

DCAH0S00

Dielectric Antenna (10×4×1.5mm)



This specification covers the dielectric antenna for WLAN a, b, g.

Product Specifications

Working Frequency 2400~2500 MHz ; 4900~5850 MHz

Dimension 10×4.0×1.5 mm

VSWR: 2.5 max @2450~2500MHz

3.0 max@4900~5850MHz

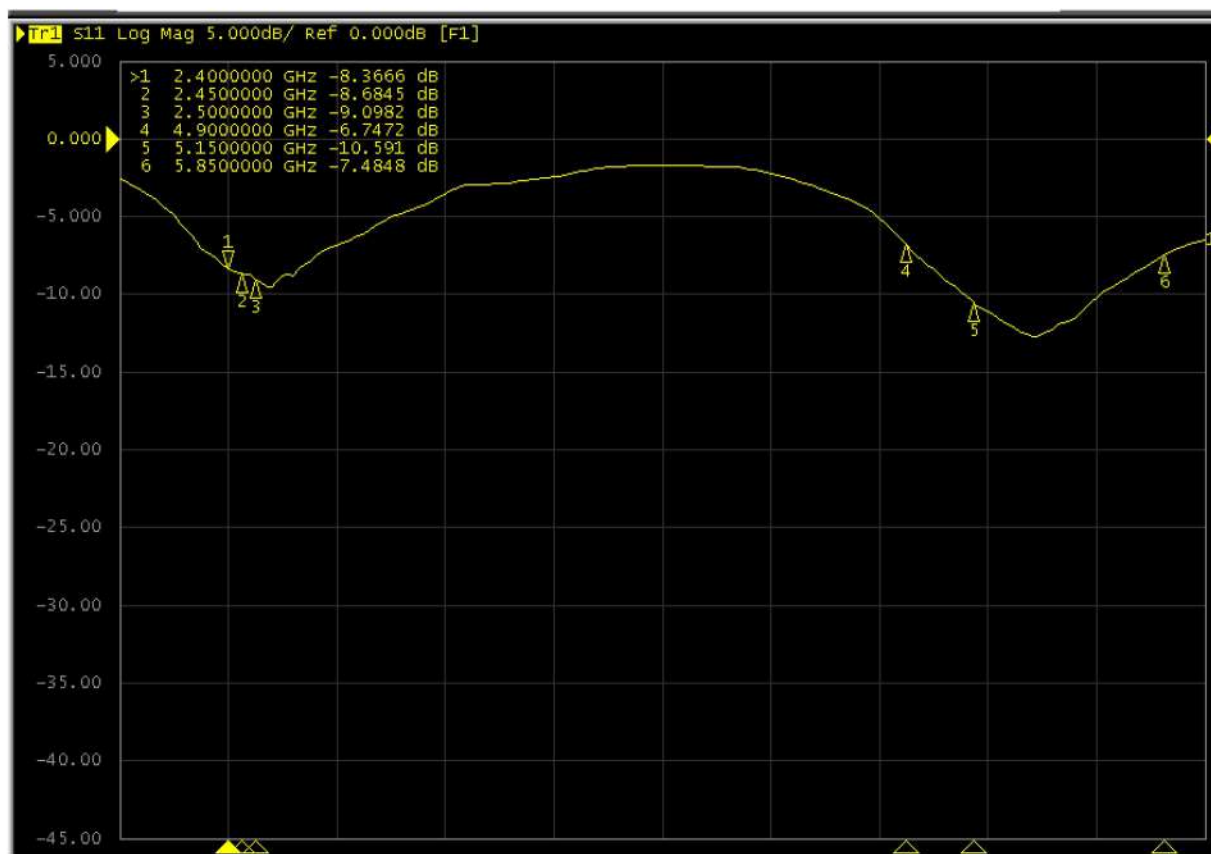
Polarization: Linear

Impedance: 50 Ohm

Operating Temperature: -30~85°C

Termination: Ag (Environmentally-Friendly Pb Free)

Response Curve



Antenna Gain Data

Band	WIFI (MHz) (free space)					
	2400	2450	2500	4900	5150	5825
Peak Gain (dBi)	2.78	2.91	3.00	1.05	2.32	4.91
Average Gain (dBi)	-1.70	-1.64	-1.60	-2.13	-1.25	-1.74
Efficiency (%)	67.48	68.42	69.11	61.36	74.95	66.89

Environmental Conditions

Operating conditions

The antenna has the electrical characteristics given in Tables 1 in the temperature range of -30°C to $+85^{\circ}\text{C}$ and under the environmental conditions of $+40^{\circ}\text{C}$ and 0-95% r.h..

Storage temperature range

The storage temperature range of product is -30°C to $+85^{\circ}\text{C}$

Reliability Tests

Low-temperature test

Expose the specimen to -30°C for 500 hours and then to normal temperature/humidity for 24 hours or more. After this test, examine its appearance and functions.

High-temperature test

Expose the specimen to $+85^{\circ}\text{C}$ for 500 hours and then to normal temperature/humidity for 24 hours or more. After this test, examine its appearance and functions.

High-temperature/high-humidity test

Subject the object to the environmental conditions of $+85^{\circ}\text{C}$ and 90-95% r.h. for 96 hours, then expose to normal temperature/humidity for 24 hours or more. After this test, examine its appearance and functions.

Thermal shock test

Subject the object to cyclic temperature change (-30°C , 30 minutes \leftrightarrow $+85^{\circ}\text{C}$, 30 minutes) for 5 cycles, then expose to normal temperature/humidity for 24 hours or more.

Vibration test

Sinusoidal vibration test

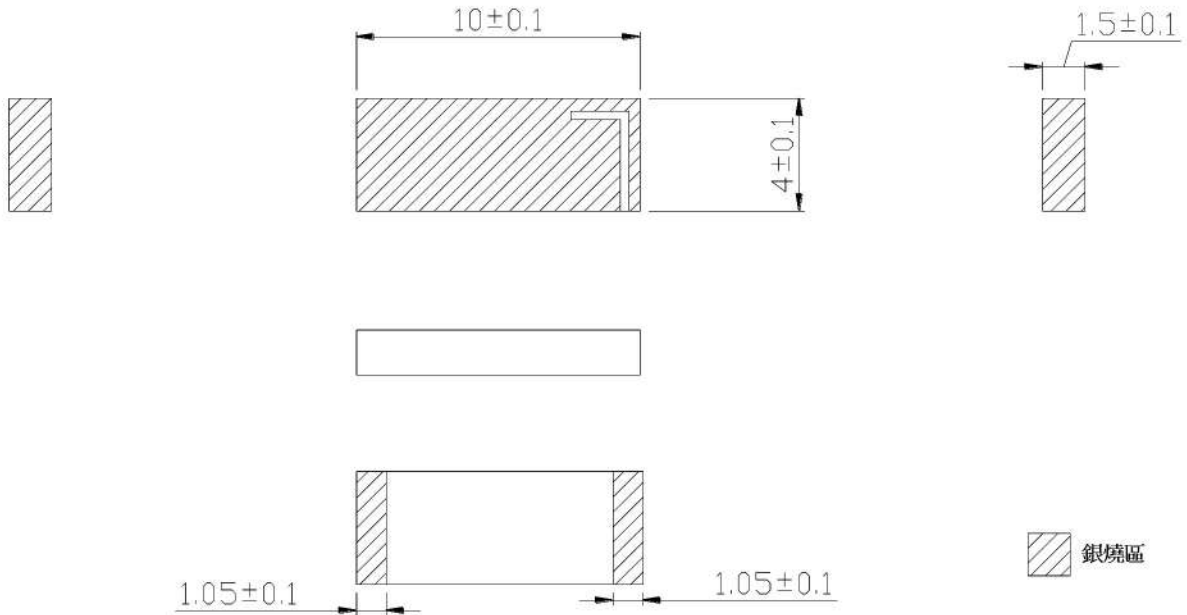
Subject the object to vibrations of 5 to 200 to 5Hz swept in 10 minutes, 4.5G at maximum (2mm amplitude), in X and Y directions for two hours each and in Z direction for four hours. After this test, examine its appearance functions.

Vibration test in packaged condition

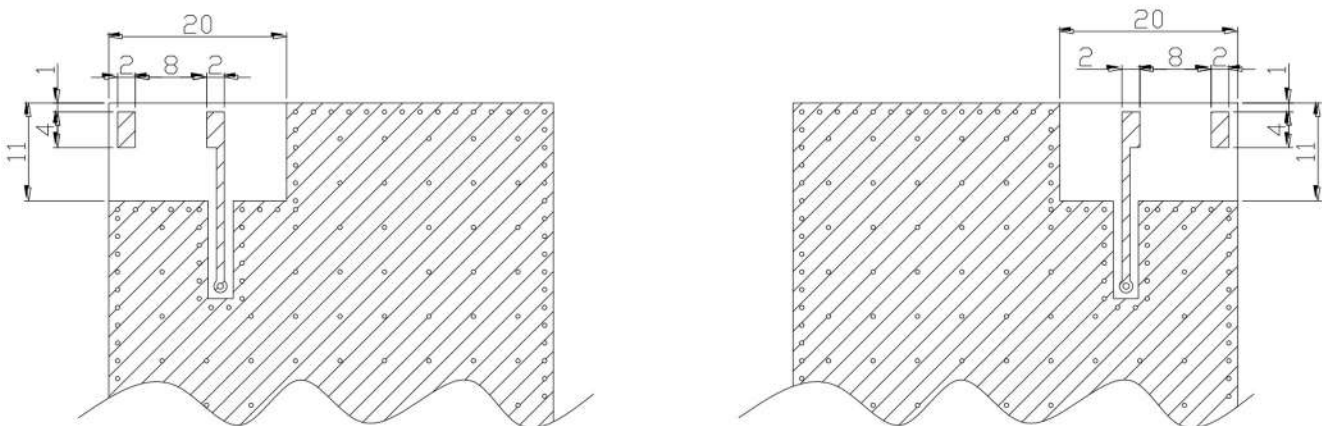
Subject the object, which is packaged as illustrated, to vibrations of 15 to 60 to 15Hz swept in 6 minutes, 4G at maximum (2mm amplitude at maximum), applied in X, Y and Z directions for two hours each, i.e. six hours in total. After this test, examine its appearance and functions.

Drawings

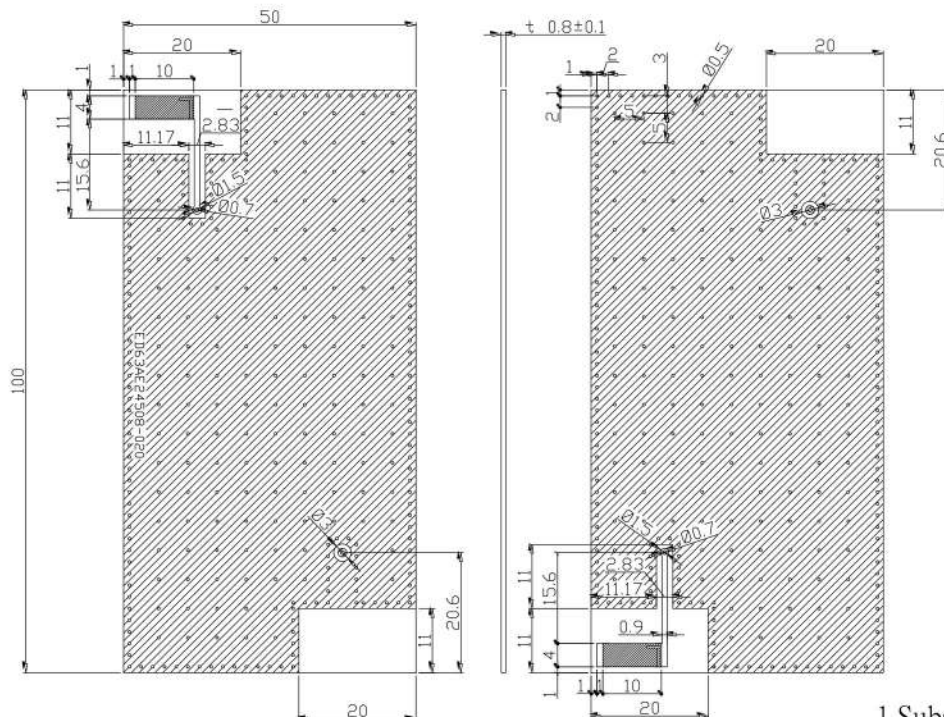
Shape and Dimension



Recommended Layout

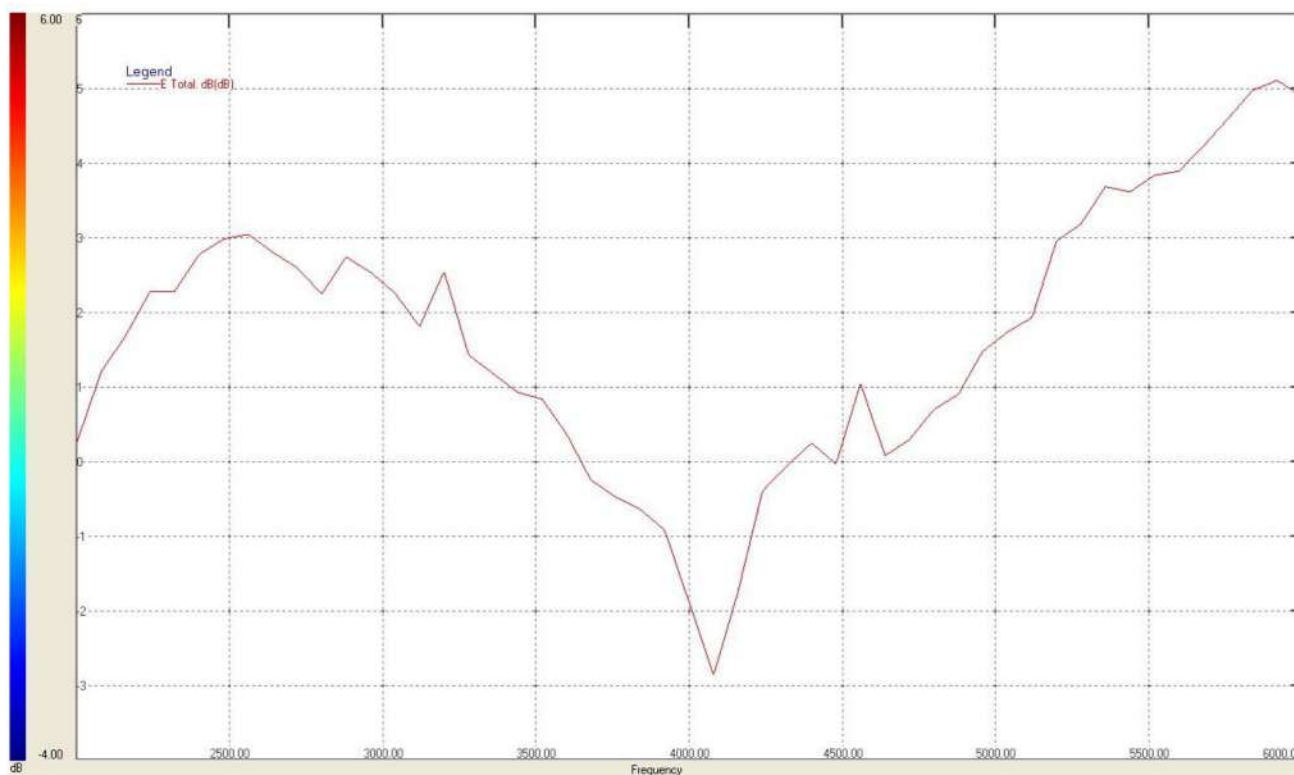


Evaluation Board : ED63AE24508-020



1.Substrate:NPG-LT,t=0.8mm

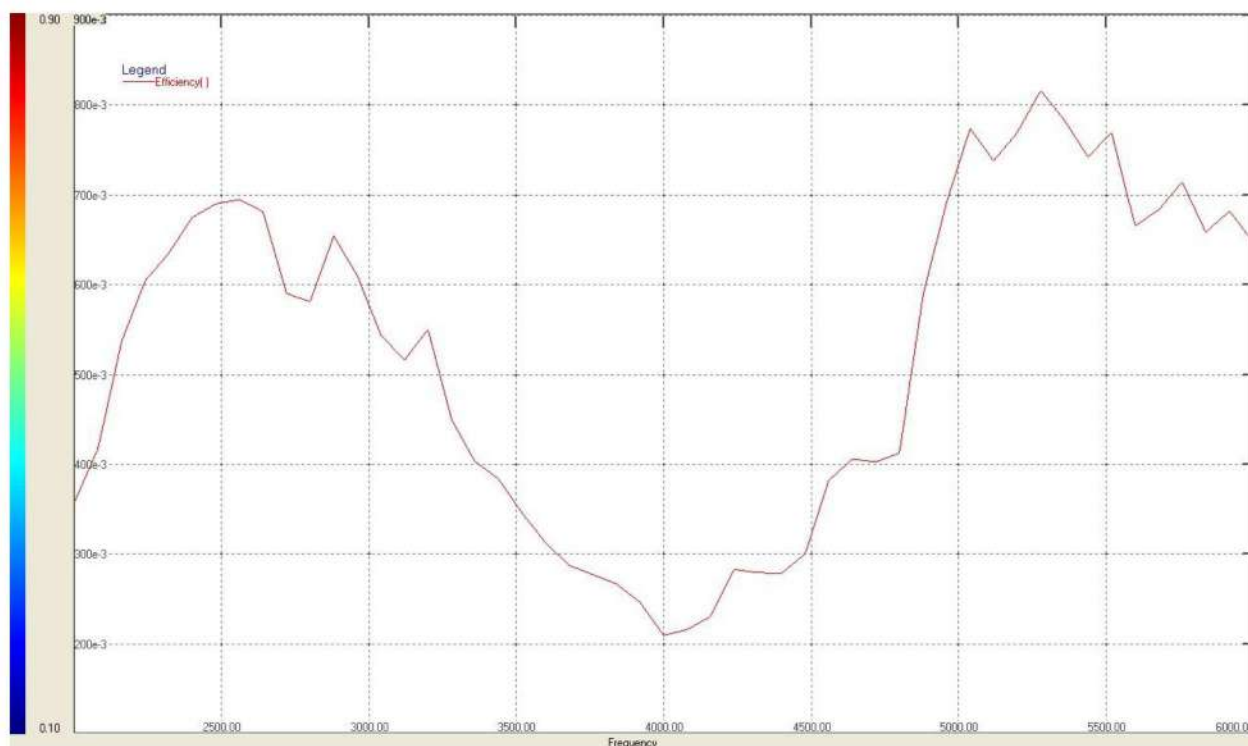
Recommended Layout



Average Gain



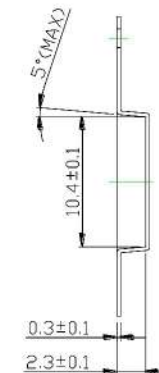
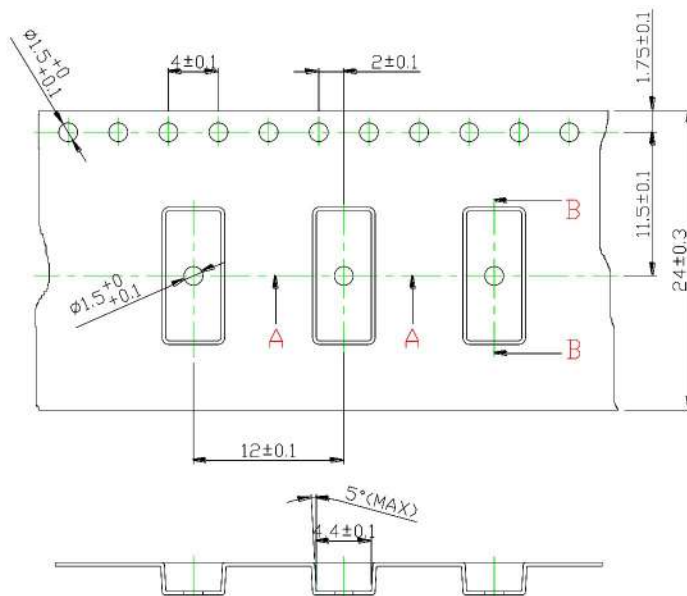
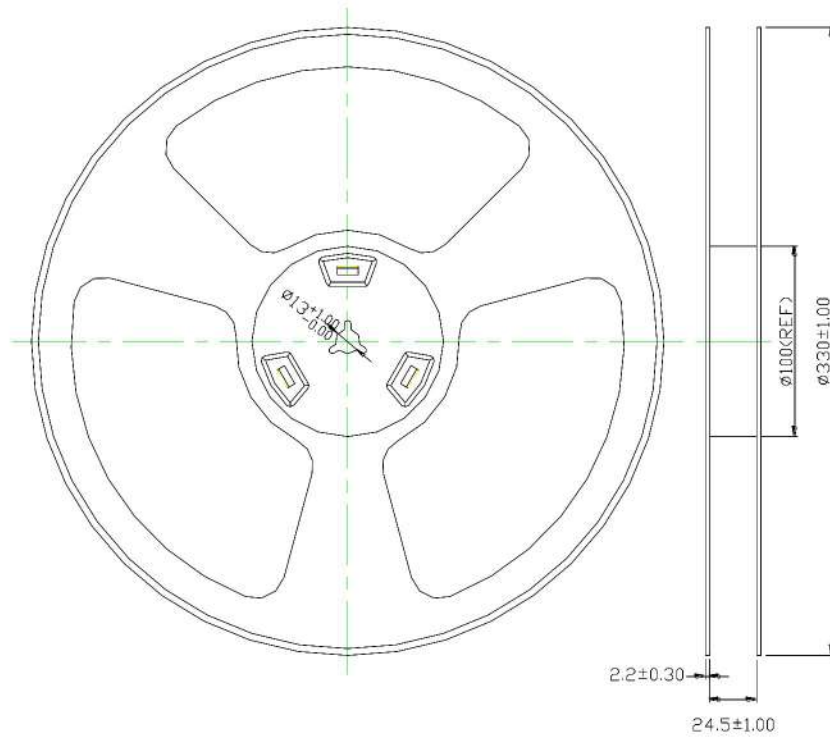
Efficiency



Delivery Mode

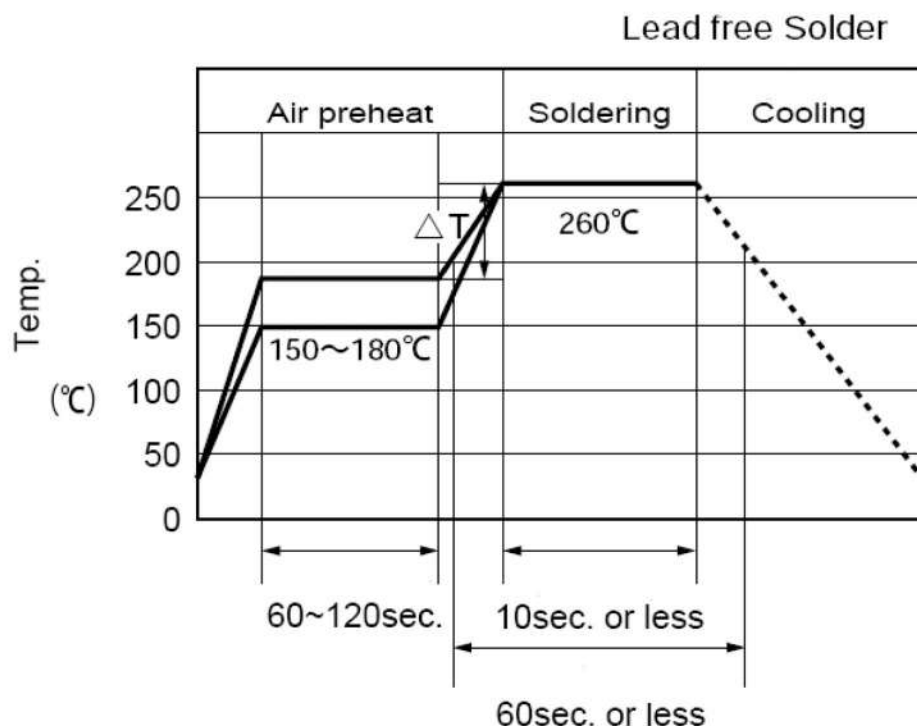
1 Blister tape to IEC 286-3, polyester.

2 Pieces/tape : 2000pcs



A-A SECTION

Recommended Soldering condition



1. Time shown in the above figures is measured from the point when chip surface reaches temperature.
2. Temperature difference in high temperature part should be within 110°C.
3. After soldering, do not force cool, allow the parts to cool gradually.

*General attention to soldering:

- High soldering temperatures and long soldering times can cause leaching of the termination, decrease in adherence strength, and the change of characteristic may occur.
- For soldering, please refer to the soldering curves above. However, please keep exposure to temperatures exceeding 200°C to under 50 seconds.
- Please use a mild flux (containing less than 0.2wt% Cl). Also, if the flux is water soluble, be sure to wash thoroughly to remove any residue from the underside of components that could affect resistance.

Cleaning:

When using ultrasonic cleaning, the board may resonate if the output power is too high. Since this vibration can cause cracking or a decrease in the adherence of the termination, we recommend that you use the conditions below.

Frequency: 40 kHz max.

Output power: 20W/liter

Cleaning time: 5minutes max.