



# SPECIFICATIONS

MODEL NO  
OBO-50UP1

PART NAME  
SMD-Electromagnetic Transducer

SHEET  
1 OF 7

## ALTERNATION HISTORY

Marking	Date	ECN NO.	REV.	Description	Page	PREPARE BY	APPROVE BY
--	JUL.04,2011	---	A	New Document	5	李小蓮	謝明福
※1	NOV.18,2011	DG1111008	B	Change Sound Pressure Level	5		
※2	OCT.31.2016	DG1610002	C	Change the manual of silver printing machine spray yellow words.	5	劉來	林建恩
						<div style="border: 1px solid blue; padding: 5px; text-align: center;"> <p>OBO PRO. 2 INC.</p> <p>2016. 11. 30</p> <p>文件发行章</p> </div>	

REV.	DATE	PREPARED BY	CHECKED BY	APPROVED BY
C	OCT.25,2016	劉來	林建恩	林建恩



# SPECIFICATIONS

MODEL NO  
OBO-50UP1

PART NAME  
SMD-Electromagnetic Transducer

SHEET  
2 OF 7

MODEL NO : OBO-50UP1

Features: Drive Circuit Built-In type

Conformity RoHS Directive(2011/65/EU) Requests.

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## 1. General Specifications:

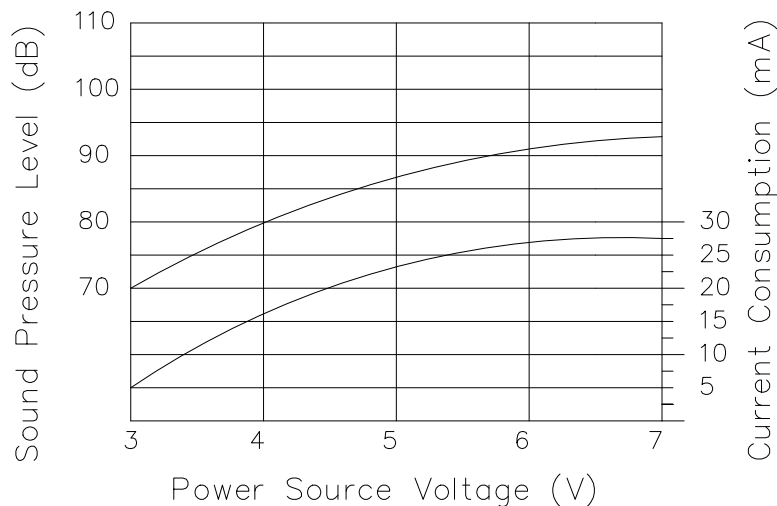
Items	Spec.
Sound Pressure Level	82 dB min./10cm/DC 5V
Rated Voltage	DC 5V
Resonant Frequency	2700±300 Hz
Rated Current	30mA max./DC 5V
Operating Voltage	DC 4 to 7V
Housing Material	PPS(Black)
Pin Material	Plated Brass(Au)
Operating Temp. Range	-20°C to +70°C
Storage Temp. Range	-30°C to +85°C
Weight	1.5gms
Voltage vs Sound Pressure vs Current Consumption Curve	As Per Fig.1

Value applying rated voltage.(DC)

Fig.1:

Measurement distance : 30cm. / Current consumption by GDM-8145

Sound level meter by IEC651 TYPE2 / DC power supply by GPC-3030D



2. Standard Test Condition:

2.1 Standard State

Ordinary Temperature	15°C to 35°C
Ordinary Humidity	60% to 70%R.H.
Ordinary air pressure	860 to 1060hPa

2.2 Basic State

Temperature	20±2°C
Humidity	60% to 70%R.H.
Ordinary air pressure	860 to 1060hPa

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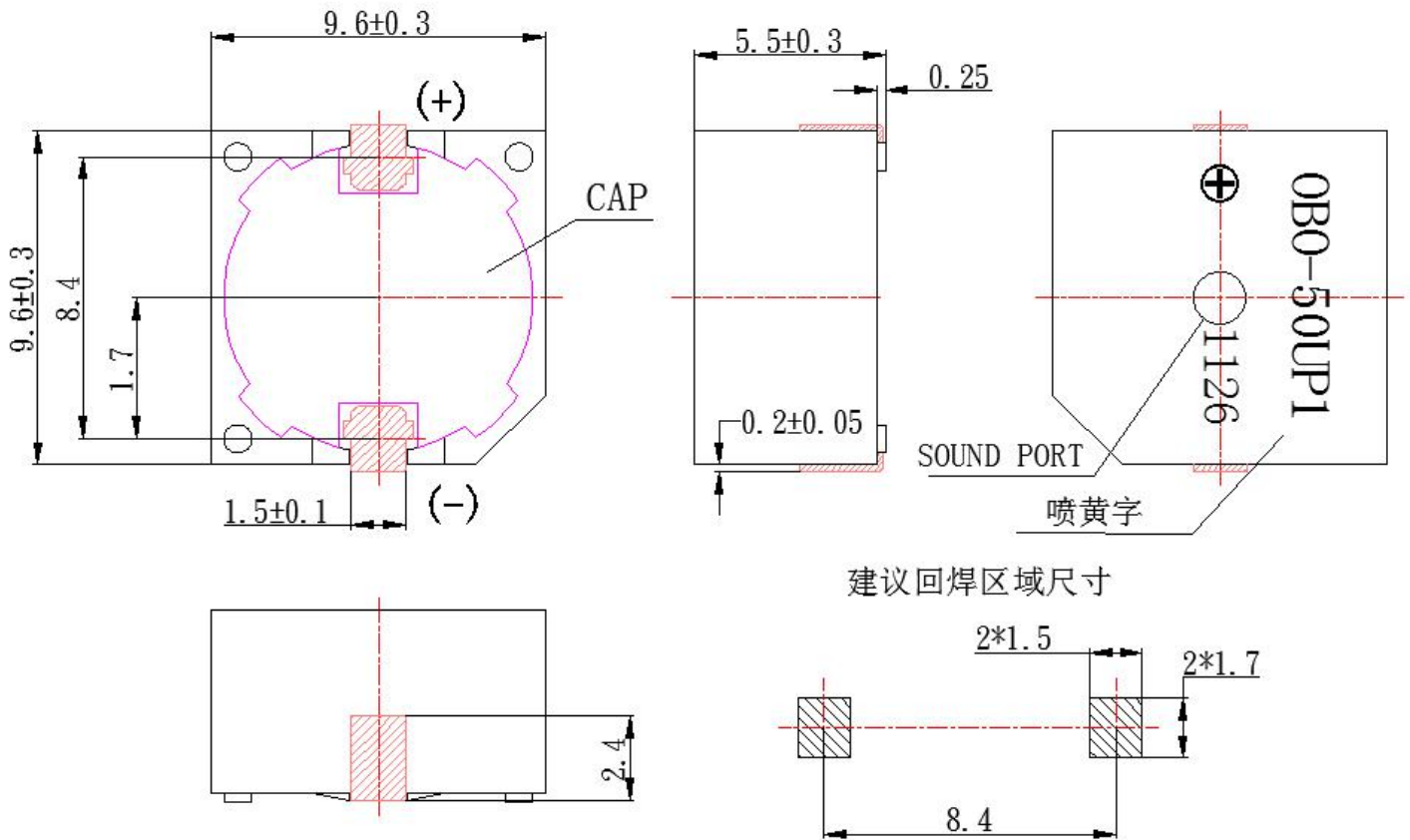
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3. Mechanical Layout and Dimensions:

3.1 Dimendions

Tolerance: ±0.3mm Unit: mm

※Change the manual of silver printing machine spray yellow words.



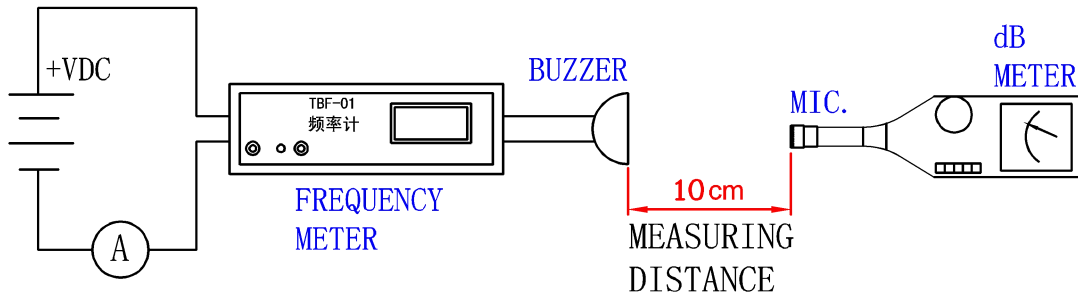
### 4. Testing Method:

#### Standard Measurement conditions

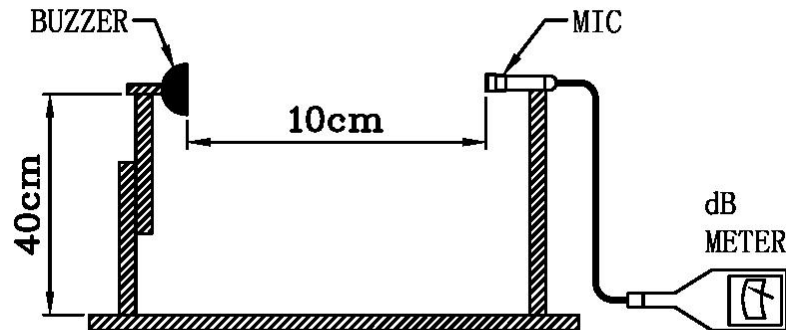
Temperature:  $25 \pm 2^\circ\text{C}$  Humidity: 45-65%

#### Acoustic Characteristics:

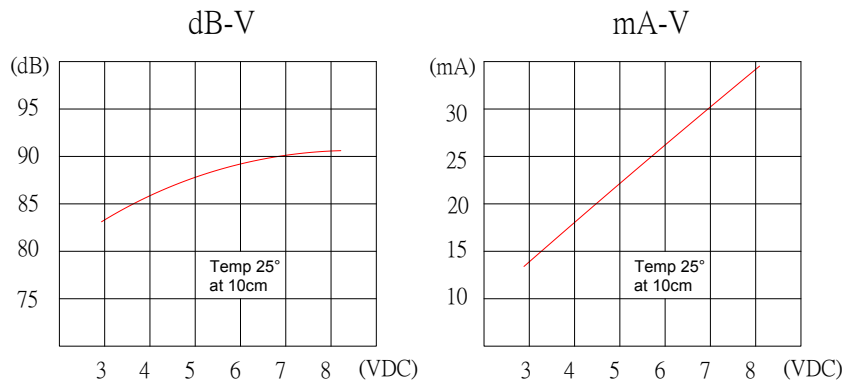
The oscillation frequency, current consumption and sound pressure are measured by the measuring instruments shown below



In the measuring test, buzzer is placed as follows:



### 5. VOLTAGE / CURRENT / SOUND PRESSURE CHARACTERISTICS



**6. Soldering Condition**

(1) Recommendable reflow soldering condition is as follows

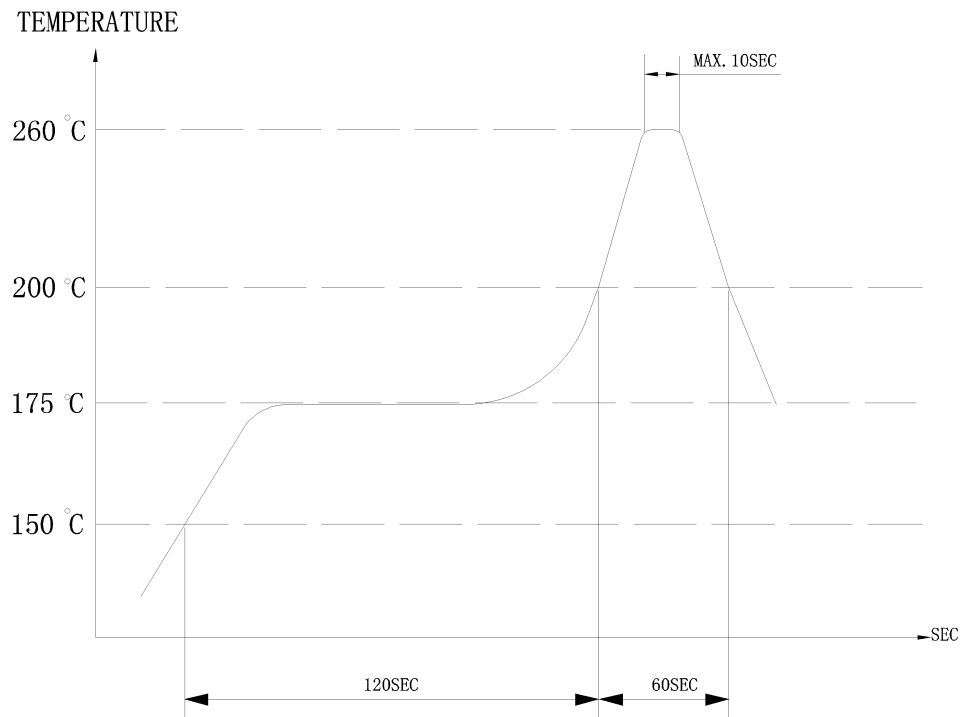
(Reflow soldering is twice)

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

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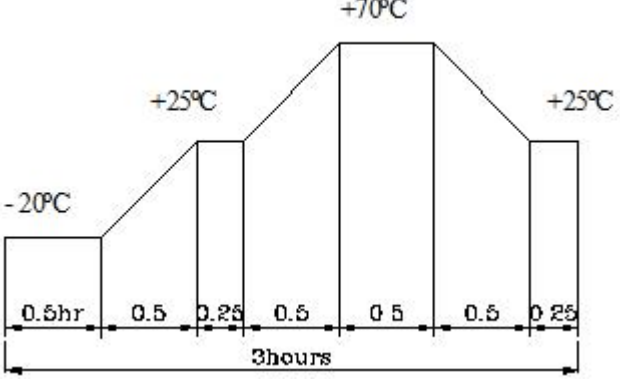
Heat resistant line

(Used when heat resistant reliability test is performed)

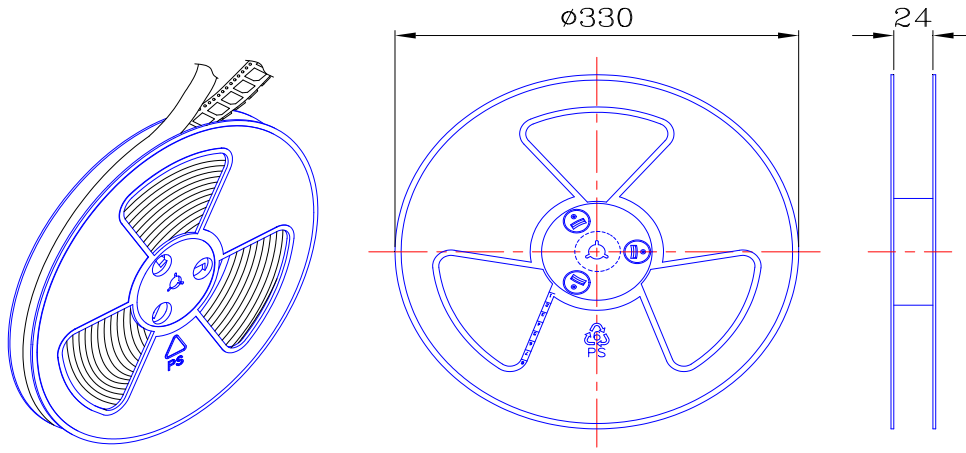
(2) Manual soldering

Manual soldering temperature 350° C within 5 sec.

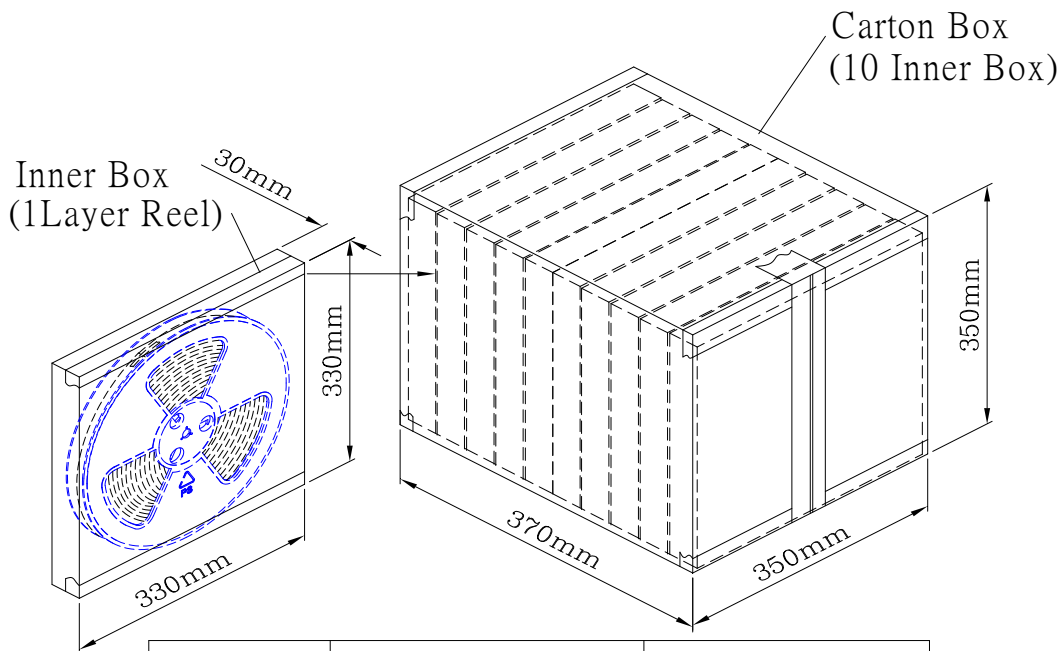
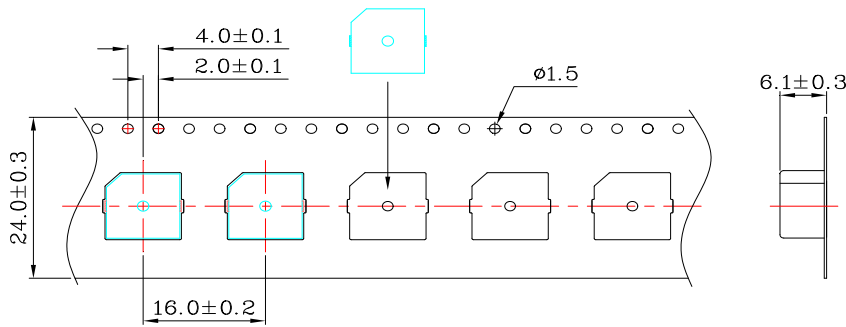
**7. RELIABILITY TEST**

NO.	ITEM	TEST CONDITION AND REQUIREMENT
1	High Temperature Test (Storage)	After being placed in a chamber with $85\pm 2^{\circ}\text{C}$ for 96 hours and then being placed in normal condition for 2 hours. Allowable variation of SPL after test: $\pm 10\text{dB}$ .
2	Low Temperature Test (Storage)	After being Placed in a chamber with $-30\pm 2^{\circ}\text{C}$ for 96 hours and then being placed in normal condition for 2 hours. Allowable variation of SPL after test: $\pm 10\text{dB}$ .
3	Humidity Test	After being Placed in a chamber with 90-95% R.H. at $40\pm 2^{\circ}\text{C}$ for 96 hours and then being placed in normal condition for 2 hours. Allowable variation of SPL after test: $\pm 10\text{dB}$ .
4	Temperature Cycle Test	<p>The part shall be subjected to 5 cycles. One cycle shall be consist of :</p>  <p>Allowable variation of SPL after test: <math>\pm 10\text{dB}</math>.</p>
5	Drop Test	Drop on a hard wood board of 4cm thick, any directions ,6 times, at the height of 75cm . Allowable variation of SPL after test: $\pm 10\text{dB}$ .
6	Vibration Test	After being applied vibration of amplitude of 1.5mm with 10 to 55 Hz band of vibration frequency to each of 3 perpendicular directions for 2 hours . Allowable variation of SPL after test: $\pm 10\text{dB}$ .
7	Solderability Test	Lead terminals are immersed in rosin for 5 seconds and then immersed in solder bath of $+300\pm 5^{\circ}\text{C}$ for $3\pm 1$ seconds . 90% min. lead terminals shall be wet with solder (Except the edge of terminals).
8	Terminal Strength Pulling Test	The force of 9.8N(1.0kg) is applied to each terminal in axial direction for 10 seconds. No visible damage and cutting off.

**8. PACKING STANDARD**



1 Reel : 600PCS



Inner Box	330mmx330mmx30mm	1x600PCS=600PCS
Carton Box	350mmx350mmx370mm	10x600PCS=6,000PCS