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|  | SPECIFICATIONS | MODEL NO. OBO-20205PB |
| | PART NAME Piezoelectric Buzzer | SHEET 1 OF 9 |

ALTERNATION HISTORY

| Marking | Date | ECN NO. | REV. | Description | Page | PREPARE BY | APPROVE BY |
|---------|-----------|---------|------|--|------|------------|------------|
| . | . | . | . | . | . | | |
| . | . | . | . | . | . | | |
| . | . | . | . | . | . | | |
| ※1 | FEB,01'05 | 0501007 | J | Pb-free Soldering | 9 | 馮仁如 | 陳建合 |
| ※2 | DEC,26'05 | 0512004 | K | 1.Conformity RoHS Directive (2002/95/EC) Requests. | 9 | 簡沛玲 | 葉可強 |
| | | | | | | | |

| REV. | DATE | PREPARED BY | CHECKED BY | APPROVED BY |
|------|-------------|-------------|------------------------|-----------------------|
| K | DEC,26,2005 | PEI LING | 馮仁如 1/5 ¹⁰⁶ | 葉可強 1/5 ⁰⁶ |

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| OBO Pro.2 | SPECIFICATIONS | MODEL NO. OBO-20205PB |
| | PART NAME Piezoelectric Buzzer | SHEET 2 OF 9 |

Constitution List of Specifications

| Contents | Page |
|-------------------------------------|-------------|
| Constitution List of Specifications | 2 |
| 1. General Requirements | 3 |
| 2. Measuring Method | 3 |
| 2.1 S.P.L. Measuring Circuit | |
| 2.2 Measuring Condition | |
| 3. Mechanical Layout and Dimensions | 4 |
| 3.1 Dimensions | |
| 3.2 Construction | |
| 4. Package | 5 |
| 5. Reliability Test Conditions | 6 |
| 5.1 Mechanical Sequency | |
| 5.2 Environmental Sequency | |
| 5.3 Operating Life Sequence | |
| 6. Soldering Condition | 7 |
| 6.1 Wave Soldering | |
| 6.2 Hand Soldering | |
| 6.3 Heat Resistance | |
| 7. Cautions for Use | 7 |
| 8. Note | 8 |

| | | |
|------------------|--|---------------------------------|
| OBO Pro.2 | SPECIFICATIONS | MODEL NO. OBO-20205PB |
| | PART NAME Piezoelectric Buzzer | SHEET 3 OF 9 |

MODEL NO : OBO-20205PB

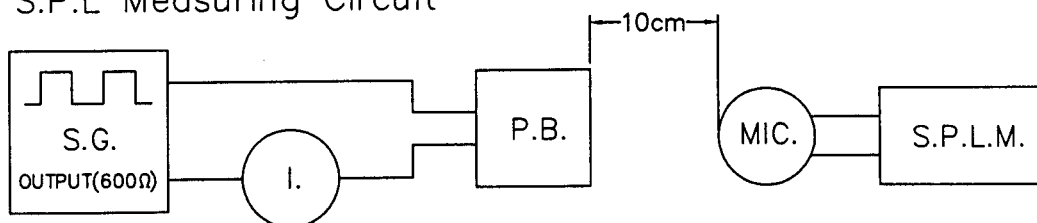
Features :Conformity RoHS Directive (2002/95/EC) Requests.
External drive & lead pin type (※2)

1.General Specifications :

| Items | Spec. |
|-------------------------|--|
| Sound Pressure Level | 85dB min. at 4.0KHz/9Vp-p Square wave/10cm |
| | 75dB min. at 4.0KHz/1Vrms Sine Wave/10cm |
| Capacitance | 12,000pF ± 30% at 120Hz |
| Current Consumption | 3mA max. at 4.0KHz/9Vp-p Square Wave |
| Allowable Input Voltage | 30Vp-p max. |
| Case Material | PBT (UL 94V-0) |
| Lead Pin Material | Phosphor Bronze (Sn Plated) |
| Operating Temp. Range | -20°C to +70°C |
| Storage Temp. Range | -40°C to +85°C |
| Weight | 2.7 gms |

2. Measuring Method

2.1 S.P.L Measuring Circuit



- S.G. :GAG-808G Audio Ggenerator or Equivalent
- S.P.L.M. :Sound Pressure Level Meter IEC651 TYPE2
- I. :GDM-8145 Multimeter or Equivalent
- P.B. :Piezoelectric Buzzer

Note: please pay attention never to be applied DC voltage to piezo sounder.

2.2 Measuring condition

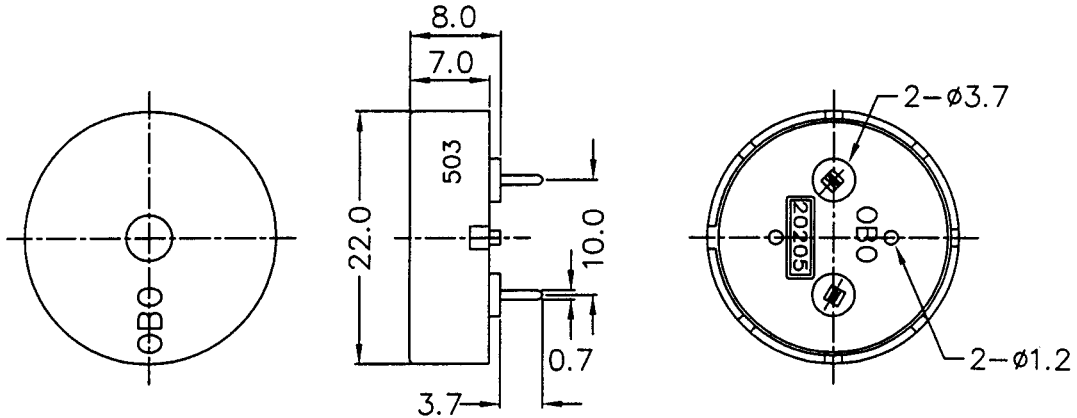
Part shall be measured under a condition (Temperature: +5 to +35°C, Humidity: 45% to 85%R.H.) unless the standard condition (Temperature: +25±3°C, Humidity: 60±10%R.H.) is regulated to measure.

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|------------------|--|---------------------------------|
| OBO Pro.2 | SPECIFICATIONS | MODEL NO. OBO-20205PB |
| | PART NAME Piezoelectric Buzzer | SHEET 4 OF 9 |

3. Mechanical Layout and Dimensions

3.1 Dimensions

Tolerance: $\pm 0.5\text{mm}$ Unit: mm

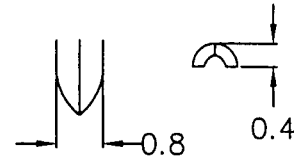


Note : Meaning of Stamp Mark

503 : Production Lot No.

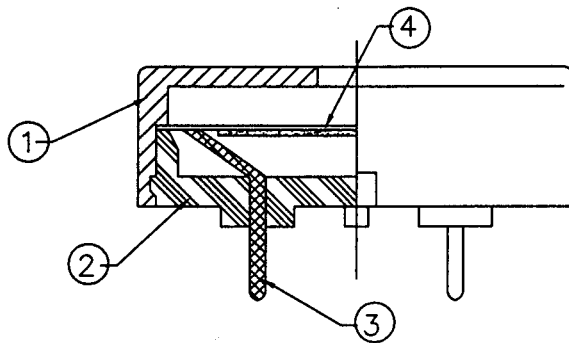
5 : Year 2005 (last 1 figures of the year)

03 : week (01~55)



Pin Terminal

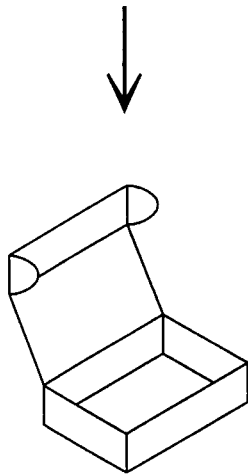
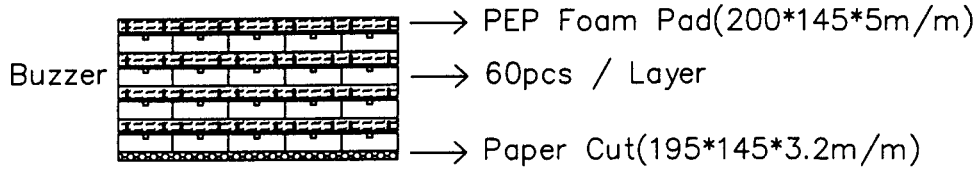
3.2 Construction



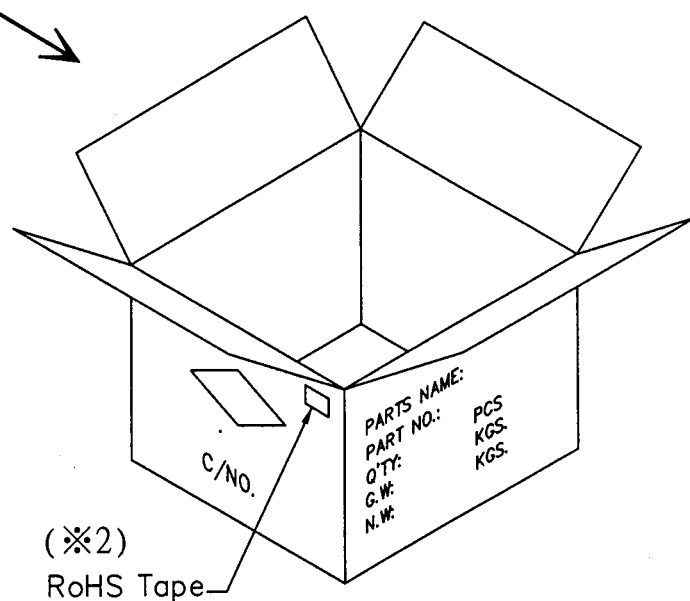
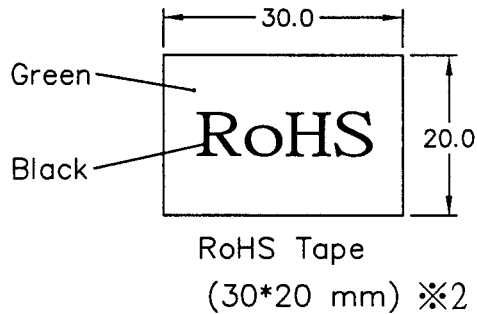
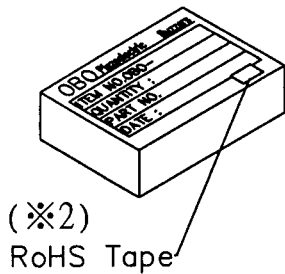
| No. | Component Part | Part Number | Material | Q'TY |
|-----|------------------------|-------------|--------------------------------|------|
| ① | Top Case | B3120050000 | P.B.T. | 1 |
| ② | Bottom Case | B3120360100 | P.B.T. | 1 |
| ③ | Lead Terminal | B4801000460 | Phosphor Bronze (Sn Plated) | 2 |
| ④ | Piezoelectrc Diaphragm | TE20265-16 | Piezoelectric Ceramic Brass | 1 |

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|------------------|--|---------------------------------|
| OBO Pro.2 | SPECIFICATIONS | MODEL NO. OBO-20205PB |
| | PART NAME Piezoelectric Buzzer | SHEET 5 OF 9 |

4. Packing



240pcs(4 Layer)/Inside Box
21.8*15.2*6.1cm



4800pcs(30 box)/Carton
1.74 40.0*38.2*33.0cm.

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|------------------|--|---------------------------------|
| OBO Pro.2 | SPECIFICATIONS | MODEL NO. OBO-20205PB |
| | PART NAME Piezoelectric Buzzer | SHEET 6 OF 9 |

5. Reliability Test Conditions

5.1 Mechanical Sequence

| | Test Items | Test Conditions | Performance Requirements |
|---|---------------------------------|--|---|
| a | Vibration | 10 – 55 –10Hz, Sinewave sweep 15 minutes. X,Y,Z 3 direction 2 hours each, Total 6 hours | The measured values shall meet Remarks 1,2 |
| b | Resistance to Soldering Heat | Lead terminal are immersed up to 1.5m/m from sounder's body in solder bath of 300±5°C for 3±0.5 seconds or 260±5°C for 10±0.5 seconds. | |
| c | Free Drop Test | Free fall from a hight of 100 cm. Onto the 10 m/m thick hardwood board, 9 times, any directions | |
| d | Solderability | Lead terminals are immered in rosin for 5 seccods and then immered in solder bath of 235±5°C for 3±0.5 seconds. | 90% min. lead terminals shall be wet with solder. (Except the edge of terminal.) |
| e | Terminal Strength Pushing | The force 10 seconds of 1.0Kg is applied to each terminal in axial direction. | No visible damage and cutting off. |

5.2 Environmental Sequence

| | Test Items | Test Conditions | Performance Requirements |
|---|-----------------------|--|---|
| a | Humidity Test | +70±2°C, 90 ~ 95%RH,240 hrs. | The measured values shall meet Remarks 1,2 |
| b | High Temp. Storage | +85±2°C,240 hrs. | |
| c | Low Temp. Storage | -40±2°C,240 hrs. | |
| d | Thermal Shock | -40±2°C(30min.) → +85±2°C(30min.) 50 cycle. Transfer Time : 10 minutes | |

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|------------------|--|---------------------------------|
| OBO Pro.2 | SPECIFICATIONS | MODEL NO. OBO-20205PB |
| | PART NAME Piezoelectric Buzzer | SHEET 7 OF 9 |

5.3 Operating Life Sequence

| | Test Items | Test Conditions | Performance Requirements |
|---|---------------------------------|--|--|
| a | Ordinary Temp. Operating Test | Continuous sound generation for 240 hrs. at rated voltage and +25±10°C | The measured values shall meet Remarks 1,2 |
| b | High Temperature Operating Test | Continuous sound generation for 240 hrs. at rated voltage and +70±2°C | |
| c | Low Temperature Operating Test | Continuous sound generation for 240 hrs. at rated voltage and -20±2°C | |

REMARKS:

1. Sounder shall be measured after being placed in natural condition for 4 hours.
2. After the test the part shall meet specifications without any degradation in appearance and performance except SPL: Initial±10dB and Capacitance: Initial±20%
3. Reliability test report is available upon request.

6. Soldering condition

6.1 Wave Soldering

Pre-heating conditions : P.C.B. Temp. shall be +80°C to +120°C for 60 seconds.
Soldering conditions : Solder bath Temp. shall be +240°C to +260°C for 5 seconds.

6.2 Hand Soldering

Iron Tip Temp. : 350°C, Duration : 3 seconds Max.

6.3 Heat resistance

380°C, Duration : 3 seconds Max.

7. Cautions for Use

- 7.1 Please pay attention never to be applied DC voltage to piezo sounder.
- 7.2 The component may be damaged if mechanical stress over this specification is applied.

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|------------------|--|---------------------------------|
| OBO Pro.2 | SPECIFICATIONS | MODEL NO. OBO-20205PB |
| | PART NAME Piezoelectric Buzzer | SHEET 8 OF 9 |

- 7.3 Please pay attention to protect operation circuit from surge voltage provided by something of force such as falling, shock and temperature changing.
- 7.4 Washing of the component is not acceptable because it is not sealed.
- 7.5 The resistor should be used as shown in Fig.1. A suitable resistance value should be chosen, preferably 1K-ohm to 2K-ohm. instead of this measure, a diode may also be applied as shown in Fig.2

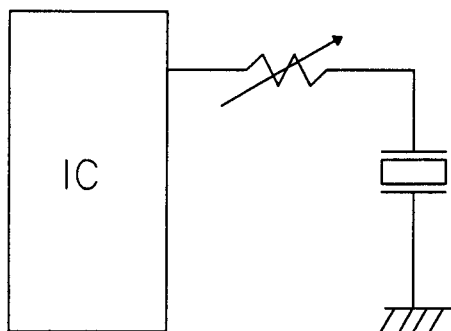


Fig.1

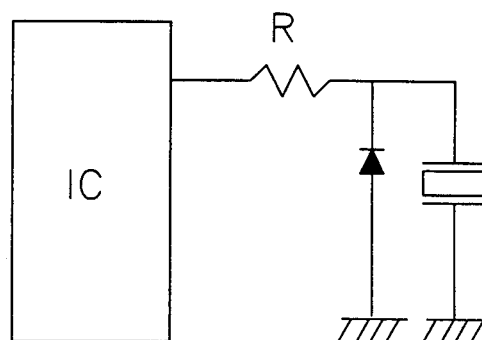


Fig.2

8. Note

8.1 Production Factory

Dongguan city, Guang-dong, China

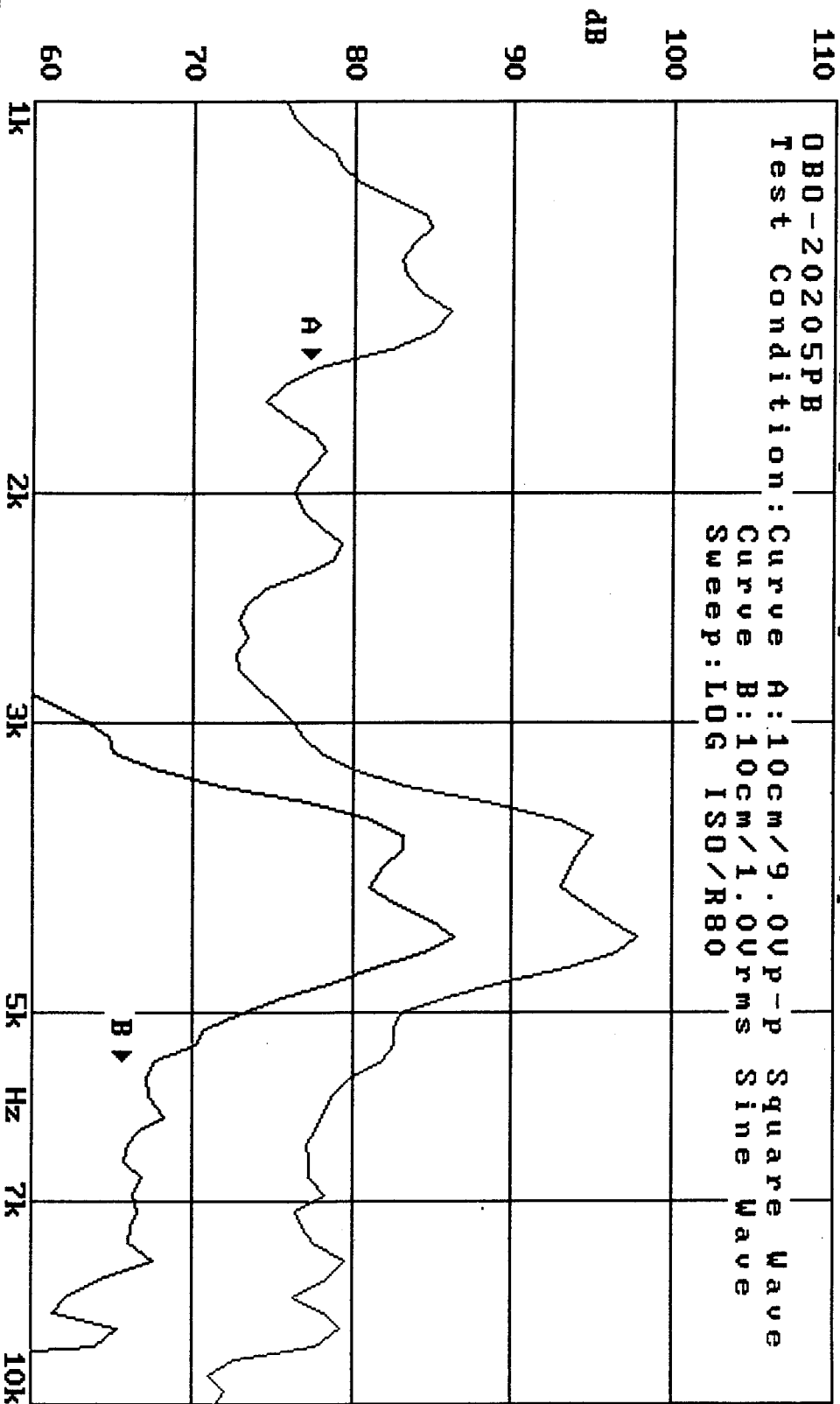
8.2 Piezoelectric Ceramic Disc. (※2)

RoHs Annex :

Application of lead, mercury, cadmium and hexavalent chromium, which are exempted from the requirement of article 4(1).

* Lead in electronic ceramic parts.(e.g. piezoelectronic devices).

Fig. 2: Frequency Response, Magn dB re 20.00µpa



15-MAR-2002 10:55:59

Mode: SSR

