



Part No: CEM-1212S

Description: magnetic buzzer


Date: 6/12/2006

Unit: mm

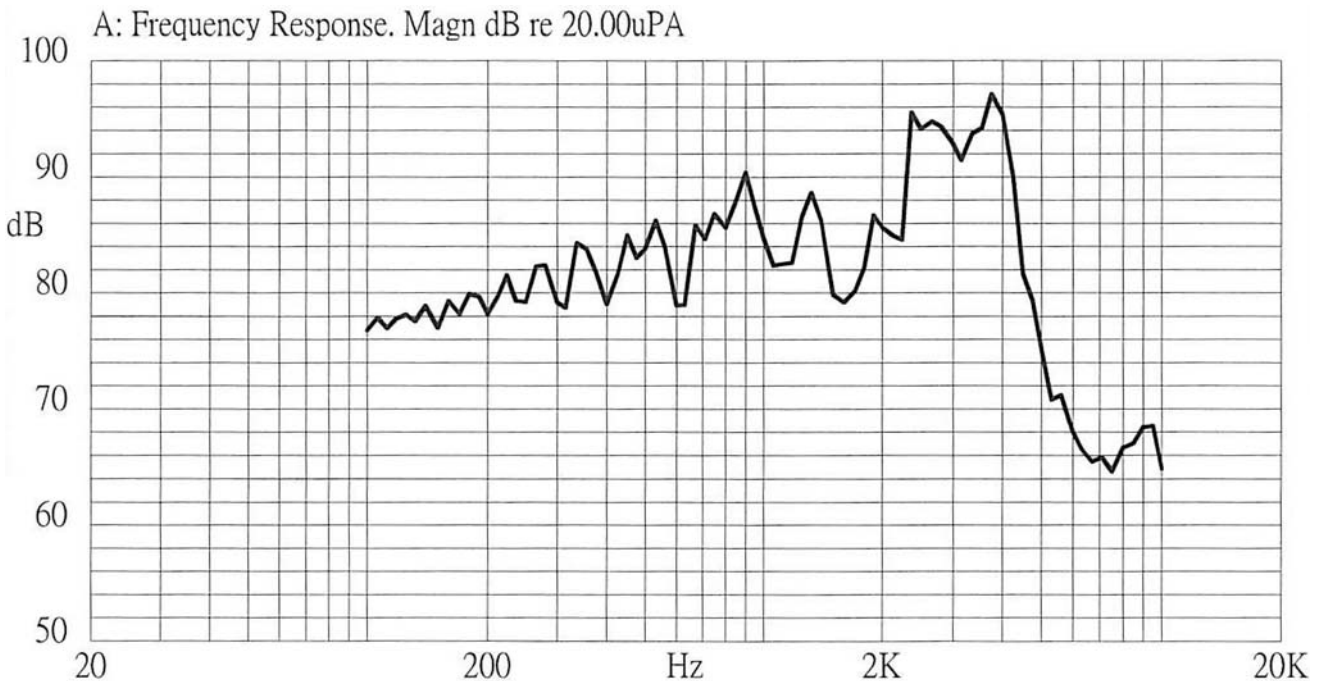
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Specifications

| | | |
|-----------------------|--------------------------|--|
| Rated voltage | 12.0 Vo-p |  |
| Operating voltage | 6.0 - 16.0 Vo-p | |
| Mean current | 40 mA max. | |
| Coil resistance | 140 ±21 Ohm | Applying rated voltage, 2400 Hz square wave, 1/2 duty |
| Sound output | Min. 85 (Typical 92) dBA | Distance at 10cm (A-weight free air). Applying rated voltage of 2400 Hz, square wave, 1/2 duty. |
| Rated frequency | 2,400 Hz | |
| Operating temperature | -20 ~ +60° C | |
| Storage temperature | -30 ~ +70° C | |
| Dimensions | ø12.0 x H9.5 mm | |
| Weight | 1.6 g | |
| Material | PBT (Black) | |
| Terminal | Pin type (Au Plating) | |
| RoHS | yes | |

Frequency Response Curve





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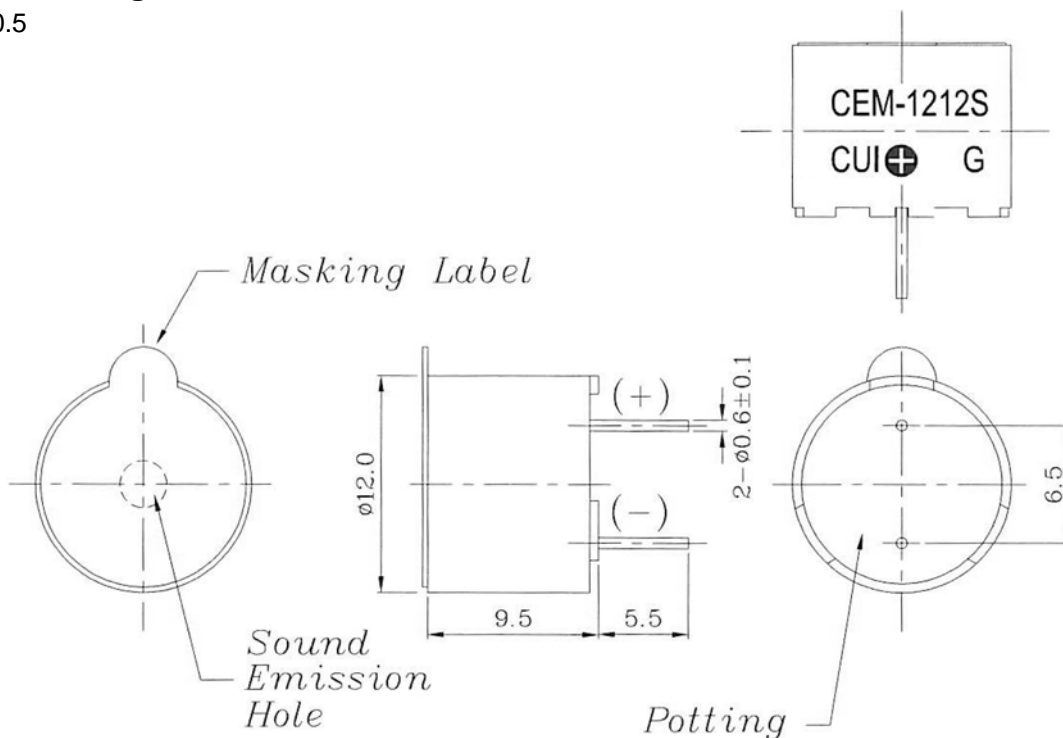
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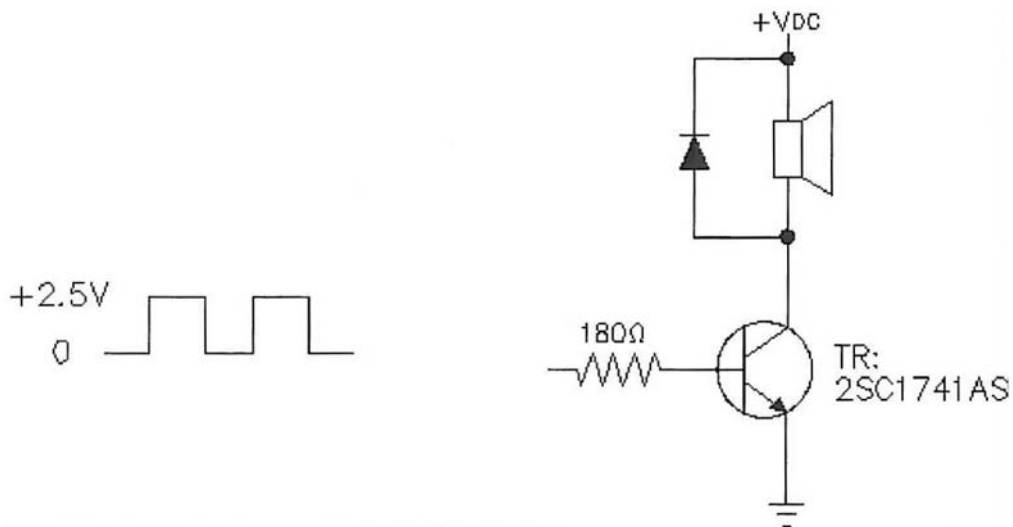
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Appearance Drawing

Tolerance: ± 0.5



Measurement Method





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Mechanical Characteristics

| Item | Test Condition | Evaluation Standard |
|------------------------------|--|---|
| Solderability | Lead terminals are immersed in rosin for 5 seconds and then in a solder bath of +270 ±5°C for 3 ±1 seconds. | 90% min. of the lead terminals must be wet with fresh solder. (Except the edge of the terminal) |
| Soldering Heat Resistance | Lead terminals are immersed up to 1.5mm from the buzzer's body in a solder bath of +260 ±5°C for 3 ±1 seconds. | No in interference in operation. |
| Terminal Mechanical Strength | The force of 9.8 N (1.0 kg) will be applied to each terminal in each axial direction for 10 seconds. | No damage or cutting off. |
| Vibration | The buzzer will be measured after applying a vibration amplitude of 1.5 mm with 10 to 55 Hz band of vibration frequency to each of the 3 perpendicular directions for 2 hours. | After the test, the part will meet specifications without any damage to the appearance and the SPL should be within ±10 dBA of the initial SPL. |
| Drop Test | The part is to be dropped from a height of 75 cm onto a 40 mm thick wooden board 3 times in 3 axis (X, Y, Z) for a total of 9 drops. | |

Environment Test

| Item | Test Condition | Evaluation Standard |
|----------------------|---|---|
| High temp. test | The part will be subjected to +70°C for 96 hours. | After the test, the part shall meet specifications without any damage to the appearance or performance and the SPL should be within ±10 dBA of the initial SPL. |
| Low temp. test | The part will be subjected to -30°C for 96 hours | |
| Thermal shock | The part will be subjected to 10 cycles. One cycle will consist of: <div style="text-align: center;"> <p>The diagram shows a rectangular wave between -30°C and +70°C. The duration at -30°C is 30 min. and the duration at +70°C is 30 min. The total cycle duration is 60 min.</p> </div> | |
| Temp./Humidity cycle | The part shall be subjected to 10 cycles. One cycle will consist of: <div style="text-align: center;"> <p>The diagram shows a trapezoidal wave between +25°C and +70°C. The duration at +70°C is 12 ± 0.5 hrs. The duration at +25°C is 3 hrs. The total cycle duration is 24 hours. Humidity levels are specified as a,b : 90~98%RH and c : 80~98%RH.</p> </div> | |



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Reliability Tests

| Item | Test Condition | Evaluation Standard |
|-----------------------|--|---|
| Operating (Life Test) | 1. Continuous life test: The part will be subjected to 72 hours at +45°C with 12 V, 2400 Hz applied. 2. Intermittent life test: A duty cycle of 1 minute on, 1 minutes off, a minimum of 10,000 times at room temp (+25±10°C) with 12 V, 2400 Hz applied. | After the test, the part shall meet specifications without any damage to the appearance. After 4 hours at +25°C, the SPL should be within ±10 dBA of the initial SPL. |

Test Conditions

| | | | |
|--------------------------|----------------------------|-----------------------|------------------------------|
| Standard Test Condition | a) Temperature: +5 ~ +35°C | b) Humidity: 45 - 85% | c) Pressure: 860 - 1060 mbar |
| Judgement Test Condition | a) Temperature: +25 ±2°C | b) Humidity: 60 - 70% | c) Pressure: 860 - 1060 mbar |



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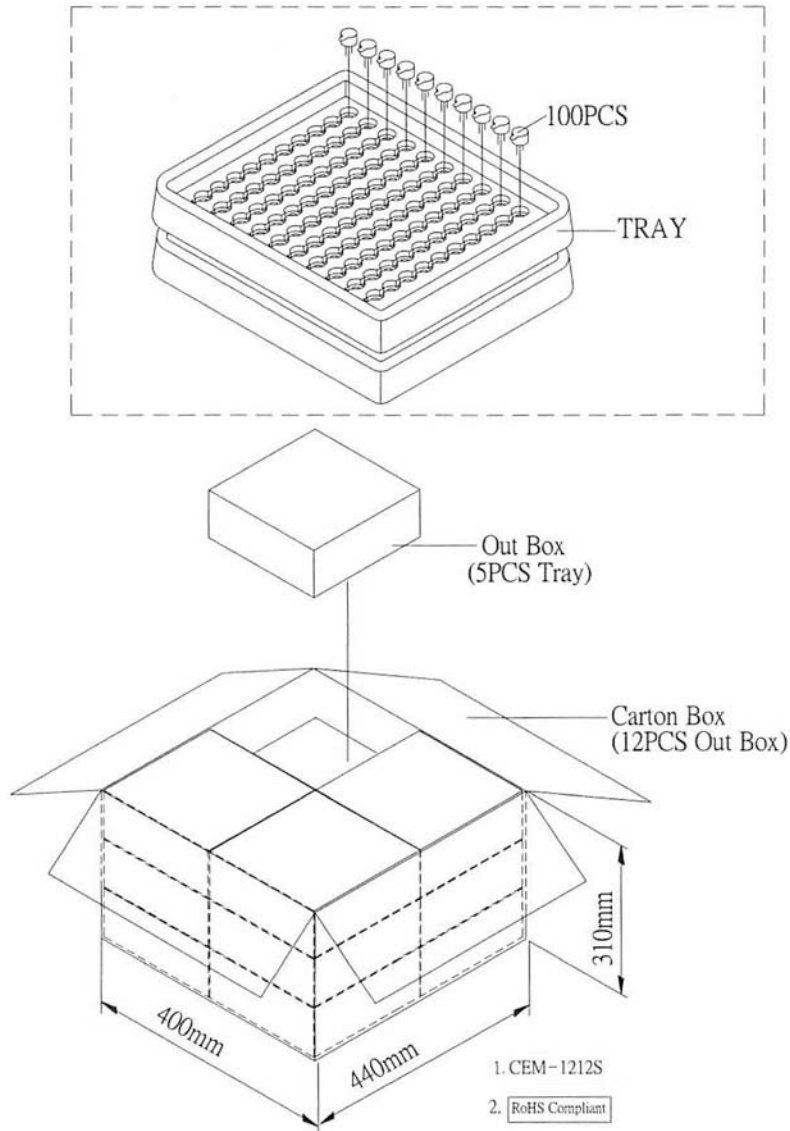
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Packaging



| | | |
|------------|-------------------|----------------------|
| Tray | 184mmx184mmx23mm | 1x100PCS=100PCS |
| Out Box | 200mmx190mmx100mm | 5LAYERx100PCS=500PCS |
| Carton Box | 440mmx400mmx310mm | 500PCSx12=6000PCS |