SPECIFICATION

COMMERCIALLY AVAILABLE

ITEM: DIELECTRIC CERAMIC FILTER

PART NUMBER: CF-18870304

Revision Made: 9/11/09 Changed Insertion Loss from 3.5dB to 3.8dB and Case plating from Sn/Pb to Sn

9/29/10 Changed PCB

ISSUED	CHECKED	CHECKED	CHECKED
8/14/09 ds 9/11/09 pm 9/29/10 kn	**9/23/2010 SRJ** **9/30/2010 SRJ**	9/23/2010 BF 9/30/2010 BF	

***FILTRO**NETICS Inc*

1. APPLICATION

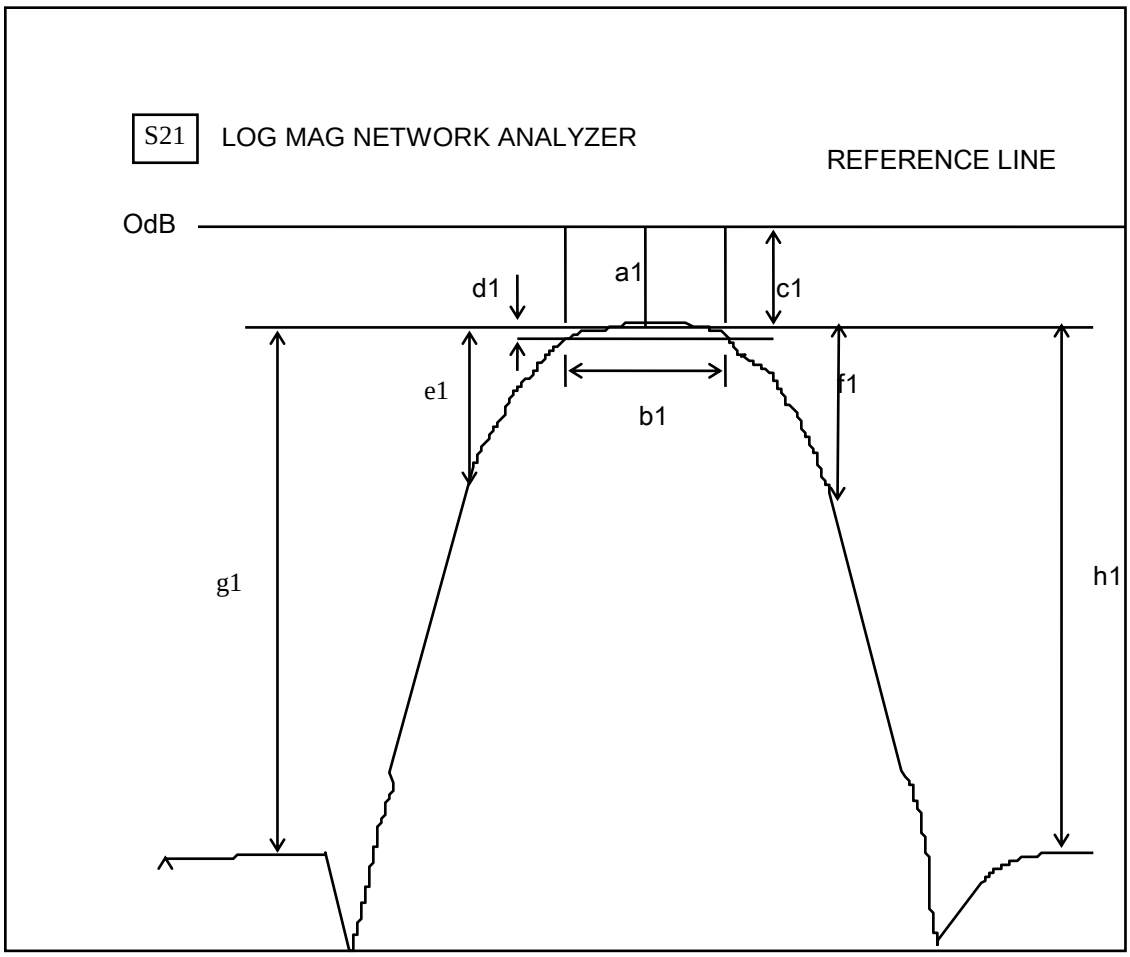
THIS SPECIFICATION APPLIES TO BAND PASS FILTER USING DIELECTRIC RESONATORS.

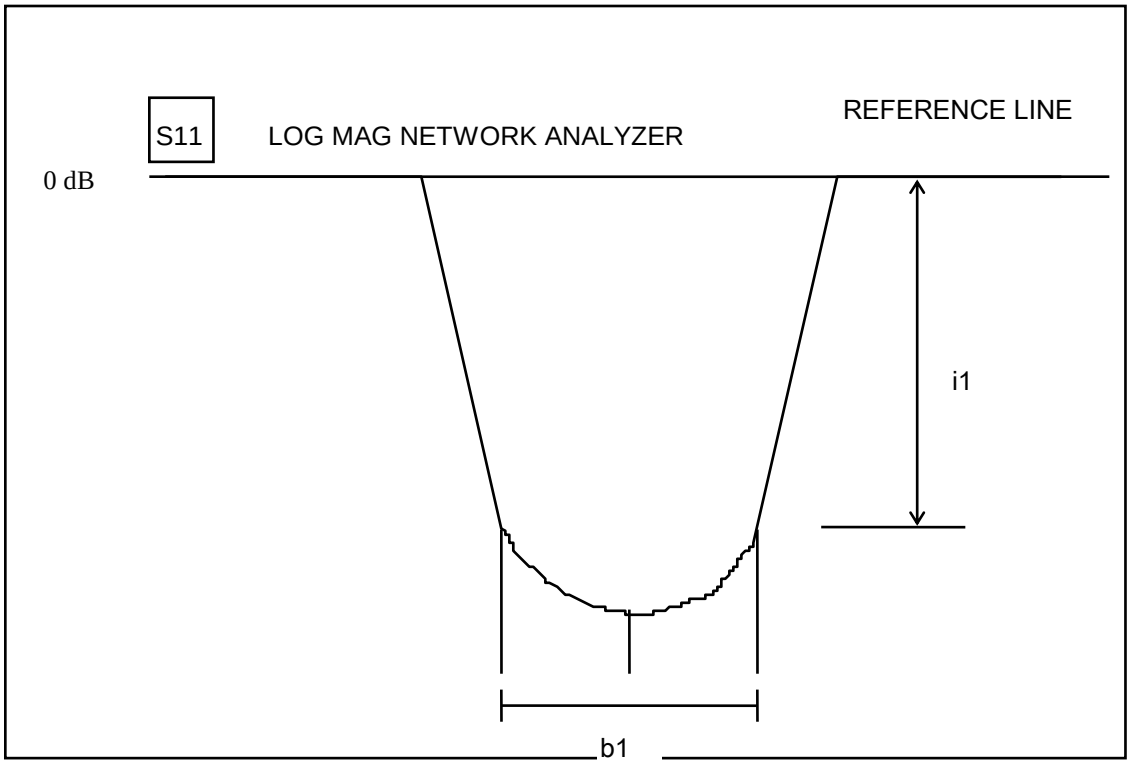
2. PART NUMBER

PART NO	**CF-18870304**
PACKING	**PLASTIC TRAY**

3. SPECIFICATIONS

1	**Center Frequency (Fo)**		**a1**	**1887.5 MHz**
2	**3 dB Band Width (PB)**		**b1**	**30 MHz Min**
3	**Ripple IN Fo+/-10 MHz**		**d1**	**0.7dB Max**
4	**V.S.W.R IN Fo+/-10 MHz**		**b1**	**1.7:1 Max**
5	**Insertion Loss AT Fo**		**b1**	**3.8 dB Max**
6	**Stopband**	**40 dB bandwidth**	**e1~f1**	**130 MHz Max**
7	**Impedance**			**50Ω**
8	**Maximum Input Power**			**1 W (+30 dBm)**
9	**Group Delay Time in PB**			**nSec max**
10	**Operating Temperature Range**			**-20 ~ +70 °C**


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

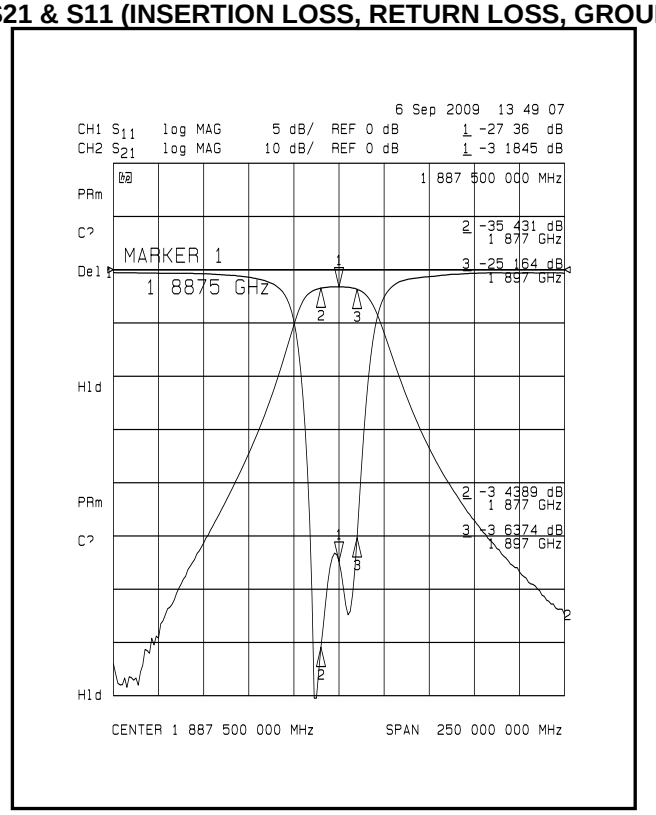

S11
LOG MAG NETWORK ANALYZER
REFERENCE LINE
0 dB
i1
b1

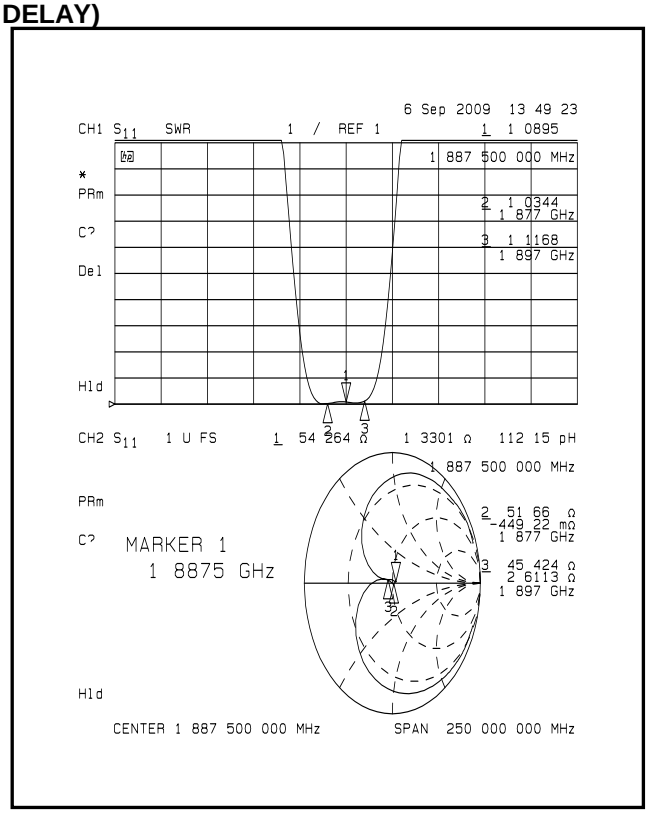
4. SPECIFICATION:

CHARACTERISTICS	DESCRIPTION	SPECIFICATION
CENTER FREQUENCY	THE MIDPOINT OF THROUGH BANDPASS FILTER PASSBAND, NORMALLY EXPRESSED AS THE ARITHMETIC MEAN OF THE -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 –0.5dB 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 Fo (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.	

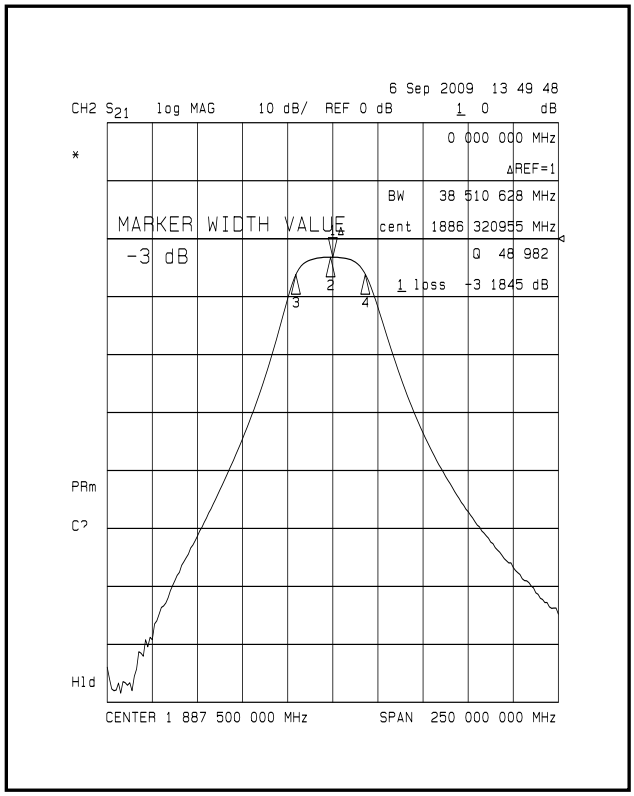
5. GRAPHS:

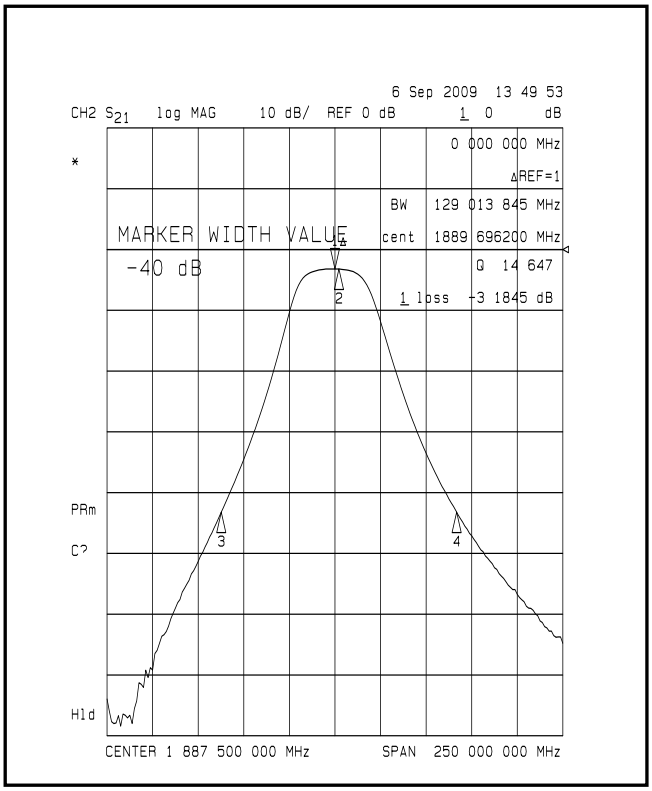
S21 & S11 (INSERTION LOSS, RETURN LOSS, GROUP DELAY)



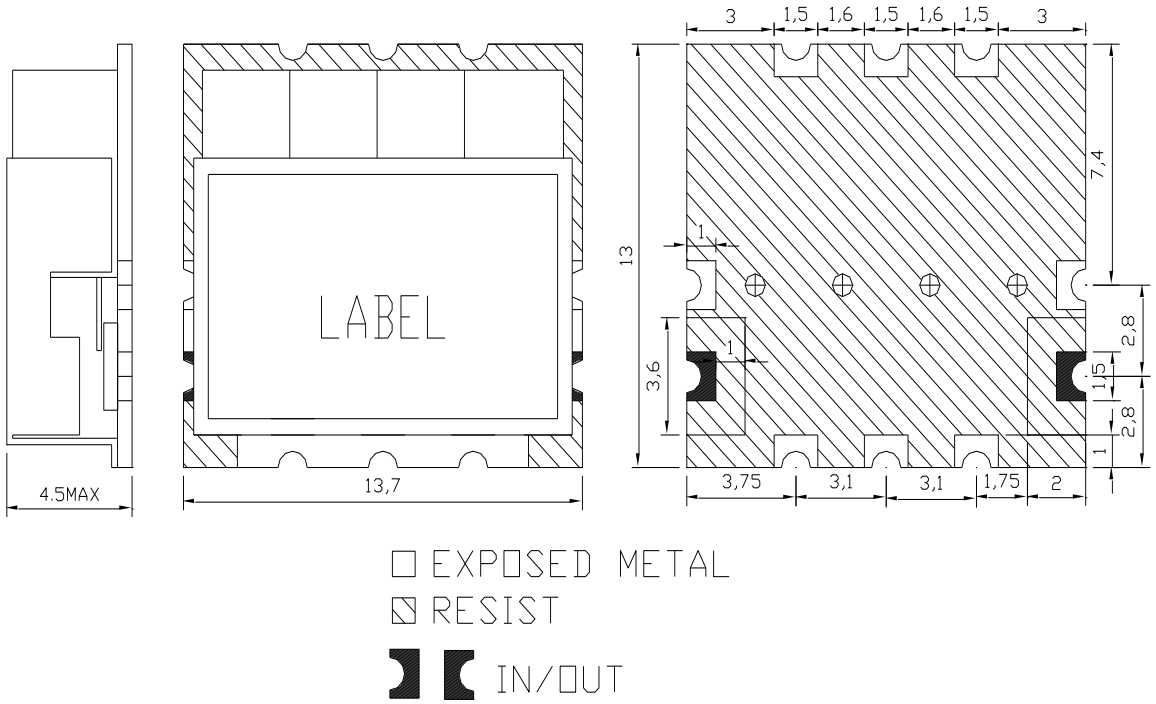


S21 (3.0DB BAND WIDTH, ATTENUATION)





6. DIMENSIONS:



1. PCB
    1) MATERIAL : FR-4
    2) TERMINALS : Gold PLATED
    Changed PCB Sept 28, 2010
2. CASE
    1) MATERIAL : Sn or Ni PLATED
    Changed Sn/Pb to Sn Sept 11, 2009
3. RESONATOR
    1) COATING MATERIAL: Ag

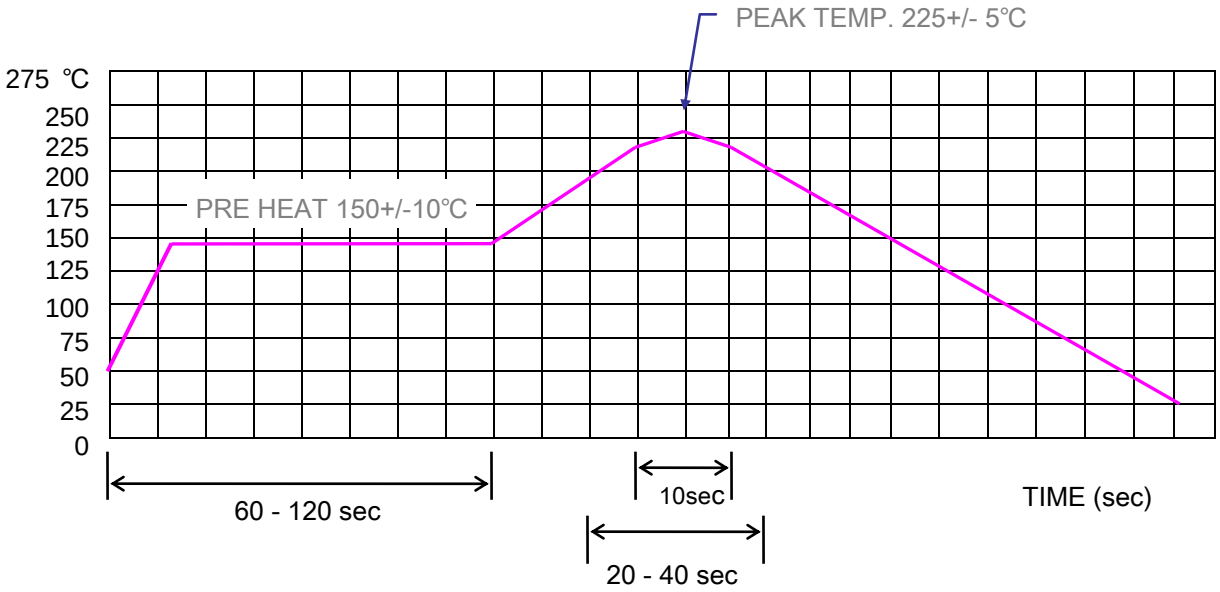
MARKING
CF-18870304
Filtronetics
Date Code

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

7. RELIABILITY TEST AND CONDITIONS

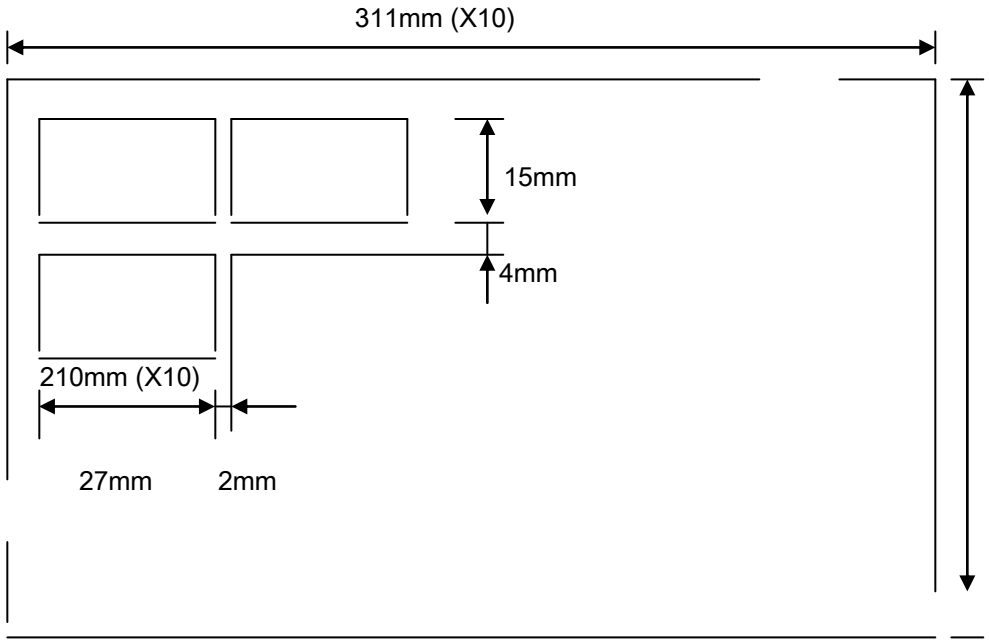
ITEM	TEST CONDITIONS	REQUIREMENTS
Operating Temp. range		- 20℃ ~ + 75℃
Resistance to solder heat	Preheat temperature : 120 to 150℃ Preheat time : 1 to 1.5 min Solder temperature : 260 +/- 10℃ Dipping time : 10 +/- 0.5 sec	No damage such as cracks should Be caused in chip element.
Solderability	Preheat 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



9. PACKING DIMENSION

9. 1 PLASTIC TRAY



HEIGHT: 5.4mm

MATERIAL: ABS