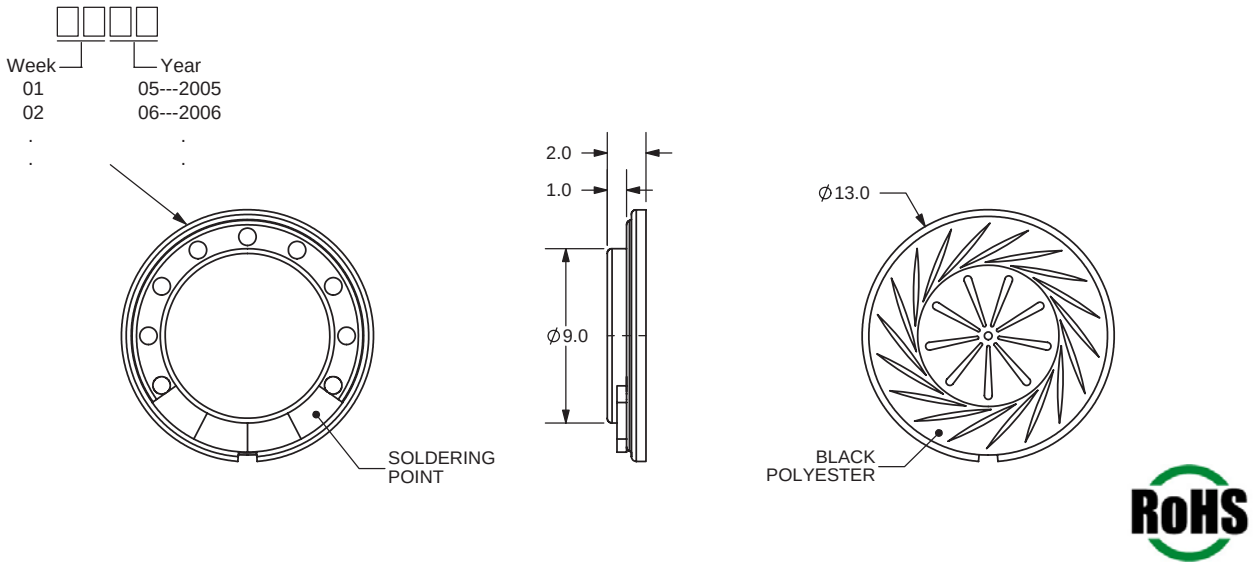
## Specifications

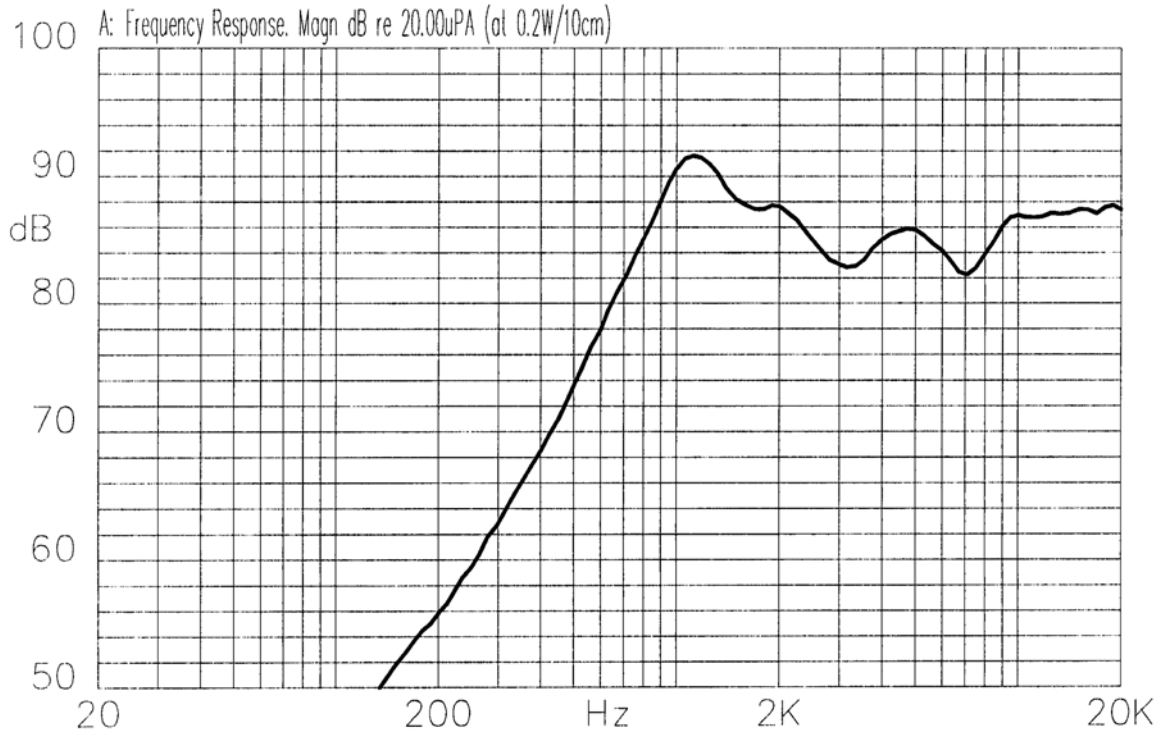
| | | | |
|---|---|---|---|
| Dimensions | ø13.0 x 2.0 mm | | |
| Impedance | 8 Ohm ± 15% | at | 1.5 KHz 1 V |
| Resonant frequency | 1050 Hz ± 20% | at | 1 V |
| Sound pressure level | 86 dB/w ± 3 dB | 0.2 w 10 cm at 1.5K, 2.0K, 2.5K, 3.0K Hz | |
| | 75 dB/w ± 3 dB | 1 w 1m at 1.5K, 2.0K, 2.5K, 3.0K Hz | |
| Response | Fo Hz ~ 20 KHz max. | | |
| Distortion | 10% max. | at 1.5 KHz 0.2W | |
| Input power | Nominal 0.2 W | Handling capacity 0.4 W | |
| Operation | must be normal at program source 0.2 W | | |
| Buzz, rattle, etc. | must be normal at sine wave 1.26 V | | |
| Magnet | ø7.0 x 0.7 (Nd-Fe-B) | | |
| Operating temp. | -20 ~ +55°C | | |
| Weight | 0.7 g | | |
| Material | Metal | | |
| RoHS | yes | | |

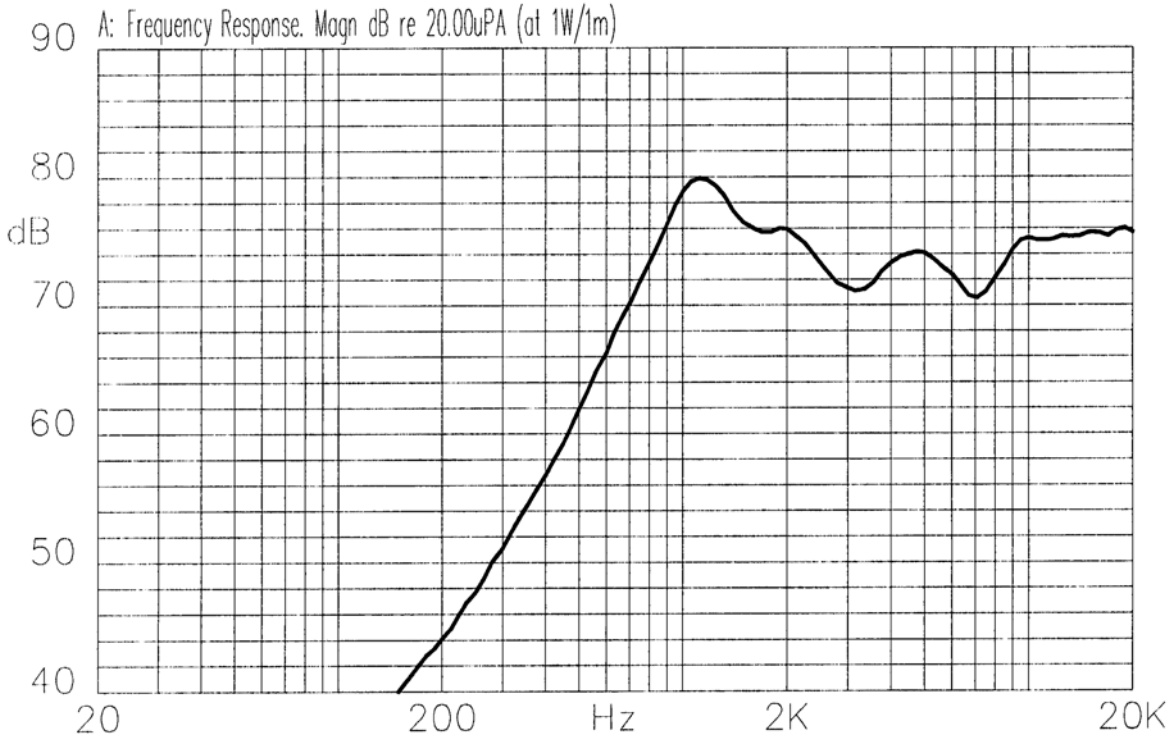
## Mechanical Drawing

Tolerance: ±0.3

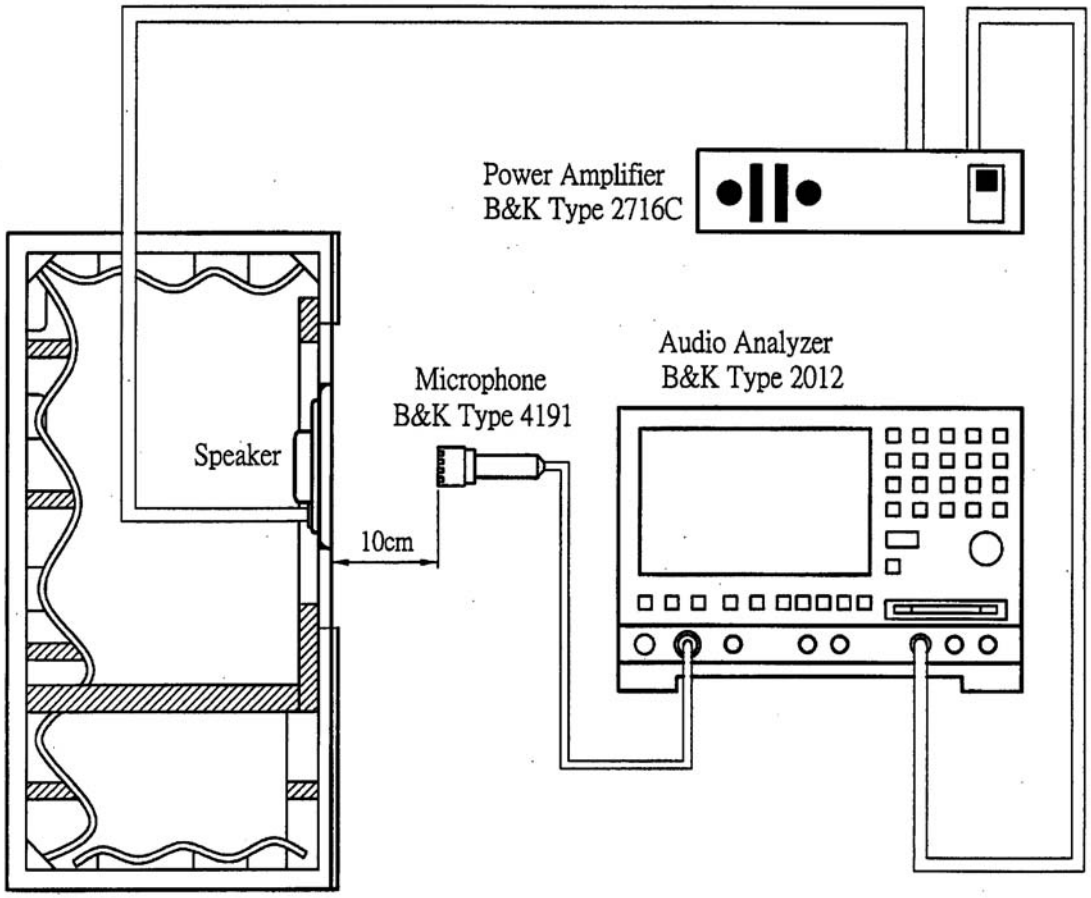


## Frequency Response Curve



## Measurement Circuit

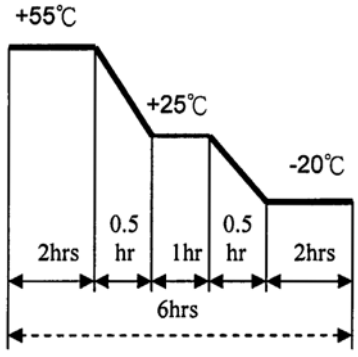



JIS C5531
940mm x 640mm x 1240mm

## Mechanical Characteristics

| Item | Test Condition | Evaluation Standard |
|---|---|---|
| PCB Wire Pull Strength | The pull force should be applied to double lead wire:<br>Horizontal 3.0N (0.306kg) for 30 seconds | No damage or cutting off. |
| Vibration | The speaker should 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. | No obstacle will be harmful to normal operation; damage, cracks, rust, and distortions. Should not be audible at 1.26 V sine wave between Fo ~ 20 KHz. |
| Drop Test | The part will be dropped, contained inside a normal box, from a height of 75 cm onto a 40 mm thick wooden board 10 times. | |

## Environment Test

| Item | Test Condition | Evaluation Standard |
|---|---|---|
| High temp. test | After being placed in a chamber at 55°C for 96 hours. | The speaker will be measured after being placed at +25°C for 6 hours. No obstacle will be harm ful to normal operation; damage, cracks, rust, and distortions. Should not be audible at 1.26 V sine wave between Fo ~ 20 KHz. The SPL should be within ±3dB compared to the initial measurements. |
| Low temp. test | After being placed in a chamber at -20°C for 96 hours. | |
| Humidity test | After being placed in a chamber at +40°C and 90% relative humidity for 240 hours. | |
| Temp. cycle test | The part shall be subjected to 5 cycles. One cycle will consist of:<br>  <br> | |

## Reliability Test

| Item | Test Condition | Evaluation Standard |
|---|---|---|
| Load Test | 0.2 W white noise, applied for 96 hours, at room temperature. | The speaker will be measured after being placed at +25°C for 6 hours. No obstacle will be harm ful to normal operation; damage, cracks, rust, and distortions. Should not be audible at 1.26 V sine wave between Fo ~ 20 KHz. The SPL should be within ±3dB compared to the initial measurements. |

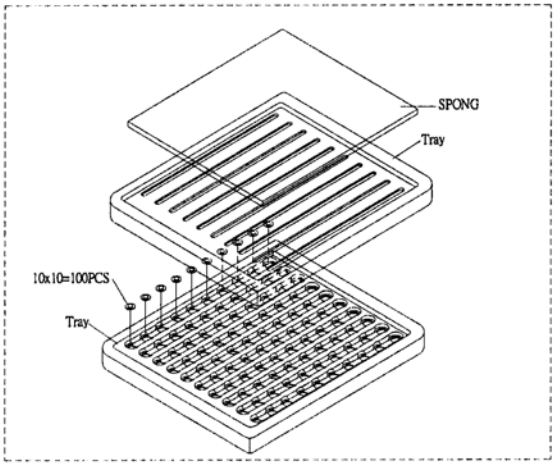
## Test Conditions

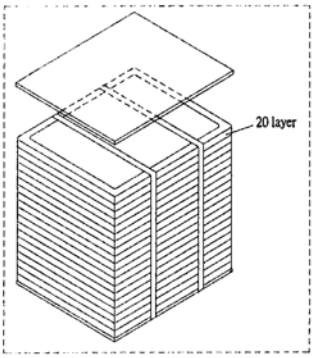
| | | | |
|---|---|---|---|
| Standard Test Condition | a) Tempurature: +5 ~ +35°C | b) Humidity: 45 - 85% | c) Pressure: 860-1060 mbar |
| Judgement Test Condition | a) Tempurature: +25 ±2°C | b) Humidity: 60 - 70% | c) Pressure: 860-1060 mbar |

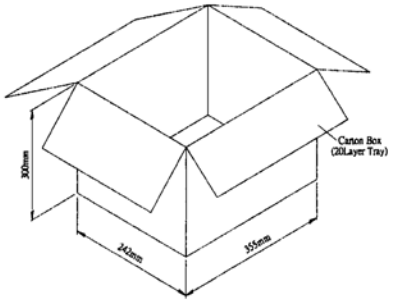
## Recommended Temperature Profile for Hand Soldering

| Hand Soldering |
|---|
| 370±10℃ / 3±1 Sec |

## Packaging




| | | |
|---|---|---|
| Tray | 350mmx235mmx20mm | 1x100PCS=100PCS |
| Carton Box | 355mmx242mmx300mm | 100PCSx20=2,000PCS |