



**MODEL NO : OBO-100UN1****Features :Conformity RoHS Directive ( 2002/95/EC ) Requests.****1. General Specifications :**

	Items	Specification
1.1	Rated Voltage	DC 12.0V
1.2	Operating Voltage	DC 8–16V
1.3	Resonant Frequency	2400±300Hz
1.4	Sound Pressure Level	85dB min.
1.5	Average Current Consumption	30mA max.
1.6	Operating Temp. Range	-20°C ~ +70°C
1.7	Storage Temp. Range	-30°C ~ +80°C
1.8	Housing Material	PPS(Gray)
1.9	Pin Material	Tin Plated Brass(Sn)
1.10	Weight	2.5g

## 2. Standard test Conditions :

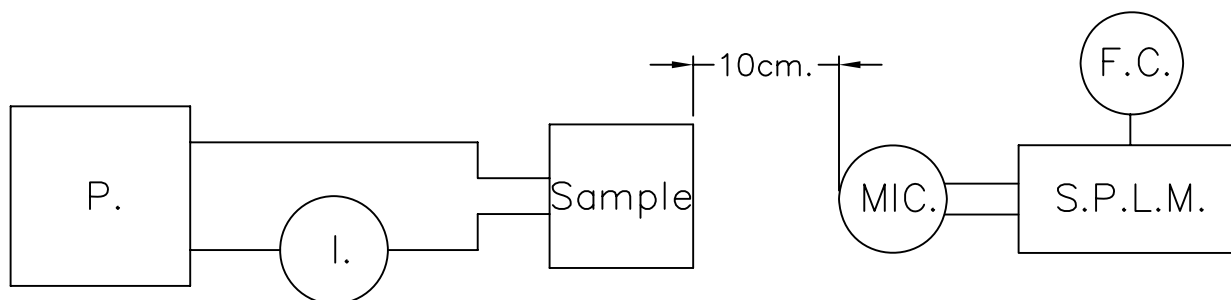
2.1 Standard State	Ordinary Temperature	15°C to 35°C
	Ordinary Humidity	45% to 85%
	Ordinary air pressure	860 to 1060hPa

In case of doubtful judgment, the test is re-performed under Basic State.

2.2 Basic State	Temperature	25±2°C
	Humidity	60% to 70%
	Ordinary air pressure	860 to 1060hPa

## 3. Test method :

### 3.1 Standard Test Diagram

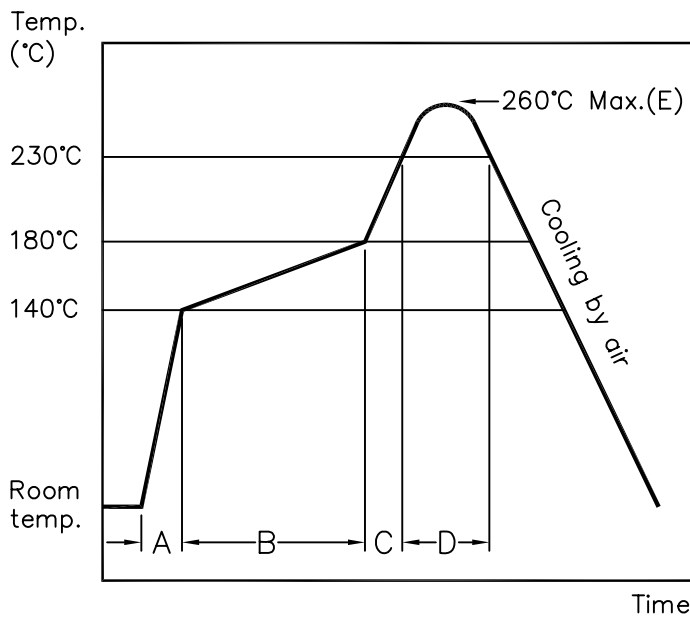


- P. : DC Power Supply GPC-3030D or Equivalent  
S.P.L.M. : Sound Pressure Level Meter IEC651 TYPE2  
I. : Multimeter GDM-8145 or Equivalent  
F.C. : Function Generator GFG-8016G or Equivalent  
Sample : SMD-Electromagnetic Transducer

**4. Soldering Condition :**

4.1 Reflow Soldering

Recommendable reflow soldering condition is as follows.



NO.	Items	Condition	Unit
A	Temp. rise gradient	1 ~ 4	°C/sec
B	Heating time	50~150	sec
	Heating temperature	140~180	°C
C	Temp. rise gradient	1 ~ 4	°C/sec
D	Time over 230°C	48 Max.	sec
E	Peak temperature	260°C Max.	°C
	Peak-temp. hold time	Momentary	sec
Soldering		2	times

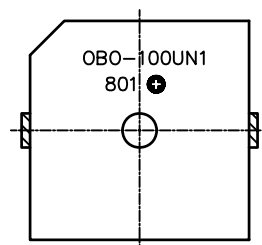
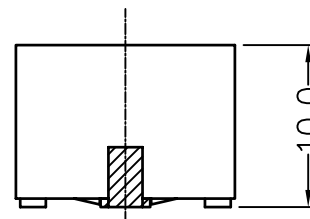
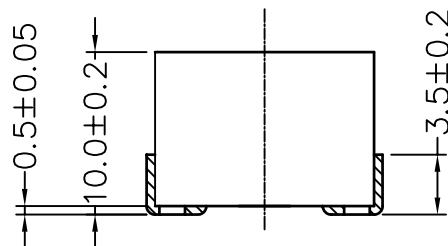
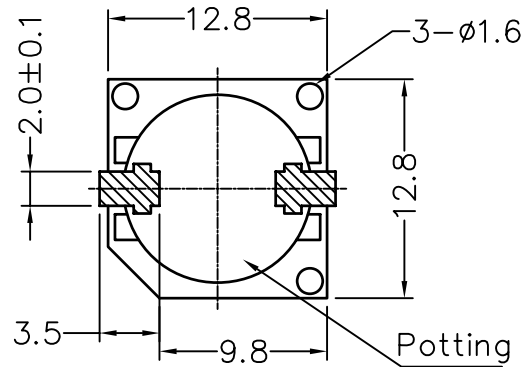
Note :

It is requested that second reflow soldering should be executed after heat of product goes down to normal temperature.

4.2 Hand Soldering

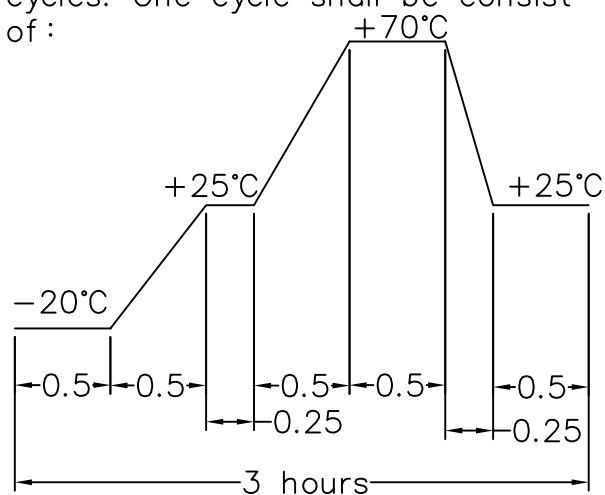
Soldering iron temperature 380°C less than 3 second.

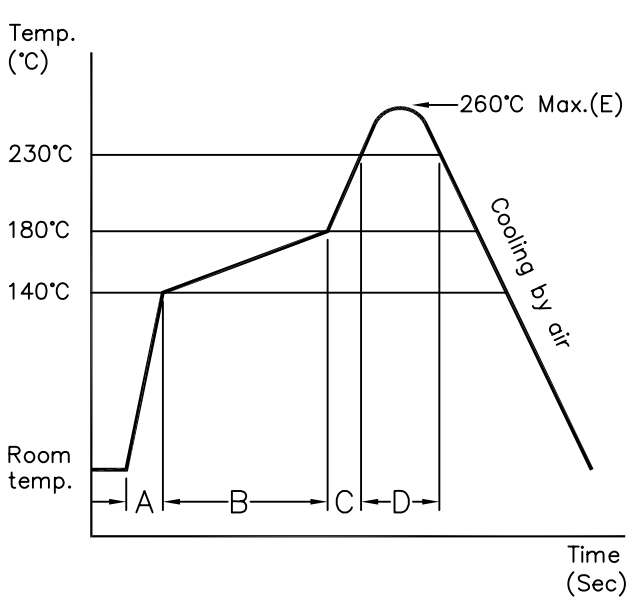
## 5. Mechanical Layout and Dimensions

Unit : mm    Tolerance :  $\pm 0.3\text{mm}$ 

Note : Meaning of Stamp Mark  
801 : Production Lot No.  
8 : Year 2008 (last 1 figures of the year)  
01 : week (01 55)  
OBO-100UN1 : Model No.  
⊕ : Polarity identification mark

## 6. Reliability test :

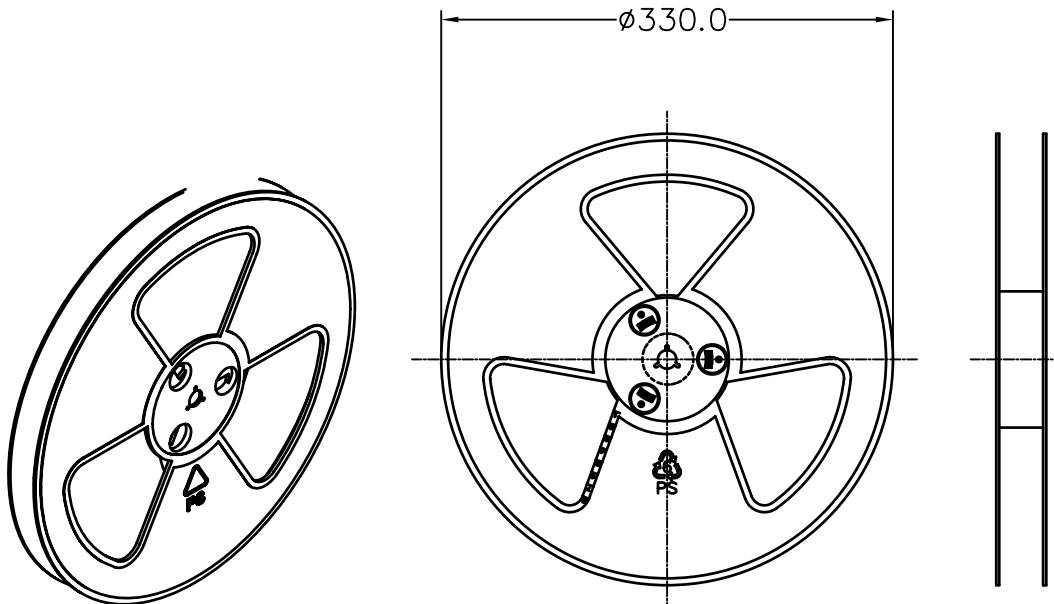
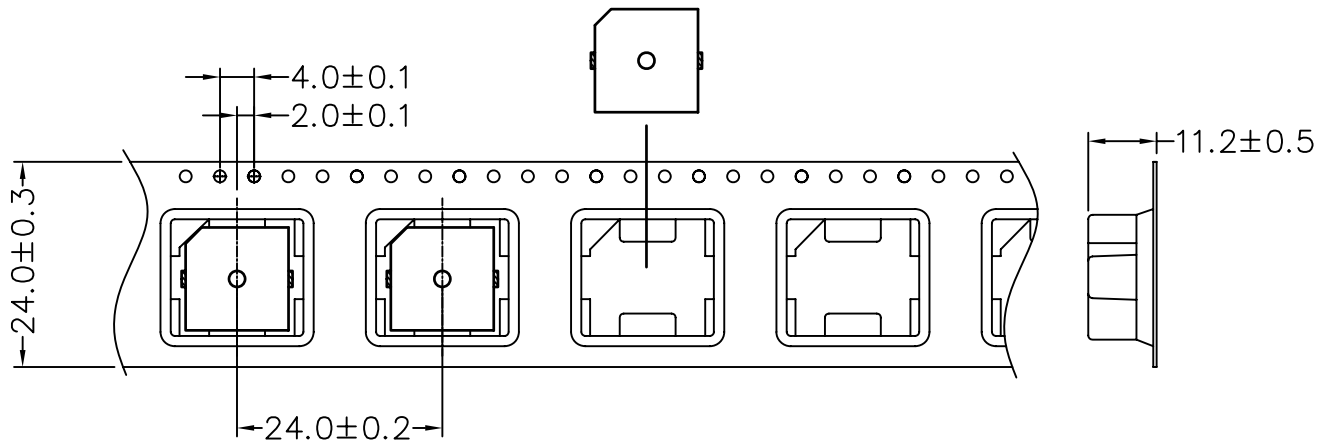
NO.	Items	Test Conditions	Evaluation Criteria
6.1	High Temp. Storage	The part shall be capable of withstanding a storage temperature of +80°C for 96 hours.	After the test the part shall meet specifications without any degradation in appearance and performance except SPL. SPL shall be 80dB or more.
6.2	Low Temp. Storage	The part shall be capable of withstanding a storage temperature of -30°C for 96 hours.	
6.3	Thermal Shock	The part shall be subjected to 5 cycles. One cycle shall be consist of : <div style="text-align: center;">  <p>The diagram shows a thermal shock profile over a 3-hour period. It starts at -20°C, ramps up to +25°C (0.5h dwell), ramps up to +70°C (0.5h dwell), ramps down to +25°C (0.5h dwell), and finally ramps down to +25°C (0.5h dwell). There are 0.25h transition times between the dwell periods. The total cycle duration is 3 hours.</p> </div>	
6.4	Humidity Test	The part shall be subjected to +40°C, 90~95% RH for 96 hours, and expose to room temperature for 6 hours.	
6.5	Vibration	10 – 55 – 10Hz, Sinewave Sweep 15 min. X,Y,Z 3 Direction 2 hours each, Total 6 hours.	
6.6	Drop test	Drop on hard wood board of 5cm. thick, any direction, 6 times, at the height of 75cm.	

NO.	Items	Test Conditions	Evaluation Criteria
6.7	Reflow	 <p>The graph illustrates the reflow temperature profile. The vertical axis represents temperature in degrees Celsius, with marked values at Room temp., 140°C, 180°C, 230°C, and 260°C Max. (E). The horizontal axis represents time in seconds, divided into four segments: A (initial heating to 140°C), B (heating to 180°C), C (heating to the peak of 260°C), and D (cooling phase). The cooling phase is labeled 'Cooling by air'.</p>	<p>a. No abnormality should be found after the test</p> <p>b. Good soldering to meet soldering requirements</p>

**Notes :**

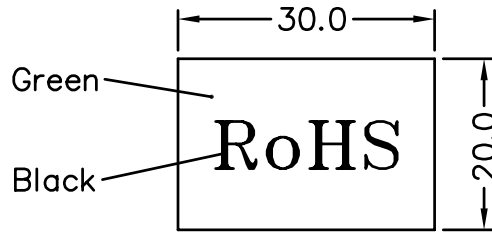
As this product is not protected from foreign material entering, please make sure that that any foreign materials (e.g. magnetic powder, washing solvent, flux, corrosive gas) do not enter this product in your production processes. The functional degradation (e.g. SPL down ) may occur if foreign material enter it.

**7 .Packing**

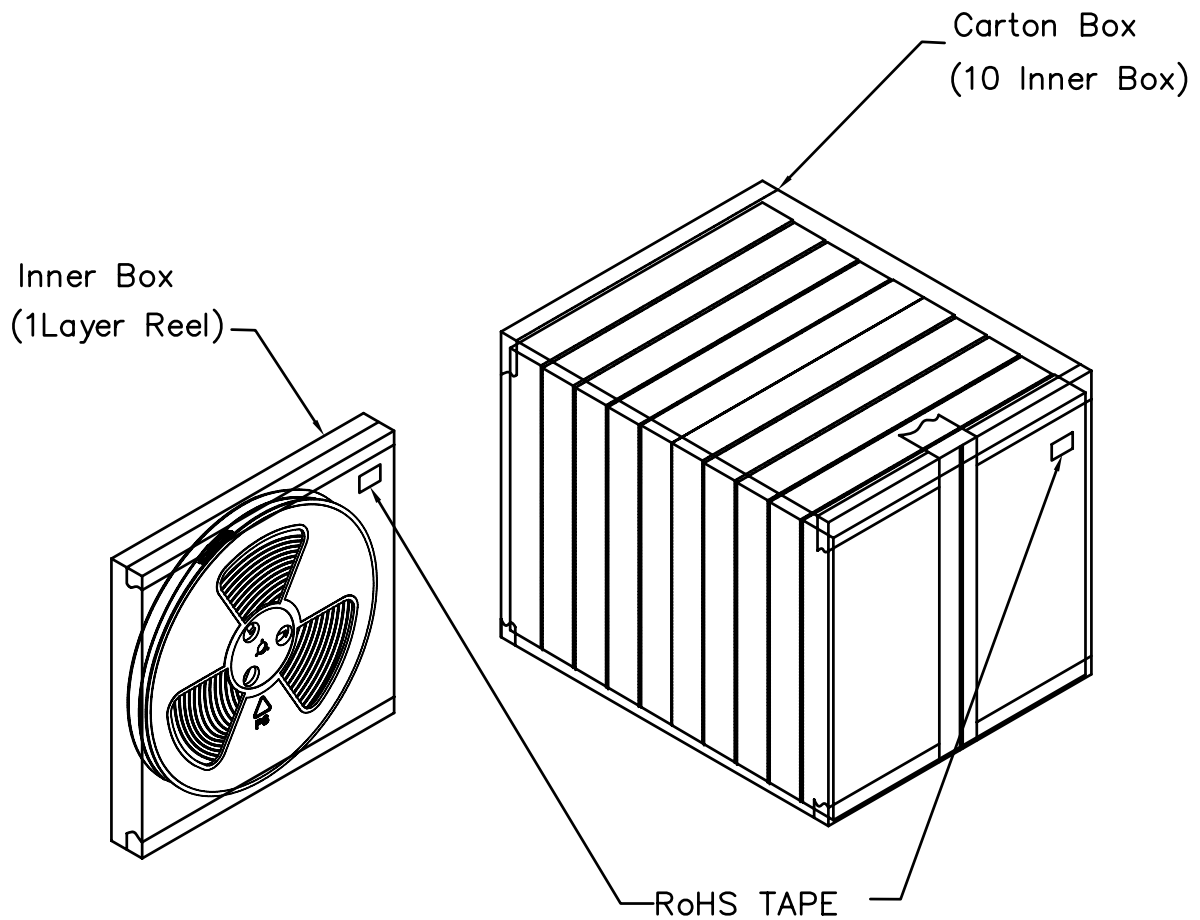


1 Reel : 250PCS





RoHS Tape  
(30\*20 mm)



Inner Box	330mmx330mmx30mm	1x250PCS=250PCS
Carton Box	350mmx350mmx370mm	10x250PCS=2,500PCS