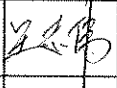
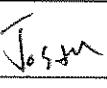
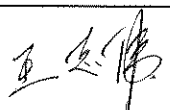
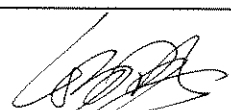
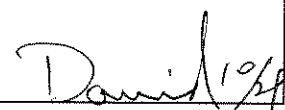
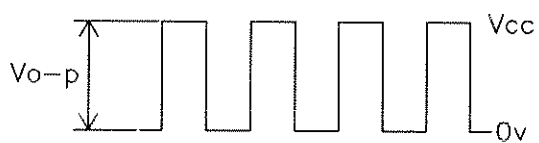


**OBO Pro.2****SPECIFICATIONS****MODEL NO.**  
OBO-40AP1**PART NAME**  
SMD-Electromagnetic Transducer**SHEET**  
1 OF 9**ALTERNATION HISTORY**

Marking	Date	ECN NO.	REV.	Description	Page	PREPARE BY	APPROVE BY
※1	MAR,12'07	0602004	E	Conformity RoHS Directive ( 2002/95/EC ) Requests.	10	MIA	Darren
※2	DEC,19'07	DG0712004	F	Change the OBO-40AP1 position of the front cover	9	王志偉	Darren
※3	AUG.04'09	DG0910015	G	Increase the hole	9		

REV.	DATE	PREPARED BY	CHECKED BY	APPROVED BY
G	AUG.04,2009			

**OBO Pro.2****SPECIFICATIONS****MODEL NO.**  
OBO-40AP1**PART NAME**  
SMD-Electromagnetic Transducer**SHEET**  
2 OF 9**MODEL NO : OBO-40AP1****Features : Conformity RoHS Directive ( 2002/95/EC ) Requests.****1 、 General Specifications :**

	Items	Specification	Conditions
1.1	Rated Voltage	3.0 Vo-p	 <p>Squarewave 1/2 Duty</p>
1.2	Operating Voltage	2-4 Vo-p	
1.3	Resonant Frequency	2700Hz	
1.4	Sound Pressure Level	min. 90dB	Standard State, Standard Drive circuit, Rated Voltage, Distance at 0.1m (A-weight) 2700Hz Squarewave 1/2 Duty.
1.5	Average Current Consumption	max. 80mA	
1.6	Coil Resistance	16±3Ω	
1.7	Operating Temp. Range	-30°C ~ +70°C	SPL ≥ 80dB at "1.4"
1.8	Storage Temp. Range	-40°C ~ +85°C	
1.9	Housing Material	LCP	
1.10	Weight	0.6g	

**2 - Standard test Conditions :**

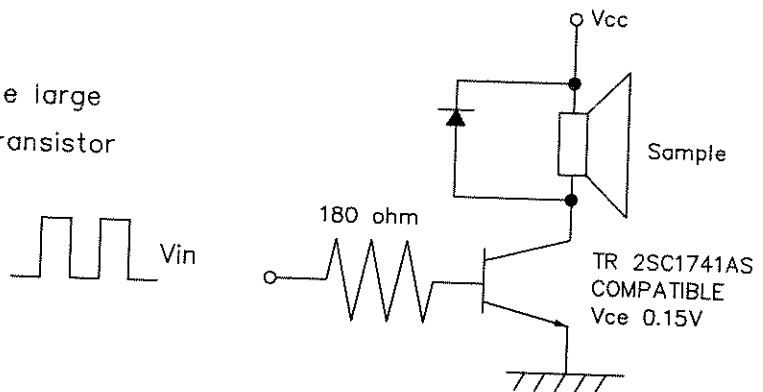
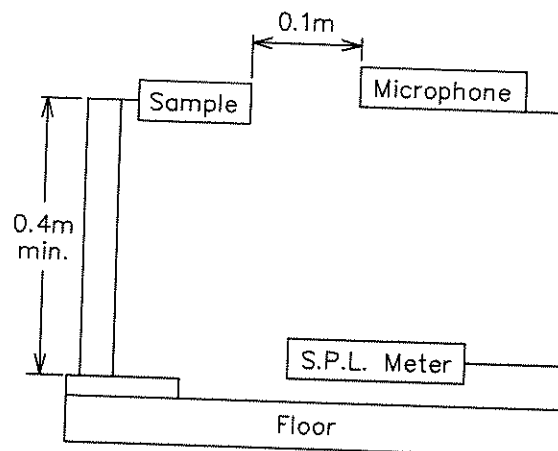
2.1 Standard State	Ordinary Temperature	15°C to 35°C
	Ordinary Humidity	25% to 85%
	Ordinary air pressure	860 to 1060hPa

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

2.2 Basic State	Temperature	20±2°C
	Humidity	60% to 70%
	Ordinary air pressure	860 to 1060hPa

**3 - Test method :****3.1 Standard Drive Circuit**

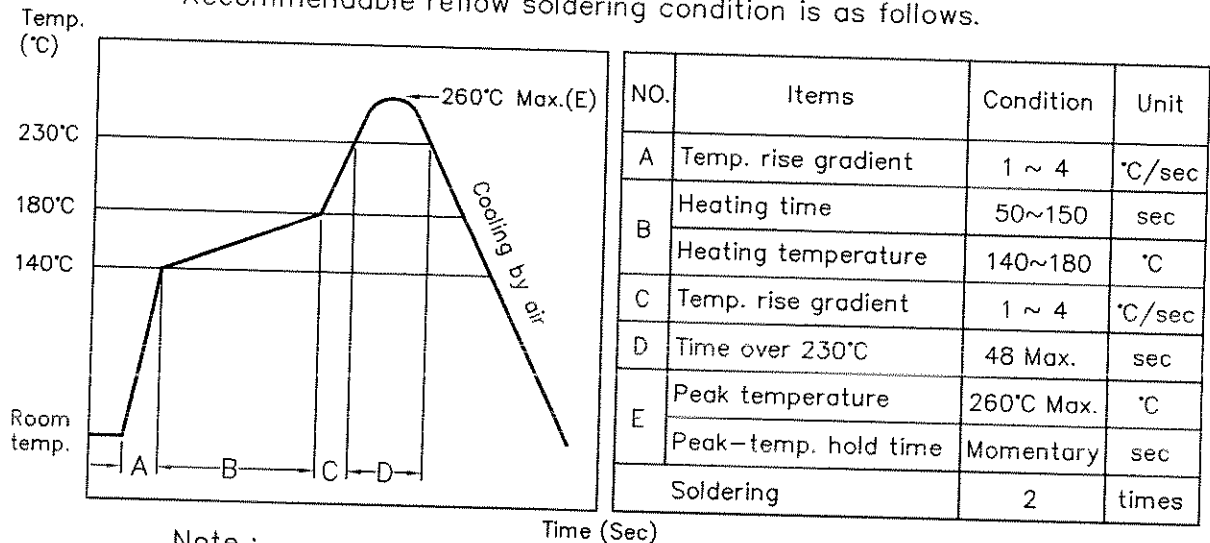
Signal amplitude should be large enough to saturate the transistor which drives the buzzer.

**3.2 Standard Test Fixture**

**OBO Pro.2****SPECIFICATIONS**MODEL NO.  
OBO-40AP1PART NAME  
SMD-Electromagnetic TransducerSHEET  
4 OF 9**4 - Soldering Condition :**

## 4.1 Reflow Soldering

Recommendable reflow soldering condition is as follows.



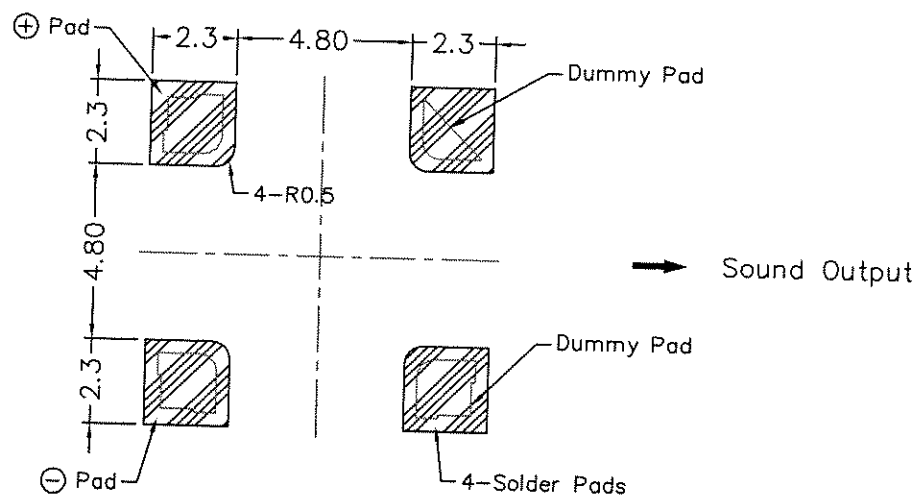
Note :

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.

## 4.3 Soldering Pattern



**OBO Pro.2**

**SPECIFICATIONS**

**MODEL NO.**  
OBO-40AP1

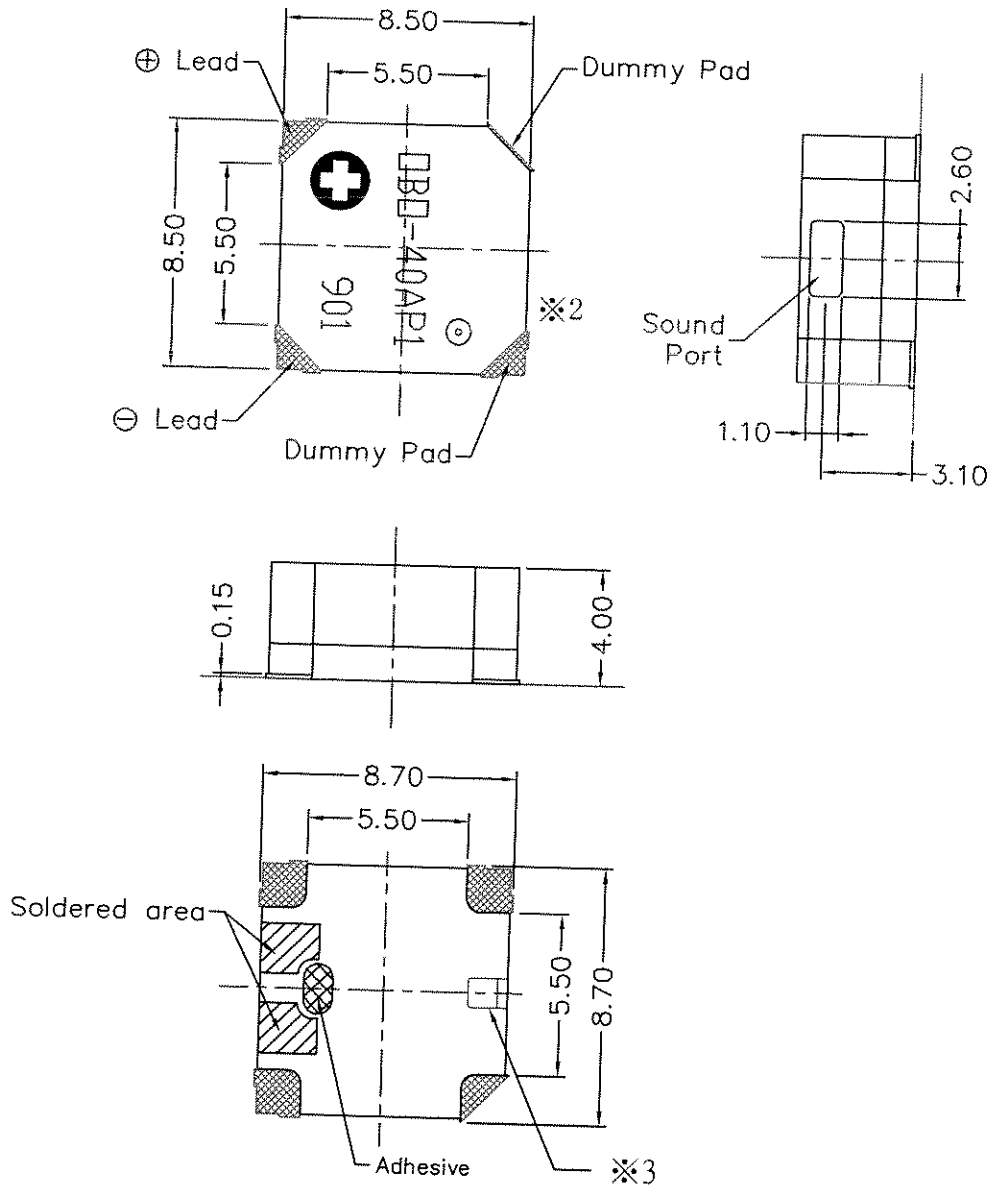
**PART NAME**  
SMD-Electromagnetic Transducer

**SHEET**  
5 OF 9

**5 - Mechanical Layout and Dimensions :**

5.1 Dimensions

Tolerance:  $\pm 0.2\text{mm}$  Unit: mm



- Note : Meaning of Stamp Mark
- 901 : Production Lot No.
  - 9 : Year 2009 (last 9 figures of the year)
  - 01 : week (01~ 55)
  - OBO-40AP1 : Model No.
  - ⊕ : Polarity identification mark

**OBO Pro.2**

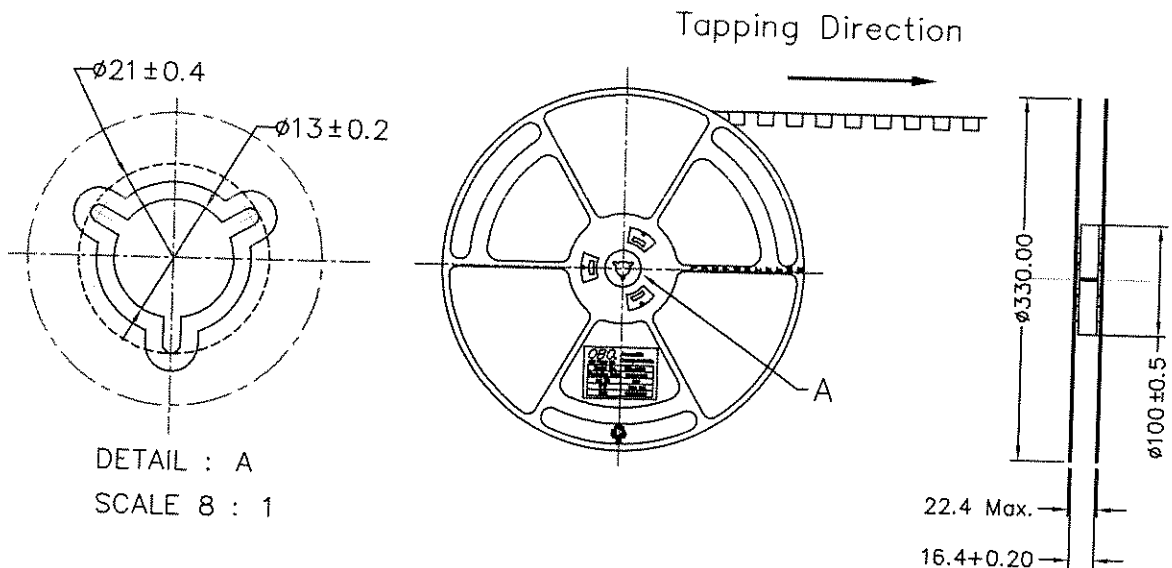
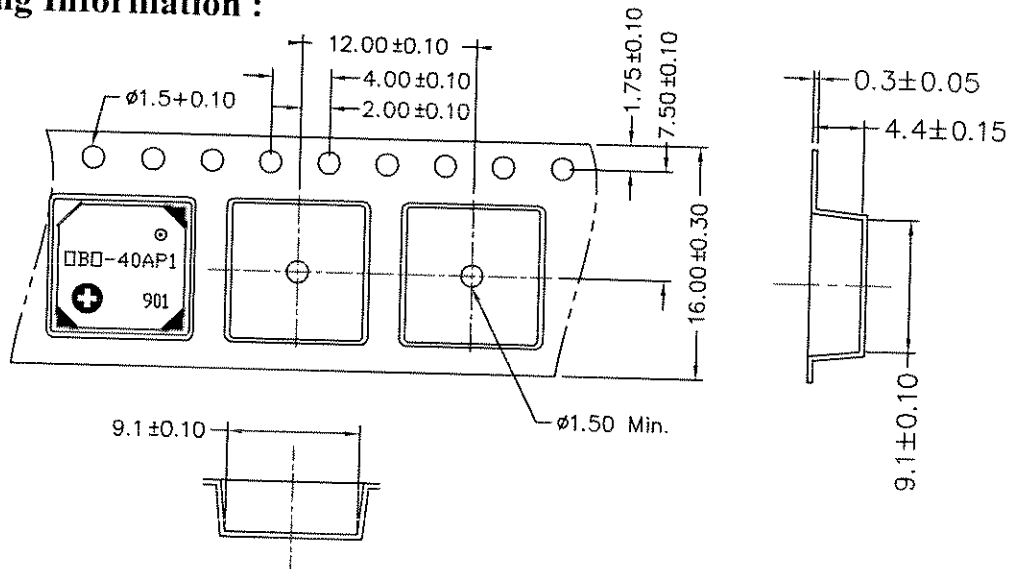
**SPECIFICATIONS**

**MODEL NO.**  
OBO-40AP1

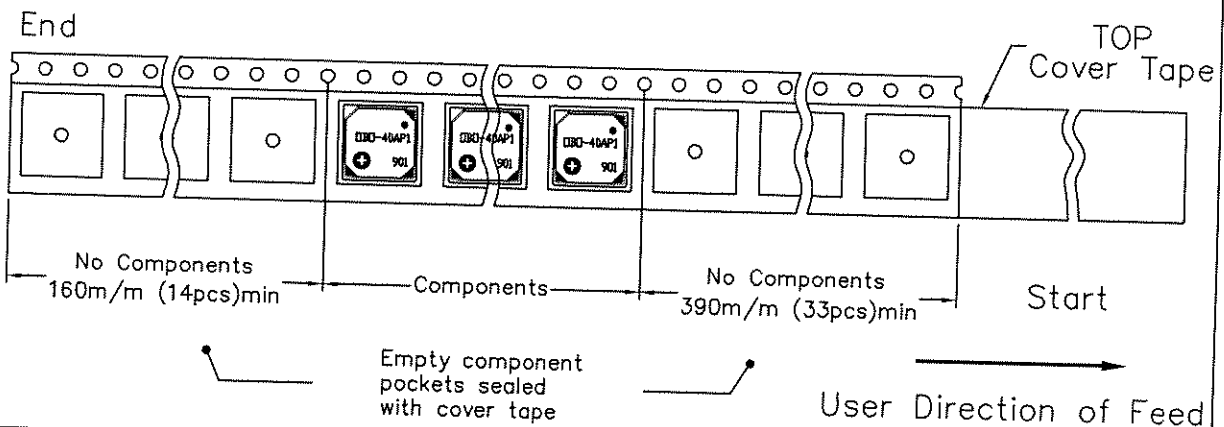
**PART NAME**  
SMD-Electromagnetic Transducer

**SHEET**  
6 OF 9

**6. Packing Information :**



DETAIL : A  
SCALE 8 : 1



# OBO Pro.2

## SPECIFICATIONS

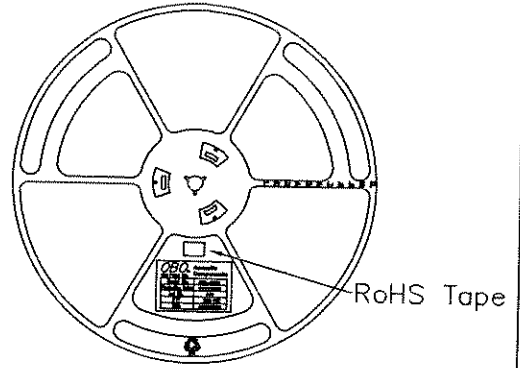
MODEL NO.  
OBO-40AP1

PART NAME  
SMD-Electromagnetic Transducer

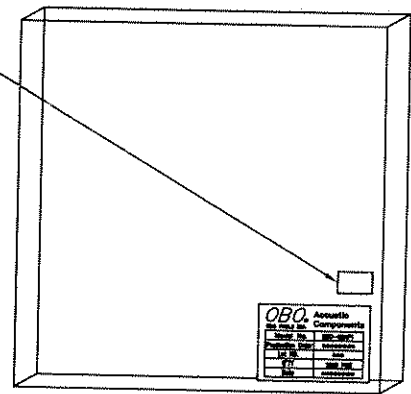
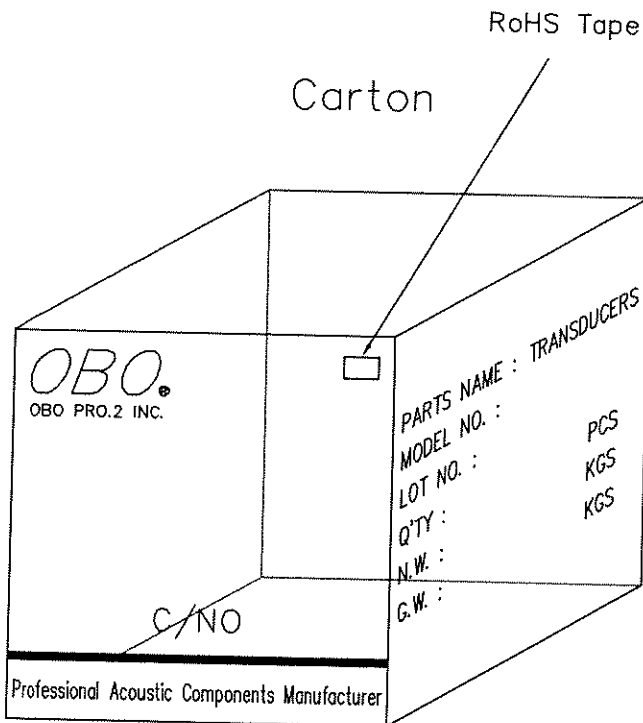
SHEET  
7 OF 9

Label content

<b>OBO</b> Acoustic Components OBO PRO.2 INC.	
Model No.	OBO-40AP1
Production Order	*****
Lot NO.	***
Q'TY	1000 pcs
Date	*****

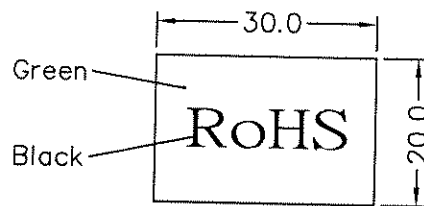


Inside box



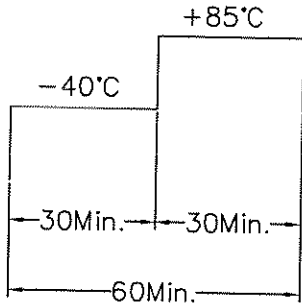
1 Reel / Inside box  
(33.3\*2.4\*33.5)

10 Inside box (10000pcs)  
/ Carton (34.5\*26.5\*35.3)



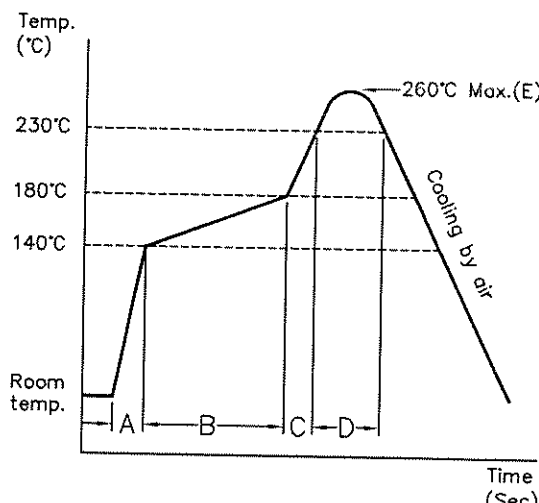
RoHS Tape  
(30\*20 mm)

**7 · Reliability test :**

NO.	Items	Test Conditions	Evaluation Criteria
1	High Temp. Storage	The part shall be capable of withstanding a storage temperature of +85°C for 240 hours.	After the test the part shall meet specifications without any degradation in appearance and performance except SPL. SPL shall be 80dB or more.
2	Low Temp. Storage	The part shall be capable of withstanding a storage temperature of -40°C for 240 hours.	
3	Thermal Shock	<p>The part shall be subjected to 50 cycle. One cycle shall consist of : transfer time : 10 minutes</p>  <p>The diagram shows a rectangular wave between -40°C and +85°C. The first 30-minute interval is at -40°C, followed by a 10-minute transfer time, then a 30-minute interval at +85°C. The total cycle duration is 60 minutes.</p>	
4	Humidity Test	The part shall be subjected to +60°C, 90% RH for 240 hours, and expose to room temperature for 6 hours.	
5	Vibration	10 – 55 – 10Hz, Sinewave Sweep 15 min. X,Y,Z 3 Direction 2 hours each, Total 6 hours.	
6	Drop test	Drop on hard wood board of 5cm. thick, any direction, 10 times, at the height of 150cm	



**OBO Pro.2****SPECIFICATIONS****MODEL NO.**  
OBO-40AP1**PART NAME**  
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NO.	Items	Test Conditions	Evaluation Criteria
7	Ordinary Temp. life	The part shall be subjected to 240 hours at $25 \pm 10^\circ\text{C}$ . Input 3.0Vp-p Squarewave 1/2duty 2700Hz	
8	High Temp. life	The part shall be subjected to 240 hours at $+70^\circ\text{C}$ . Input 3.0Vp-p Squarewave 1/2duty 2700Hz	
9	Low Temp. life	The part shall be subjected to 240 hours at $-30^\circ\text{C}$ . Input 3.0Vp-p Squarewave 1/2duty 2700Hz	
10	Reflow		<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 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.