



Part No: CDMG13008L-02

Date: 10/18/2006

Unit: mm

Description: micro dynamic speaker

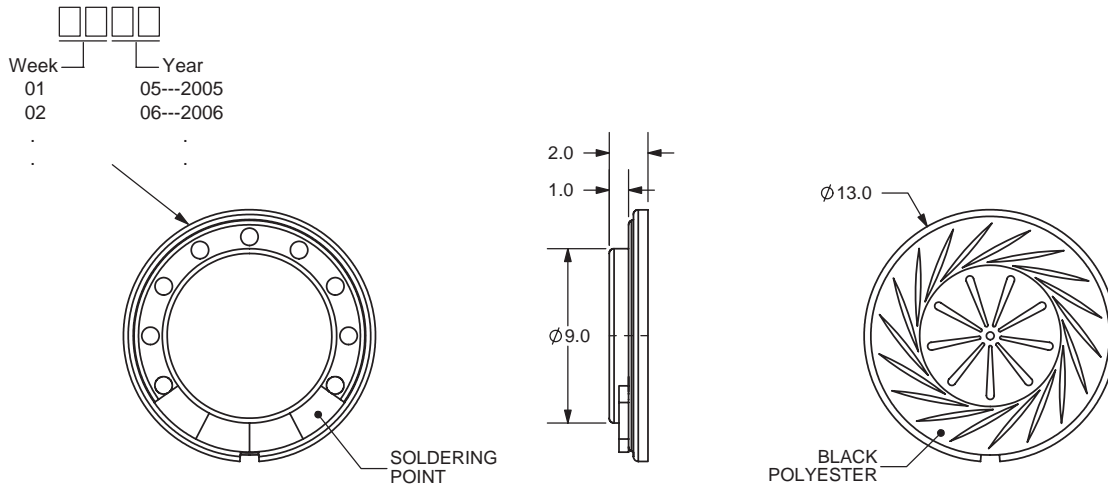
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## Specifications

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





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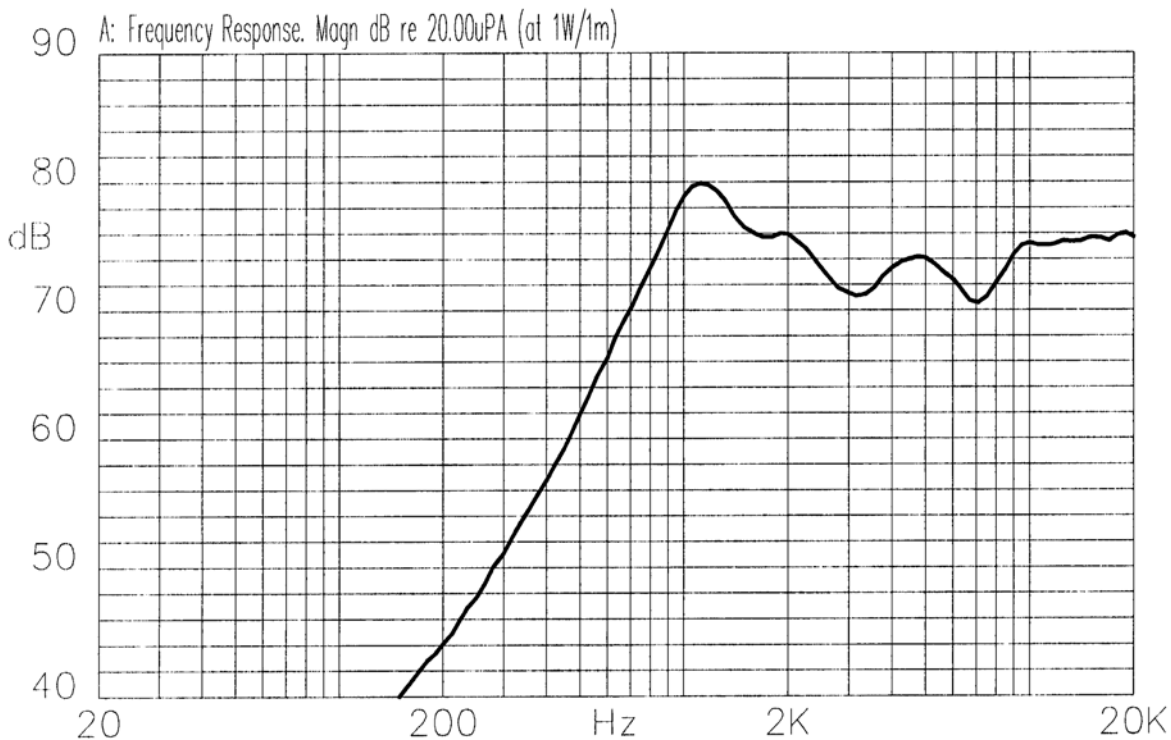
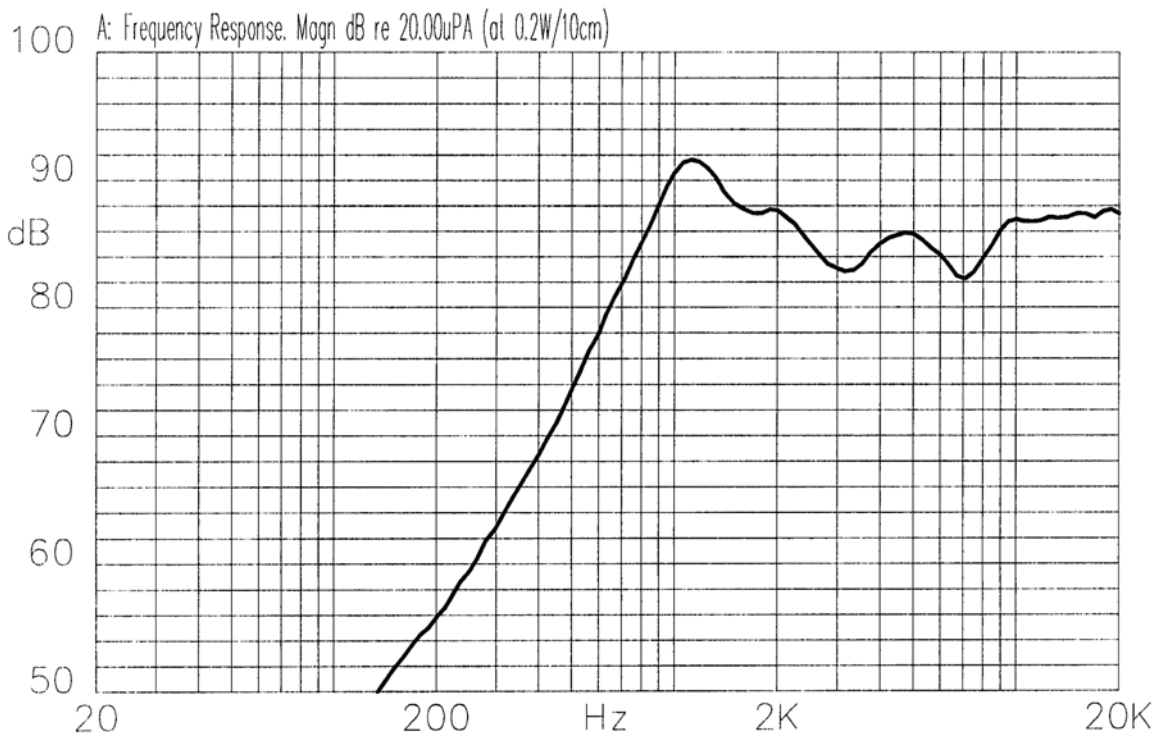
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### Frequency Response Curve





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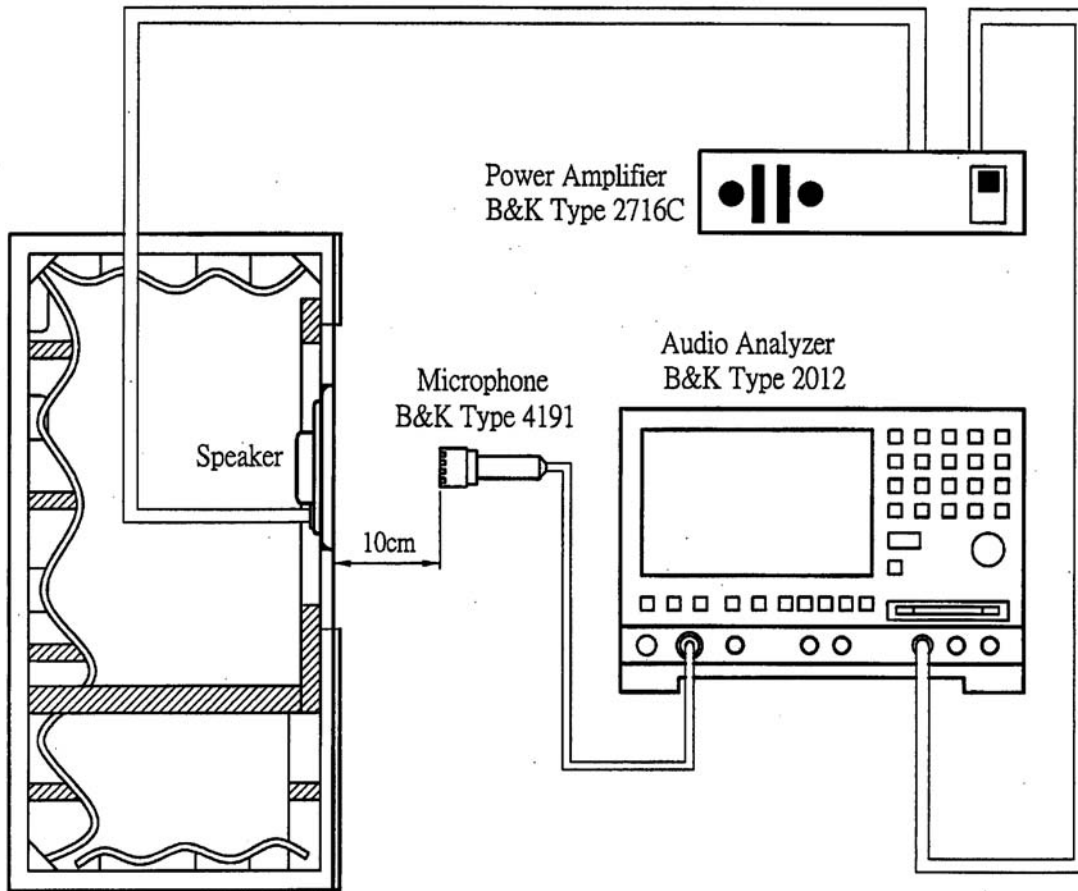
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### Measurement Circuit



JIS C5531  
940mm x 640mm x 1240mm



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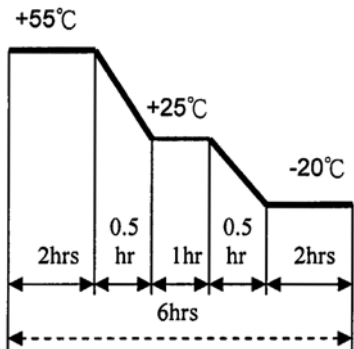
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### Mechanical Characteristics

Item	Test Condition	Evaluation Standard
PCB Wire Pull Strength	The pull force should be applied to double lead wire: 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.
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.	Should not be audible at 1.26 V sine wave between Fo ~ 20 KHz.

### 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 harmful 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:  	



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## 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 harmful 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) 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

## Recommended Temperature Profile for Hand Soldering

Hand Soldering
370±10°C / 3±1 Sec



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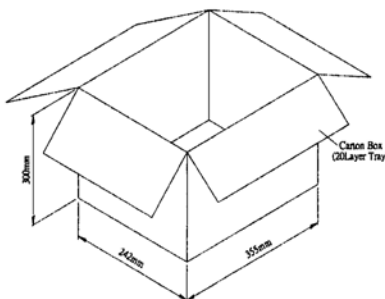
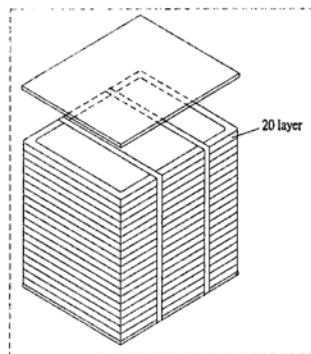
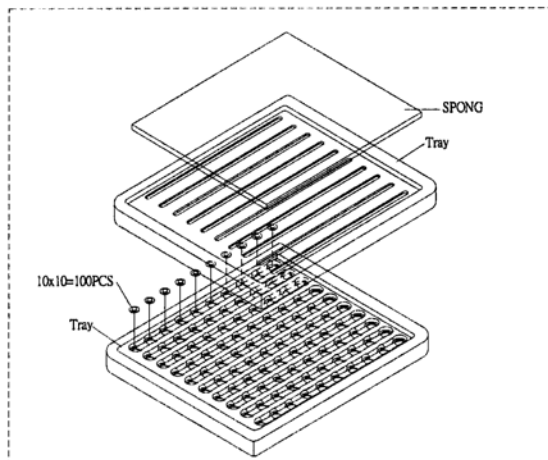
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**Packaging**



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