SPECIFICATION FOR APPROVAL

COMMERCIALLY AVAILABLE

ITEM: DIELECTRIC CERAMIC FILTER
PART NUMBER: CF-12370403

CHANGE DATE	2003. .			
	2003. .			
	2003. .			
	2003. .			
	2003. .			
	2003. .			
ISSUED	CHECKED	CHECKED	CHECKED	APPROVED

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1. APPLICATION

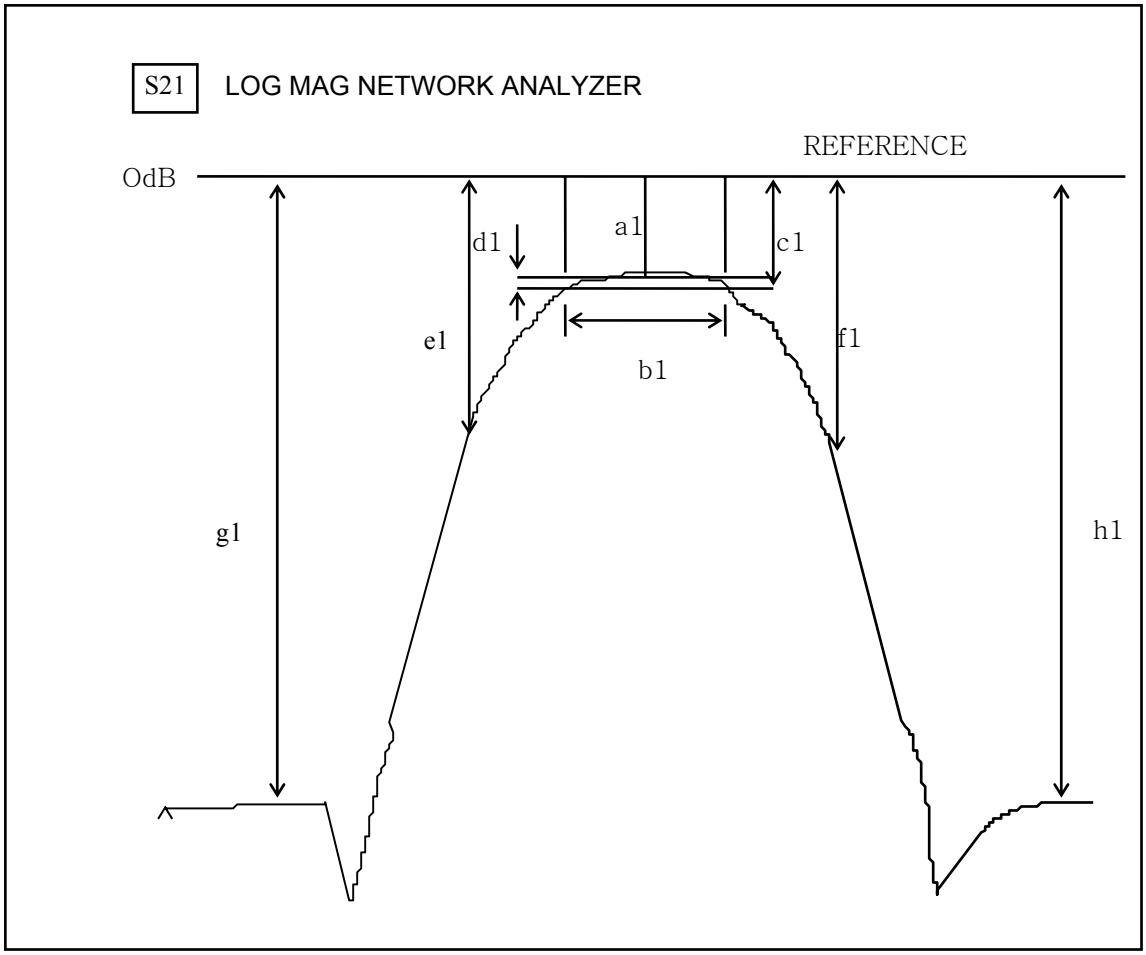
THIS SPECIFICATION APPLIES TO A BAND PASS FILTER USING DIELECTRIC RESONATORS.

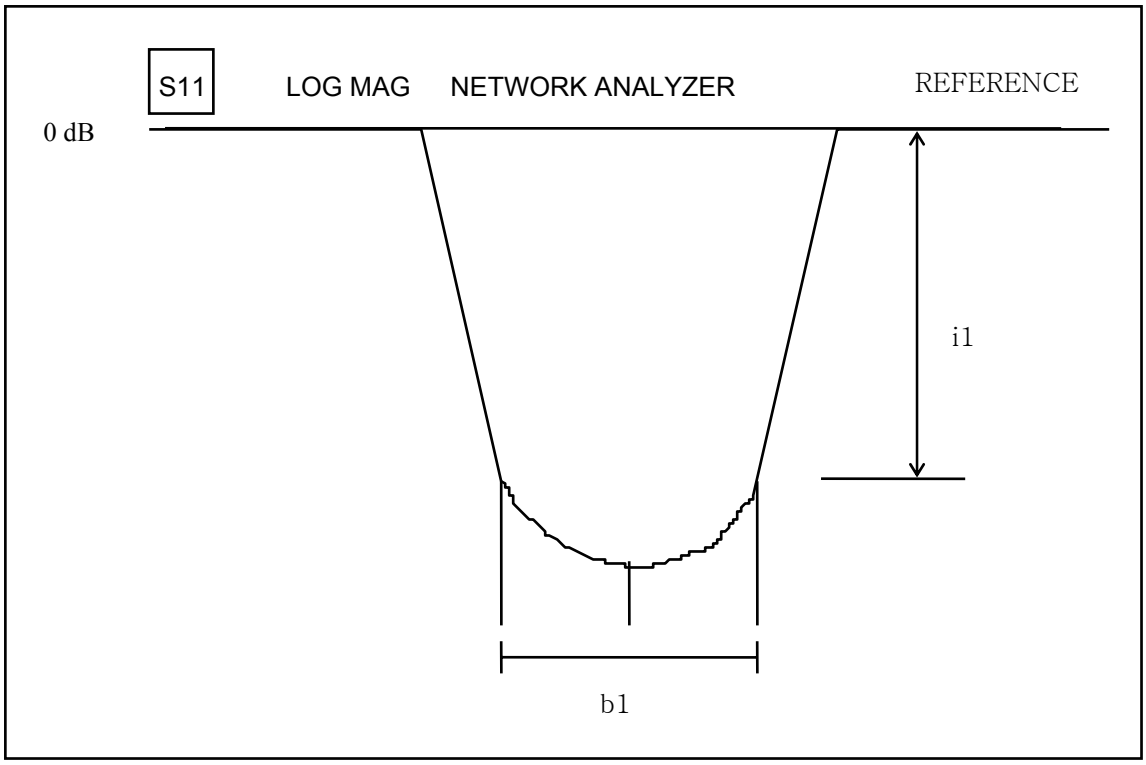
2. PART NUMBER

PART NO	**CF-12370403**
PACKING	**PLASTIC TRAY**

3. SPECIFICATIONS

1	**Center Frequency (fo)**		**a1**	**1237 MHz**
2	**Pass Band Width (PB)**		**b1**	**Fo +/- 20 MHz**
3	**Insertion Loss at Fo**		**c1**	**1.4 dB max**
4	**Ripple in PB**		**d1**	**0.8 dB max**
5	**Attenuation**	**AT 850 ~ 950MHz**	**e1**	**50 dB min**
		AT 1565 ~ 1614MHz	**f1**	**30 dB min**
		AT 1850~2200	**h1**	**45 dB min**
		-	**-**	**- dB min**
6	**Return Loss in PB**		**i1**	**10 dB min**
7	**Impedance**			**50Ω**
8	**Maximum Input Power**			**1 W (+30dBm)**
9	**Group Delay Time variation in PB**			**2 ns max**
10	**Operating Temperature Range**			**-40 - +70 °C**


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


S11
LOG MAG NETWORK ANALYZER
REFERENCE
0 dB
i1
b1

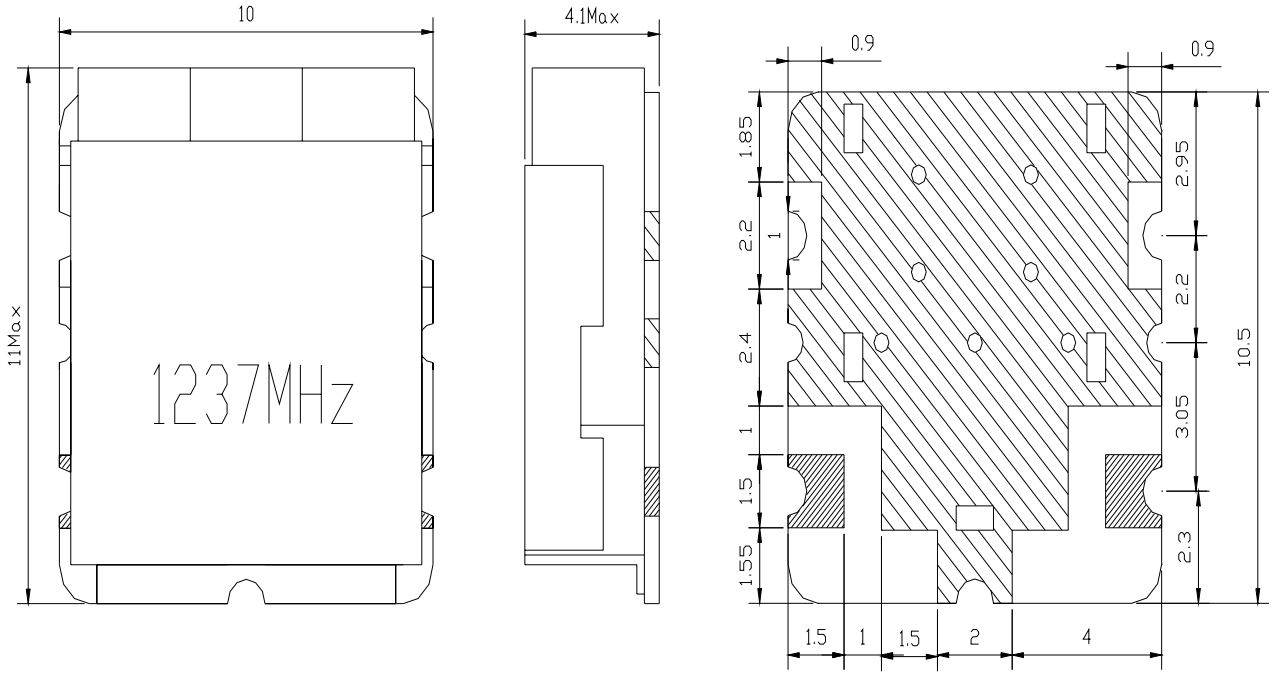
4. SPECIFICATION

CHARACTERISTICS	DESCRIPTION	SPECIFICATION
CENTER FREQUENCY	THE MIDPOINT OF THROUGH BANDPASS FILTER PASSBAND, NORMALLY EXPRESSED AS THE ARITHMETIC MEAN OF THE -3dB POINT. ALSO CALLED Fo.	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 THE MAXIMUM 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 RELATIVE TO LOSS OF FILTER AT CENTER FREQUENCY.	
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 : +/- 0.3 mm



▨ CONDUCTIVE METAL(IN/OUT)

▧ CONDUCTIVE METAL(GROUND)

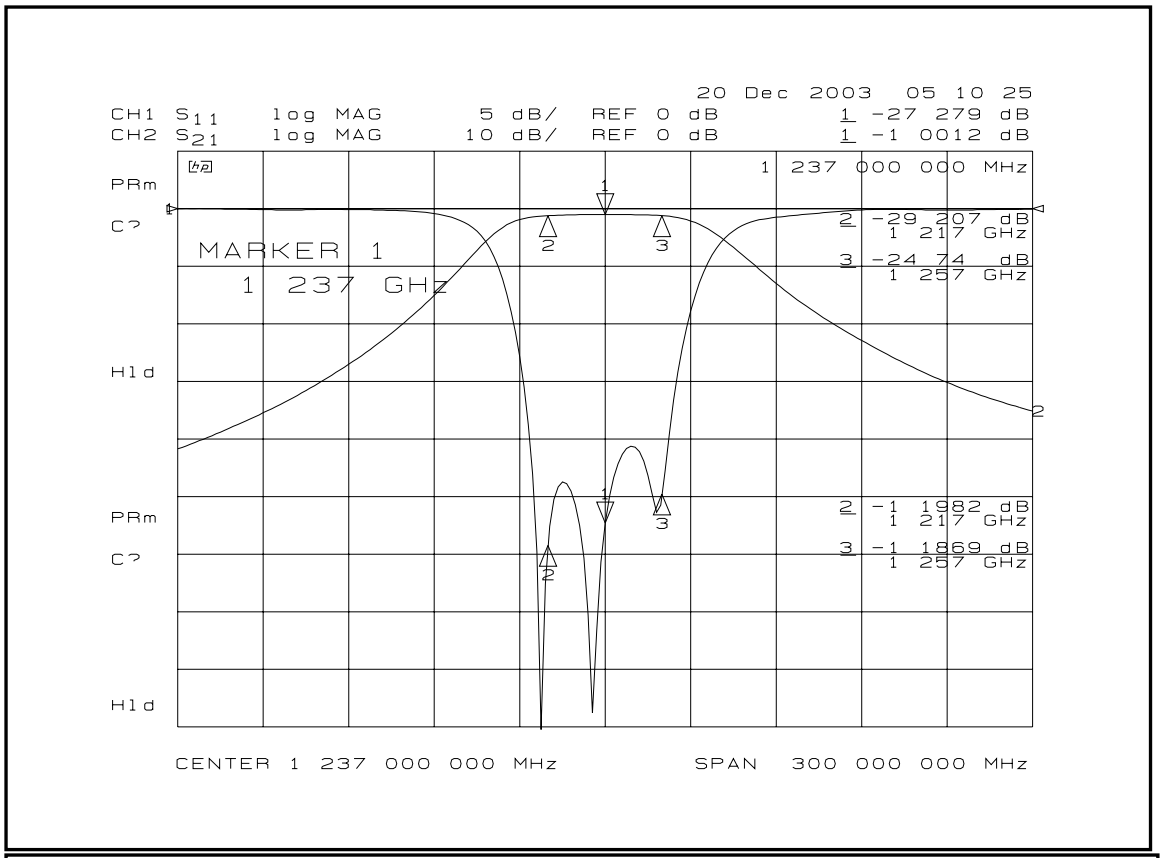
※ Note : The number of through holes may be changed without notice.

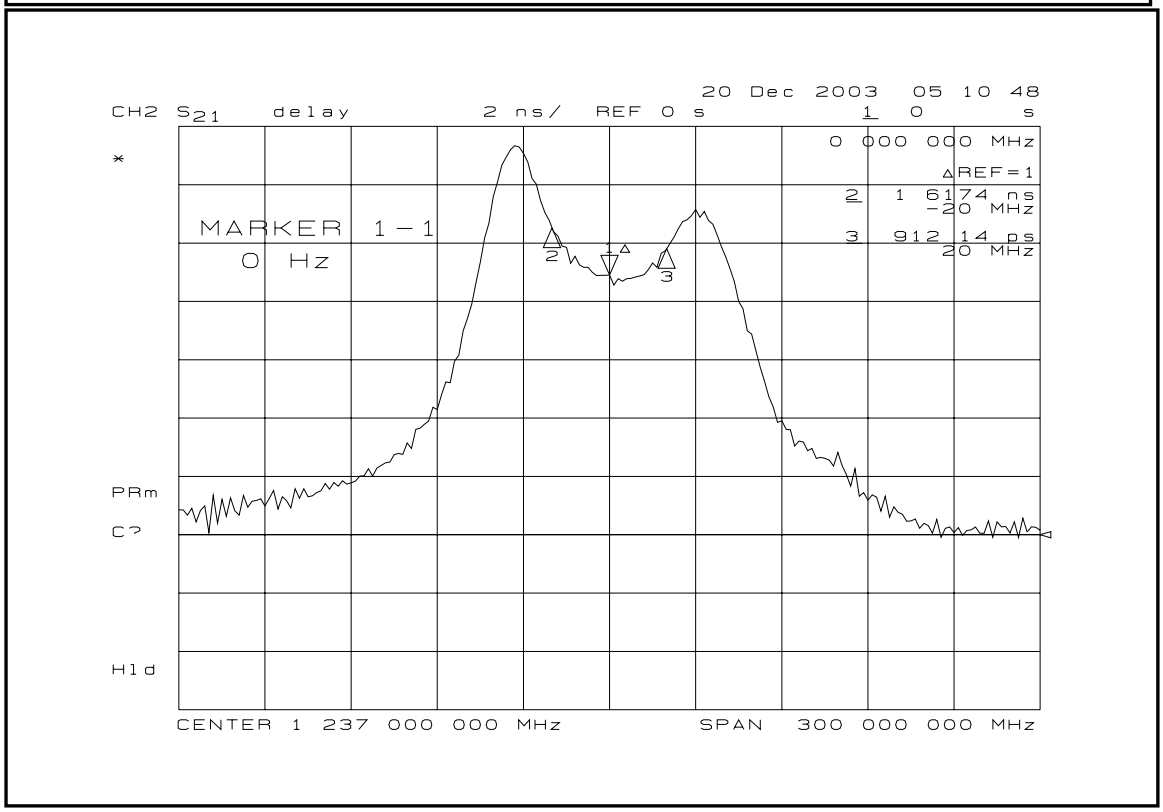
※ Mechanical Specifications

1. Resonators : Dielectric Resonator
2. Number of Poles: 3poles
3. Input/Output Terminals : Resin board (Gold on copper under-coating)
4. Cover Material : Brass (tin plated (Sn-PB or NI))

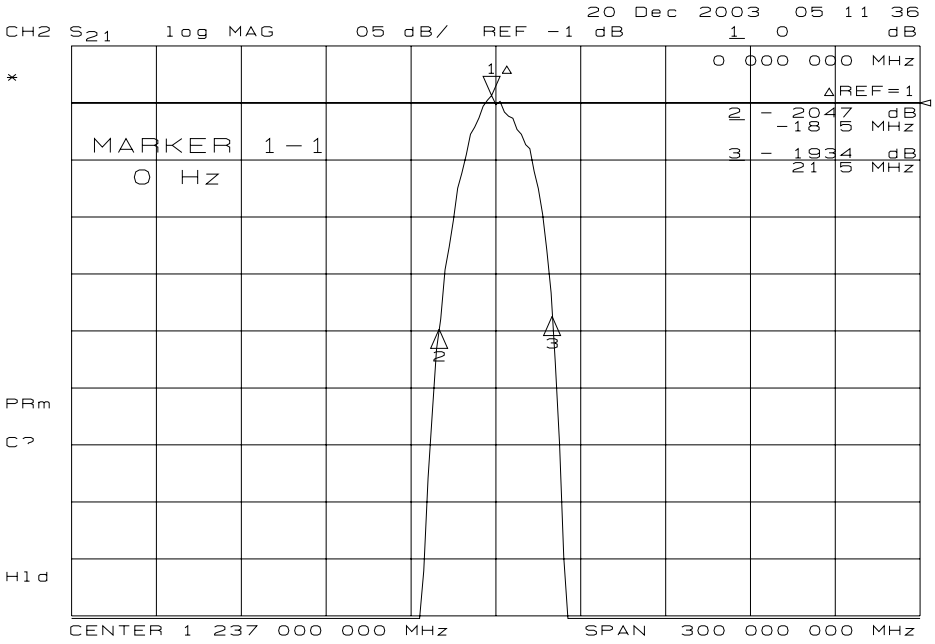
6. GRAPH

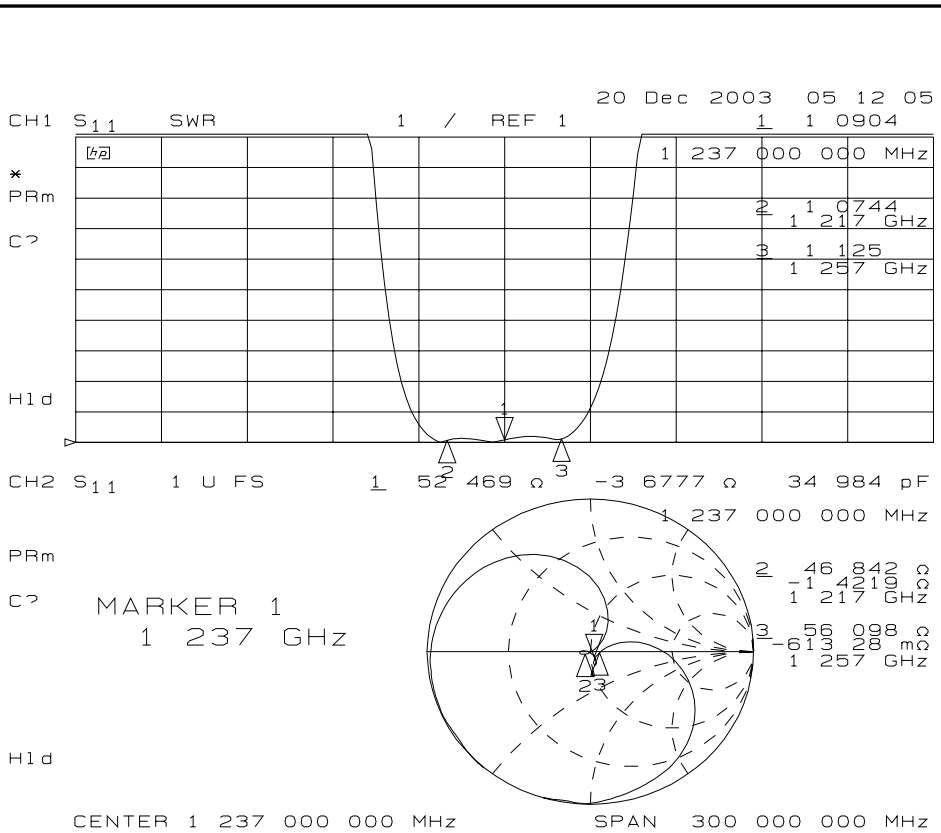
S21 & S11 (INSERTION LOSS, RETURN LOSS, GROUP DELAY)



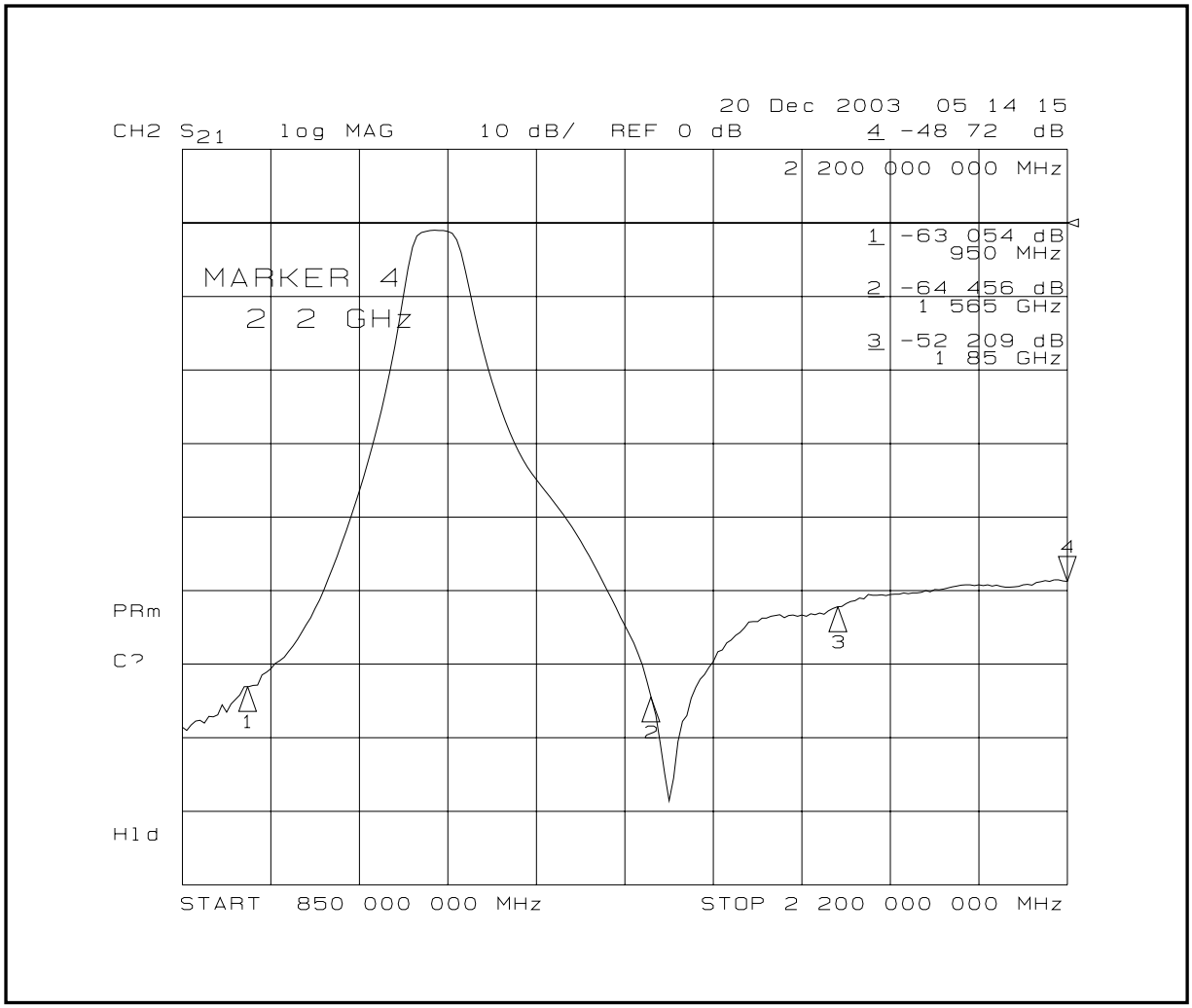


S21VS S11 (RIPPLE , V.S.W.R,SMITH CHART)





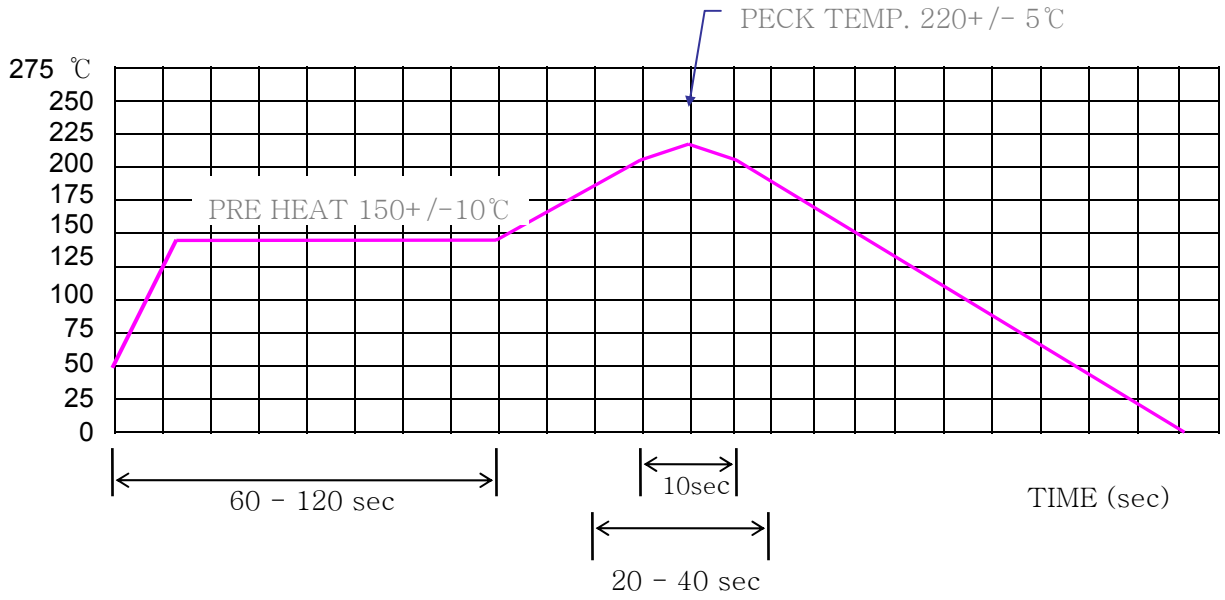
S21 (ATTENUATION)



7. RELIABILITY TEST AND CONDITIONS

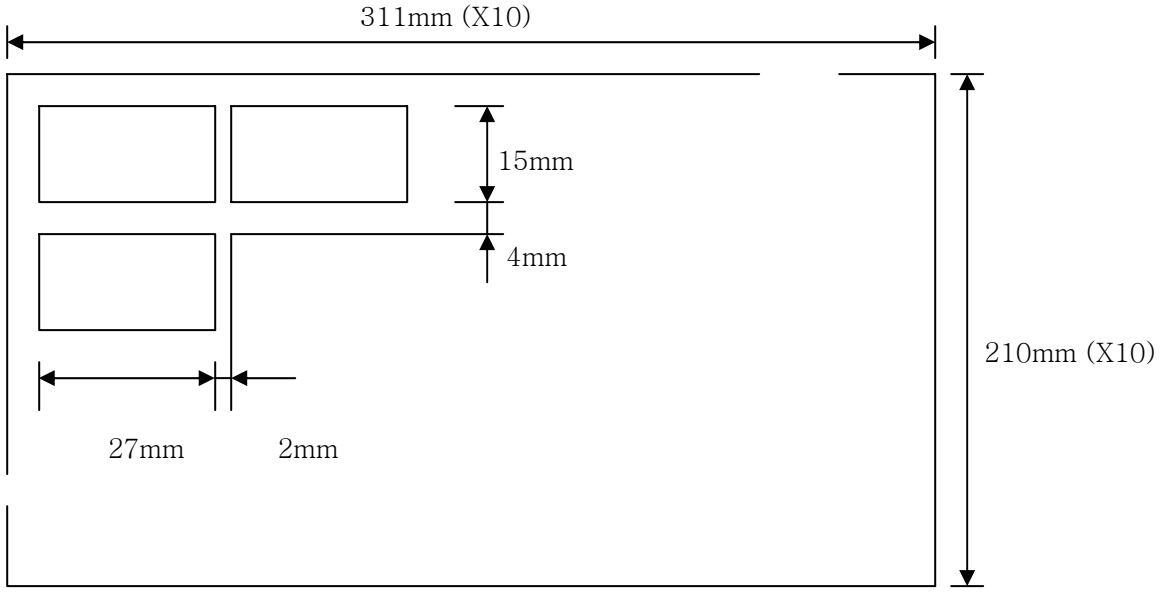
ITEM	TEST CONDITIONS	REQUIREMENTS
Operating Temp. range		- 20℃ ~ + 70℃
Resistance to solder heat	Preheat temperature : 120 to 150℃ Preheat time : 1 to 1.5 min Solder temperature : 260 +/- 10℃ Dipping time : 10 +/- 0.5 sec	No damage such as cracks should Be caused in chip element.
Solderability	Preheat 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 : 85 +/- 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 : + 85℃ 15 min Step 2 : - 30℃ 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



9. PACKING DIMENSION

9. 1 PLASTIC TRAY



HEIGHT : 5.4mm

MATERIAL : ABS