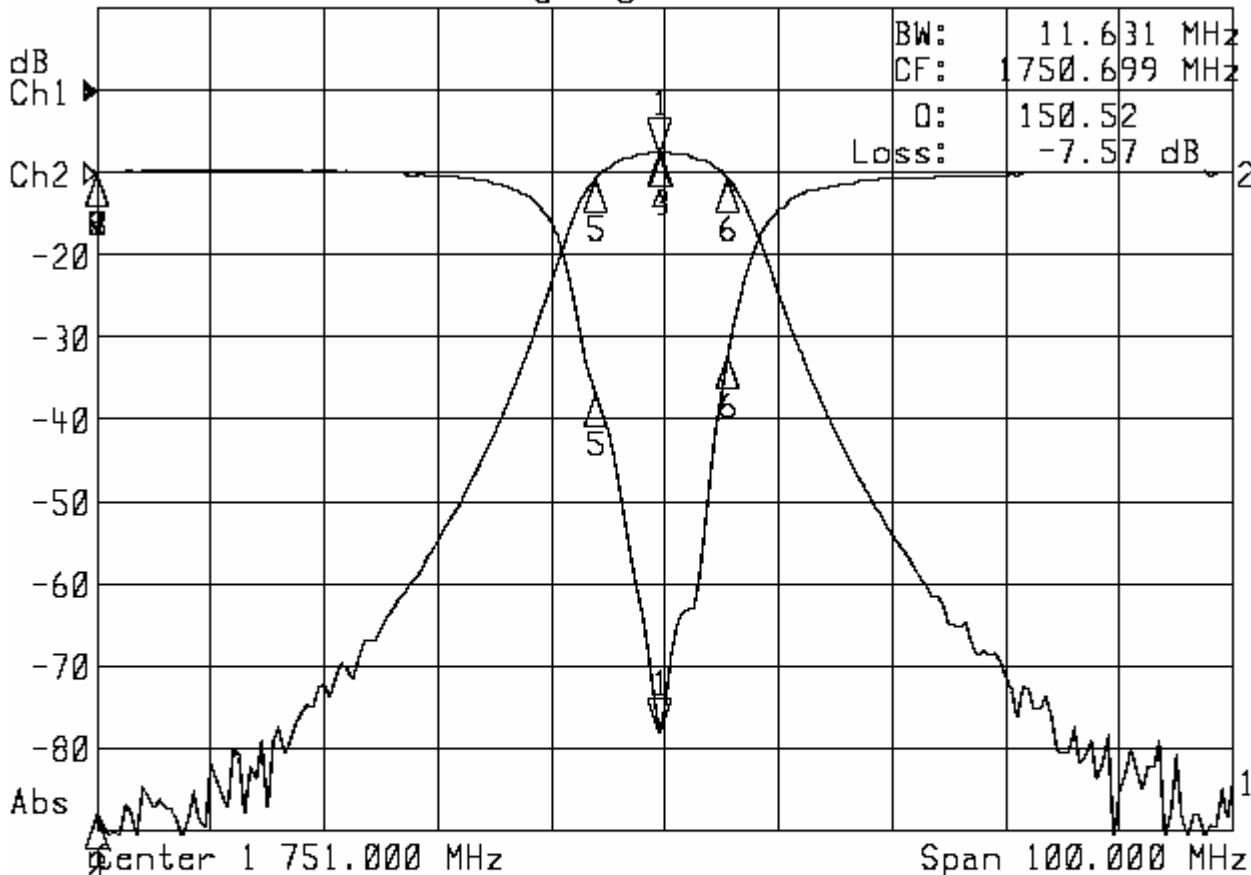


1. PCB MATERIAL : FR-4
2. PCB TERMINAL PLATING MATERIAL : Au
3. CASE : Ni or Sn PLATED BRASS

6. GRAPH

S21 & S11 (3dB band width)

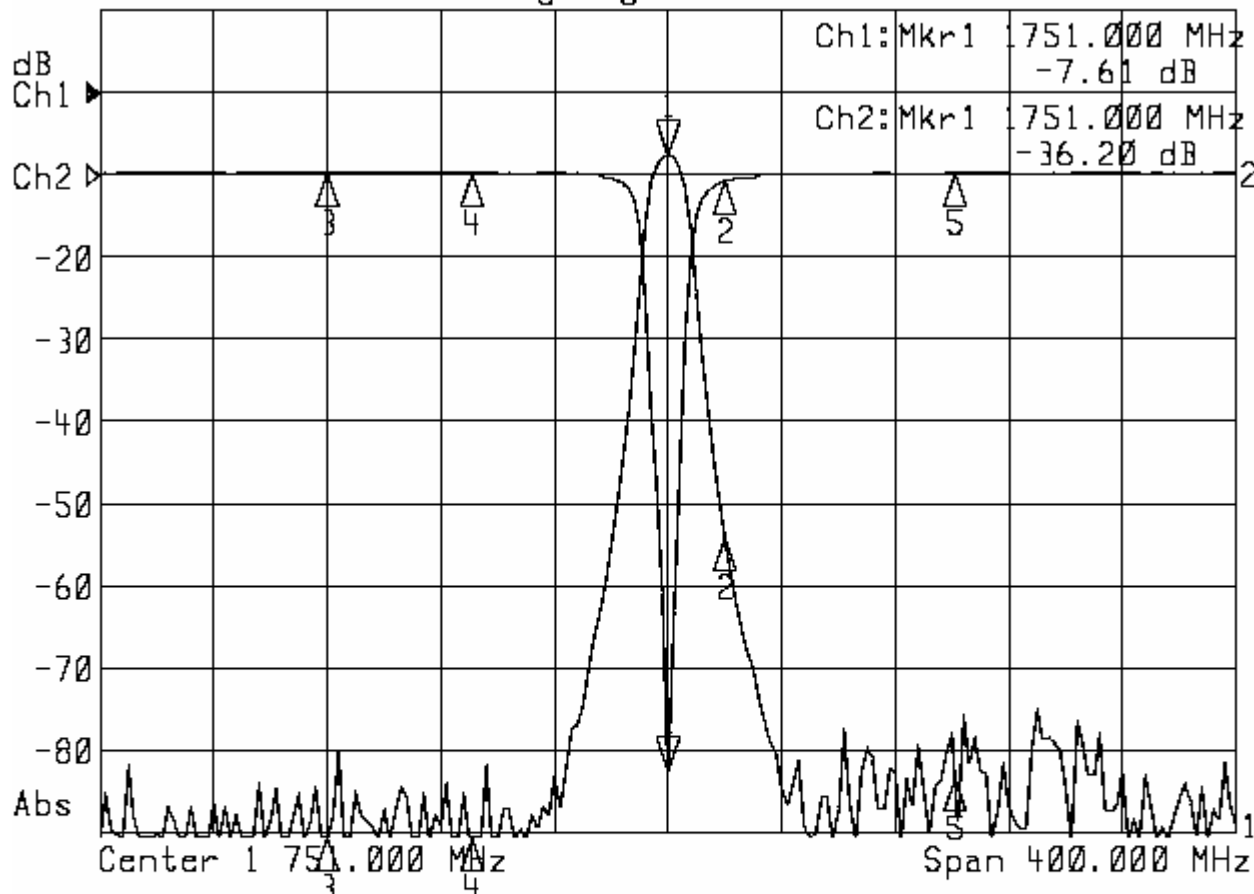
▶1: Transmission Log Mag 10.0 dB/ Ref 0.00 dB C?
 ▶2: Reflection Log Mag 5.0 dB/ Ref 0.00 dB C?



1: Mkr Δ(MHz)	dB	2: Mkr (MHz)	dB
1> 0.00	0.00	1> 1750.50	-34.09
2: -49.50	-80.60	2: 1701.00	0.03
3: 0.20	-0.01	3: 1701.00	0.03
4: -49.50	-80.60	4: 1701.00	0.03
5: -5.62	-3.00	5: 1744.88	-13.41
6: 6.01	-3.00	6: 1756.51	-11.05
		7: 1701.00	0.03
		8: 1701.00	0.03

S21 & S11 (Insertion loss & attenuation)

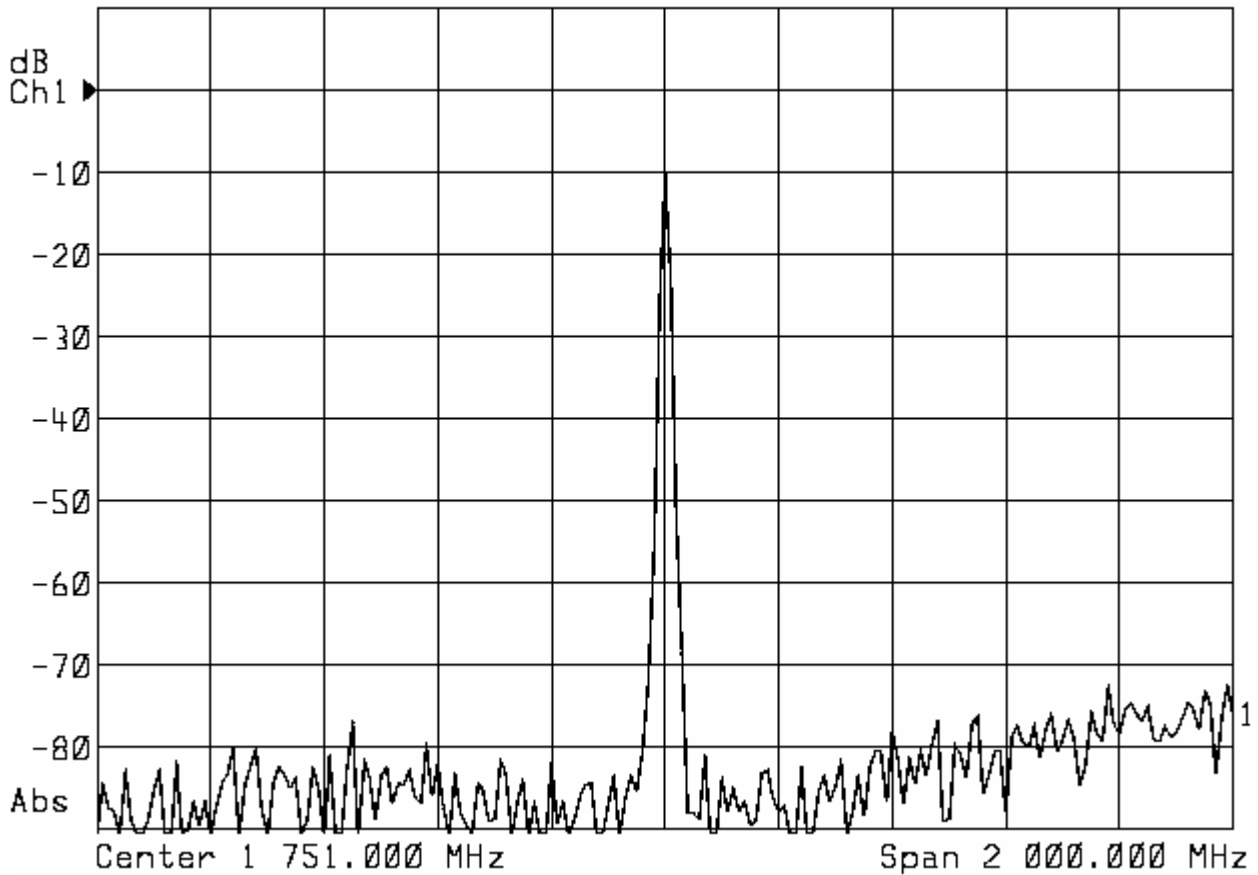
▶1: Transmission Log Mag 10.0 dB/ Ref 0.00 dB C?
 ▶2: Reflection Log Mag 5.0 dB/ Ref 0.00 dB C?



1: Mkr (MHz)	dB	2: Mkr (MHz)	dB
1> 1751.00	-7.61	1> 1751.00	-36.20
2: 1771.00	-54.03	2: 1771.00	-0.37
3: 1631.00	-90.55	3: 1631.00	0.16
4: 1682.00	-94.68	4: 1682.00	0.12
5: 1852.00	-83.34	5: 1852.00	0.12

S21 & S11 (Outband attenuation)

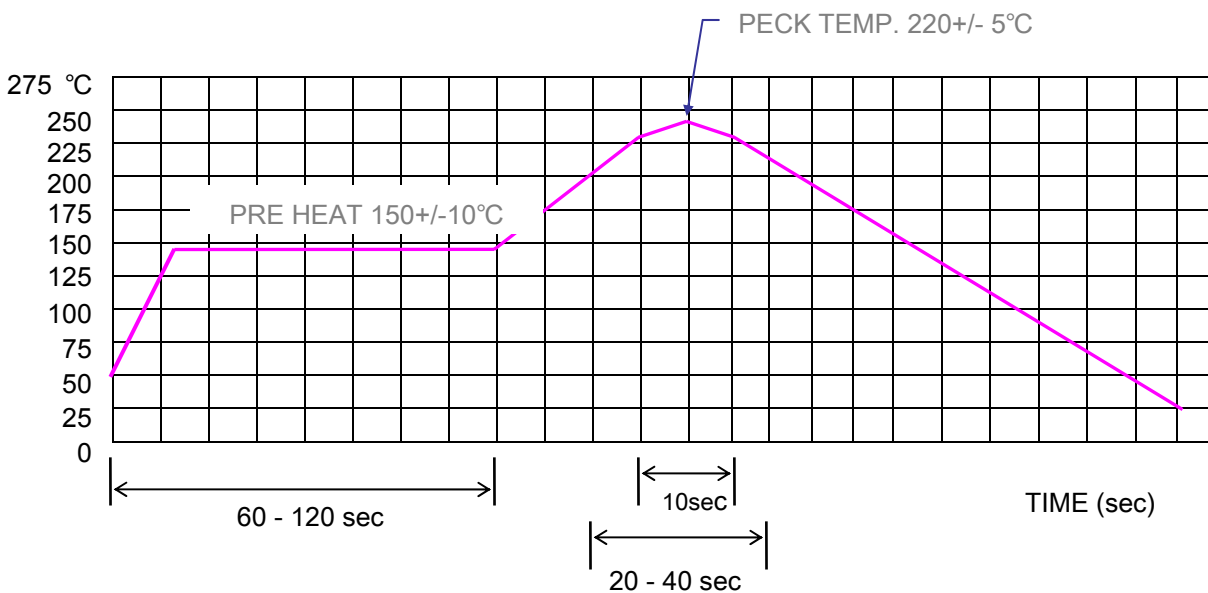
▶1: Transmission Log Mag 10.0 dB/ Ref 0.00 dB C
▶2: Off



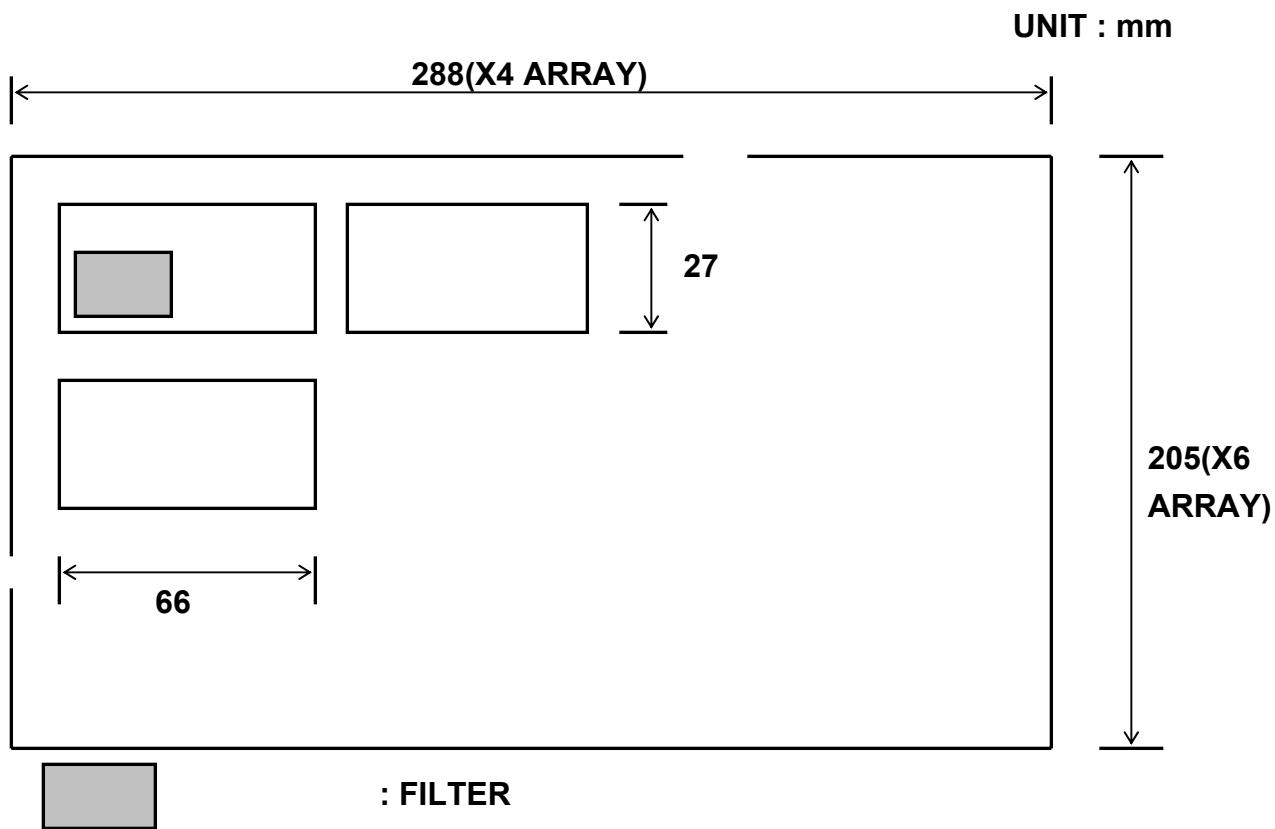
7. RELIABILITY TEST AND CONDITIONS

ITEM	TEST CONDITIONS	REQUIREMENTS
Operating Temp. range		- 20°C ~ + 65°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 : - 40°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 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



9. PACKING DIMENSION



- 1. MATERIAL : ABS
- 2. HEIGHT : 7.7 mm