DYNAMIC SPEAKER

Product No. 139453

BMS2030-11C-08H4.7RW060-G

Issue no. BS/TES01.2097



Features:

- Loud sound output
- RoHS

Drawn by	Checked by	Approved by	
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1.Characteristics

1.1Technical terms

1. Size	See Product drawing
2. Impedance at 2KHz	8±15%Ω
3. Lowest Resonance frequency	900±20%Hz
4. Rated input power	1.0W
5. Maximum input power	1.2W
6. Buzz & Rattle(at sine wave 2.83V)	must be normal between 300-3500Hz
7. SPL	98±3dB (at 0.8K 1.0K 1.2K 1.5KHz in 1W/0.1m average (0dB SPL=20μPa))
8. THD	≤10% at 800-1KHz,≤5% at 1KHz/1W/10cm
9. Weight	≈2.9g
10. Operating temperature	-20...+60℃
11. Storage temperature	-30...+70℃
12. Waterproof Leve	IP67

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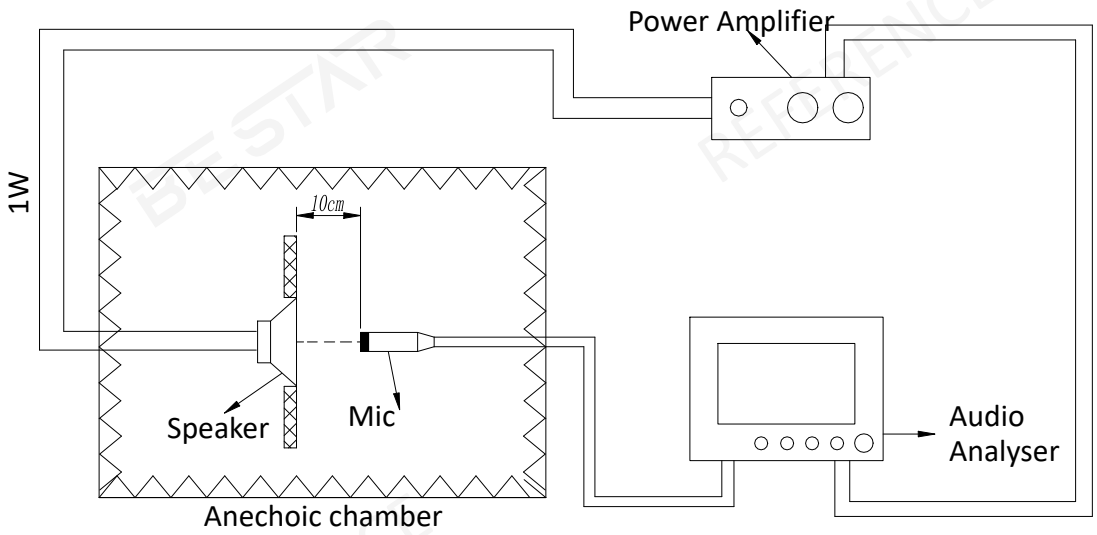
1.2 Test method:



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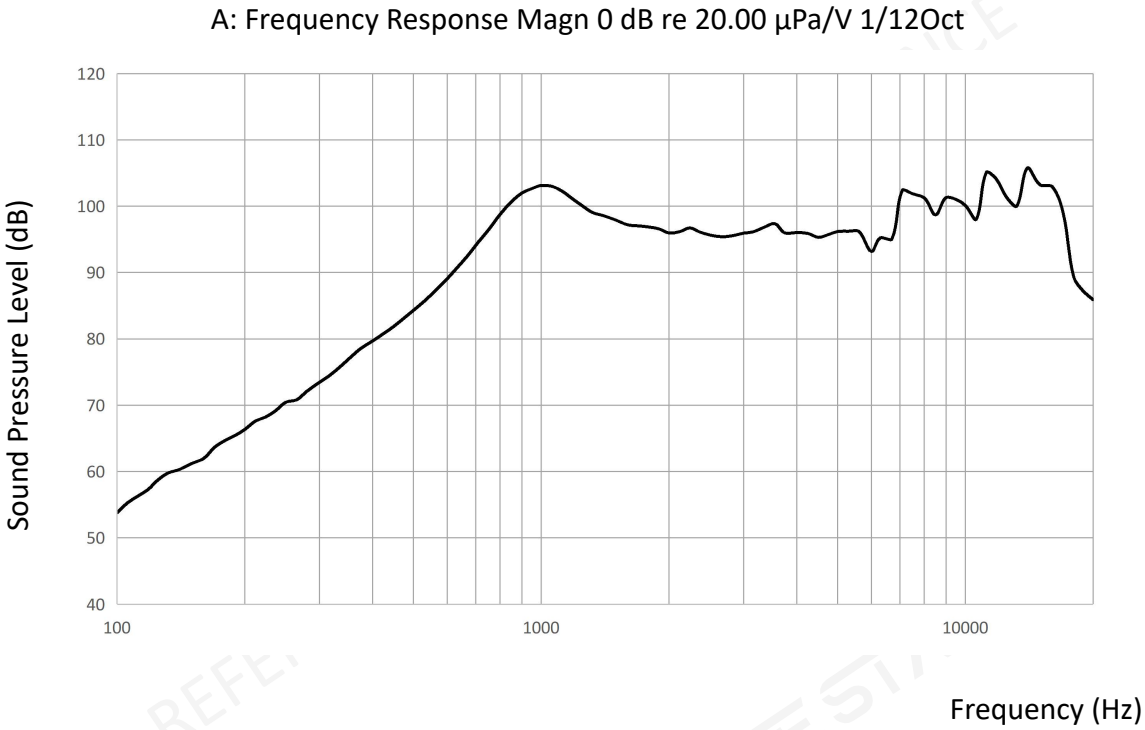
1.3 Frequency Response Curve (only for reference)



1.3.1 Sensitivity

SPL is expressed in dB rel 20 µPa,computed according to IEC 268-5.
Measurement set up according chapter 1.2 and parameters according chapter 1.3

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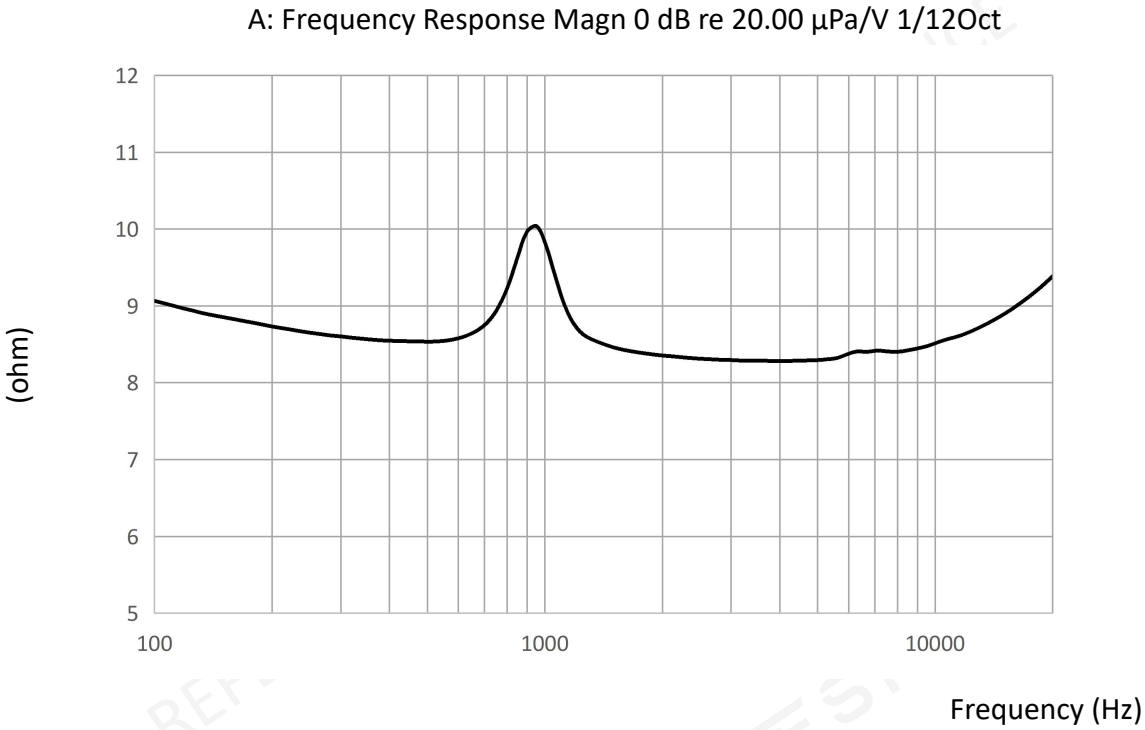
1.4 F0 Curve (only for reference)



1.4.1 Resonance Frequency

Resonance frequency is measured according test set up in chapter 1.2 and parameters according chapter 1.4

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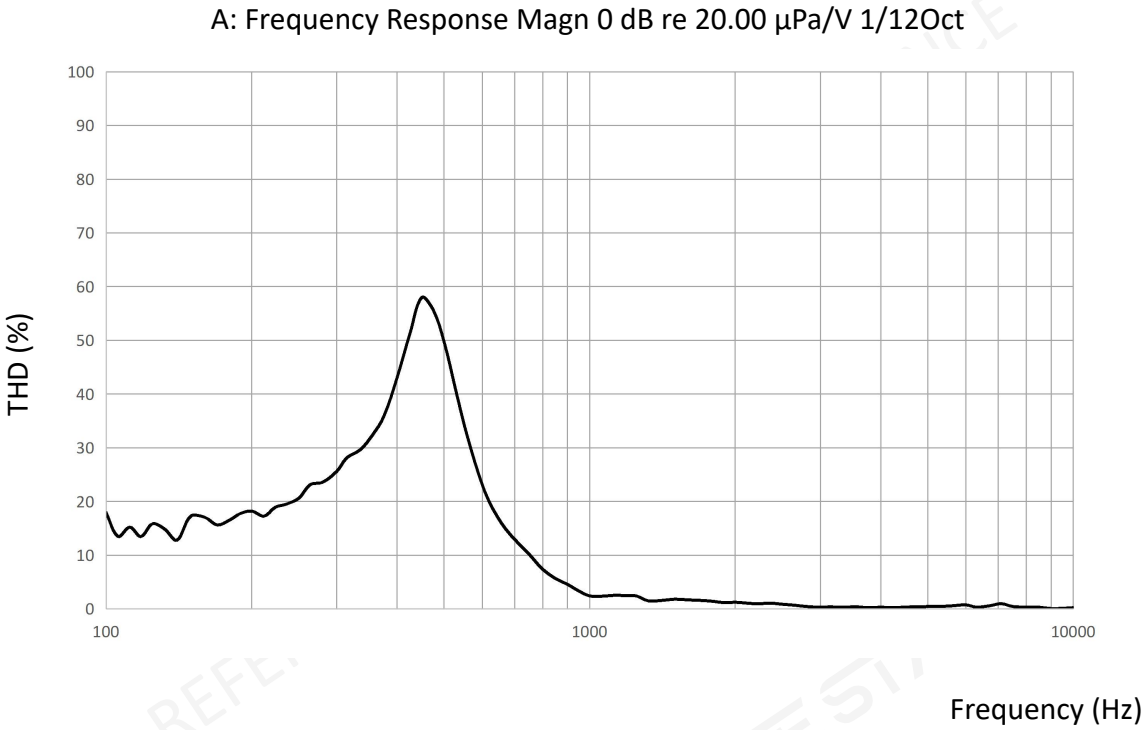
1.5 Total Harmonic Distortion (only for reference)



1.5.1 THD

THD is measured according test set up in chapter 1.2 and parameters according chapter 1.5

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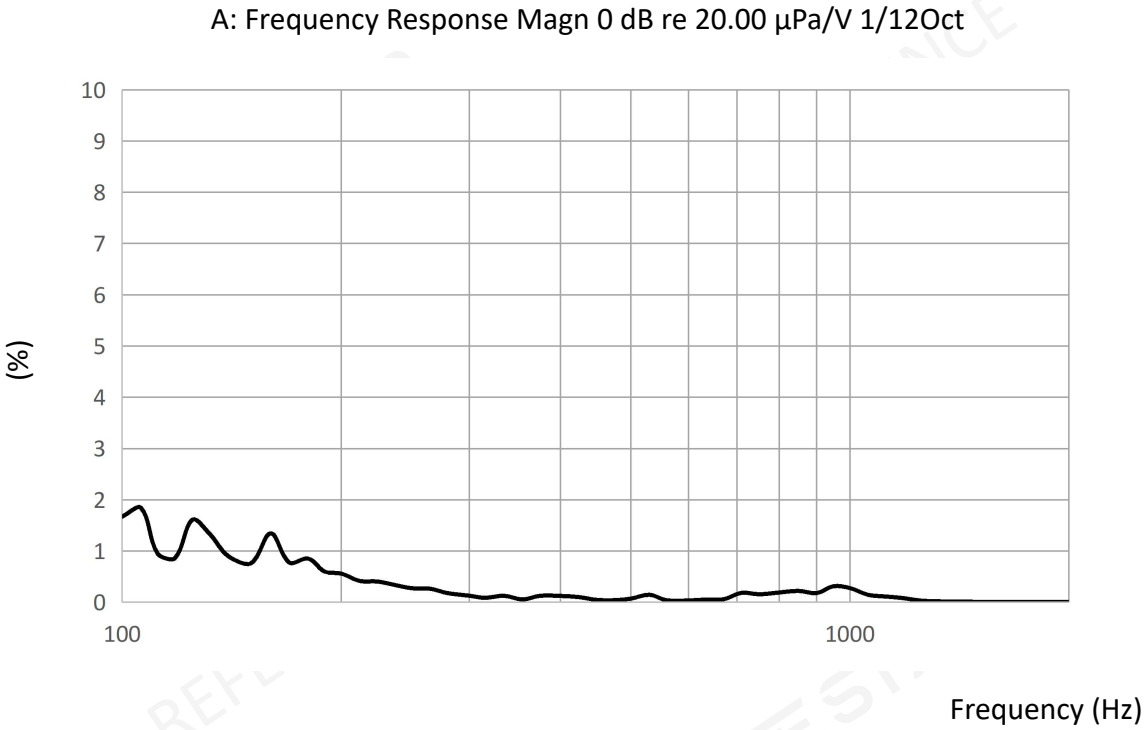
1.6 R&B Curve (only for reference)



1.6.1 R&B

R&B is measured according test set up in chapter 1.2 and parameters according chapter 1.6

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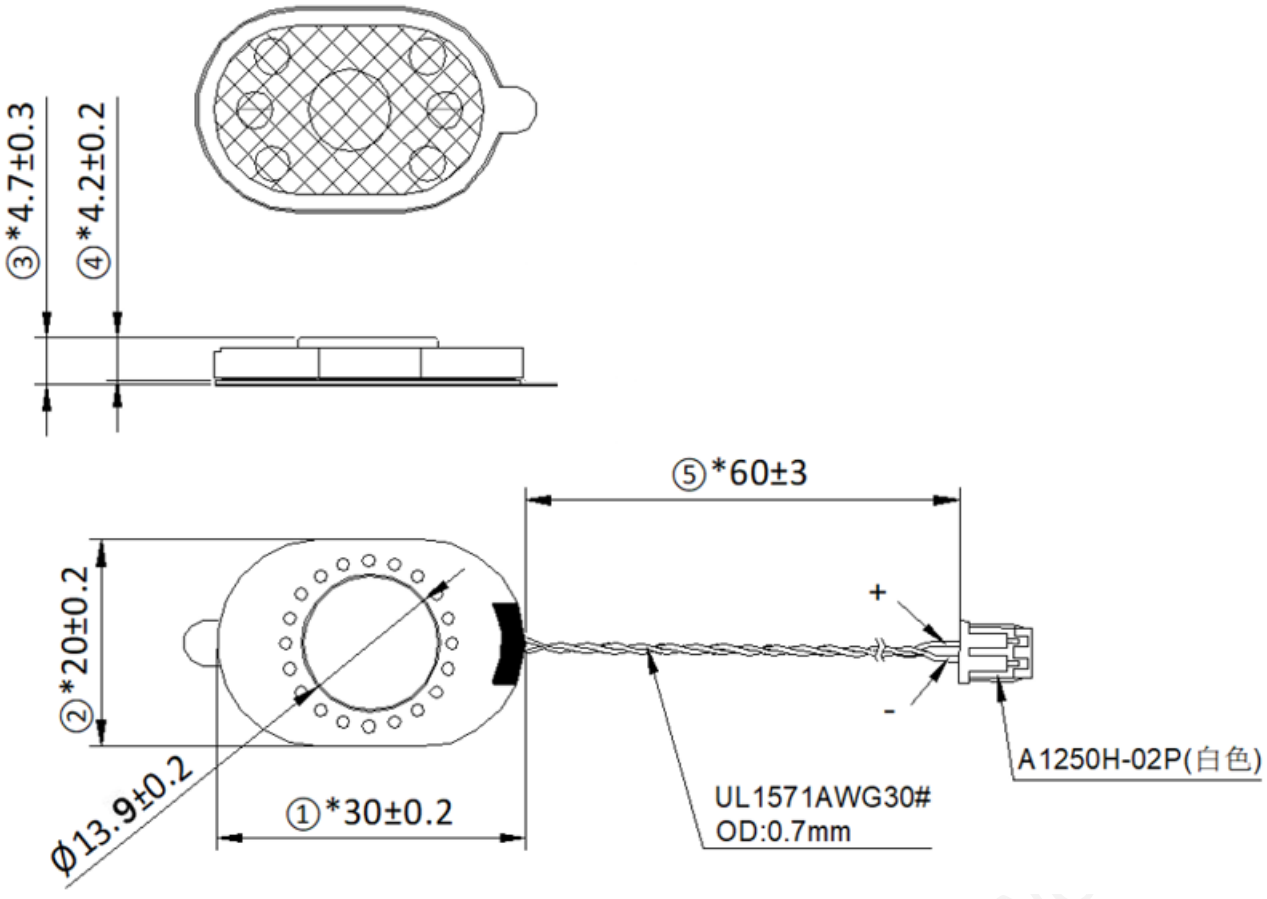
2. Dimension



Tolerance:±0.5mm

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3. Reliability test

3.1 High temp preservation test

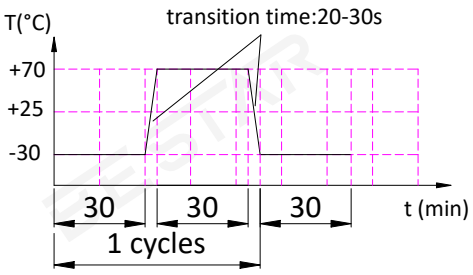
The product was placed in an environment of +70℃ for 96 hours. After the end of the experiment, the product was placed in room temperature for 2 hours and then tested for abnormal sound frequency sweep and acoustic parameters. Sinusoidal wave 2.83Vrms (300~3500Hz) sweeps without abnormal sound, F0 should meet the original specification requirements, and the output sound pressure variation is within ±3dB.

3.2 Low temp preservation test

The product was placed in an environment of -30℃ for 96 hours. After the end of the experiment, the product was placed in room temperature for 2 hours and then tested for abnormal sound frequency sweep and acoustic parameters. Sinusoidal wave 2.83Vrms (300~3500Hz) sweeps without abnormal sound, F0 should meet the original specification requirements, and the output sound pressure variation is within ±3dB.

3.3 Thermal shock test

The product is subjected to 20 times of temperature cycling impact, and the cycling content is as shown in the figure. After the end of the experiment, the product is placed at room temperature for 2 hours, and then abnormal sound frequency sweep and acoustic parameters are tested. Sinusoidal wave 2.83Vrms (300~3500Hz) sweeps without abnormal sound, F0 should meet the original specifications, and the output sound pressure variation is within ±6dB.



3.4 Constant damp heat test

Place the product in a constant temperature +40±2℃ relative humidity 90-95%RH environment for 96 hours. After the experiment, place the product at room temperature to recover for 2 hours, and then perform abnormal sound frequency sweep and acoustic parameter test on the product. Sine wave 2.83Vrms (300~3500Hz) sweep frequency without abnormal sound, the output sound pressure change is within ±3dB.

3.5 Ordinary temp life

At room temperature, the 1.0W,Pink noise signal （F0~10KHz） of the rated power input of the product works continuously for 96 hours.At the end of the experiment, the product was placed at room temperature for 2 hours, and then the abnormal sound frequency sweep and acoustic parameters were tested. Sinusoidal wave 2.83Vrms (300~3500Hz) sweeps without abnormal sound, F0 should meet the original specification requirements, and the output sound pressure variation is within ±3dB.

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3.6 Vibration test

Under the condition of Frequency 10~55Hz Oct/min , the Amplitude 1.5mm was set, and the Duration of 2 hours each of 3 perpendicular directions was set. At the end of the experiment, the product was placed at room temperature for 6 hours, and then the abnormal sound frequency sweep and acoustic parameters were tested. Sinusoidal wave 2.83Vrms (300-3500Hz) sweeps without abnormal sound, F0 should meet the original specifications, and the output sound pressure variation is within ±3dB..

3.7 Drop test

Free fall on concrete 100 cm high a total of 10 times. After thetest, there is no separation, deformation, clearance or cracking in part of the product. The sinusoid wave sweeps 2.83Vrms (300~3500Hz) without abnormal sound. F0 should meet the original specifications and the variation of output sound pressure is within ±3dB.

3.8 Waterproofing test (strong water spraying test)

Test conditions: The sample (except the sound outlet surface, all the samples have been protected) The top of the product is 0.15 - 1m away from the water surface for 30 minutes without affecting the performance and water leakage., sine wave sweeps 2.83Vrms (300~3500Hz) No abnormal sound in frequency sweep,F0 should meet the original specification requirements, and the variation of output sound pressure is within ±3dB

3.9 High temperature life test

At high temperature +60℃, the pink noise signal（FO~10KHz）of the rated power input of the product works continuously for 96 hours.At the end of the experiment, the product was placed at room temperature for 2 hours, and then the abnormal sound frequency sweep and acoustic parameters were tested. Sinusoidal wave 2.83Vrms (300~3500Hz) sweeps without abnormal sound, F0 should meet the original specification requirements, and the output sound pressure variation is within ±10dB.

3.10 Low temperature life test

At low temperature -20℃, the pink noise signal（FO~10KHz）of the rated power input of the product works continuously for 96 hours.At the end of the experiment, the product was placed at room temperature for 2 hours, and then the abnormal sound frequency sweep and acoustic parameters were tested. Sinusoidal wave 2.83Vrms (300~3500Hz) sweeps without abnormal sound, F0 should meet the original specification requirements, and the output sound pressure variation is within ±10dB.

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4. History change record

Version	Change Items	Date	Drawn	Checked	Approved
A0	First Edition	2022.04.06	Judy.Yang	Peter.Huang	Jason.Zhang
A1	Change dimensional tolerance	2023.08.24	Judy.Yang	Emma.Ren	Jason.Zhang

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5.Important Notice

5.1 The products mustn't be washed

5.2 Storage Condition (Packaging)

The products should be stored in the room ,where the temperature/humidity is stable. And avoid suchplaces where there are large temperature changes. Please store the products at the following conditions:

Temperature: -10 to + 40℃ Humidity: 15 to 85% R.H.

5.3 Expire Date on Storage

Expire date (Shelf life) of the products is six months after deliveried under the conditions of a sealed and an unopened package. Please use the products within six months after deliveried.

If you store the products for a long time (more than six months), use carefully because the products may be degraded in the solderability and/or rusty.Please confirm solderability and characteristics for the products regularly.

5.4 Notice on Product Storage

(1) Please do not store the products in a chemical atmosphere (Acids, Alkali, Bases, Organic gas, Sulfides and so on), because the characteristics may be reduced at quality, and/or be degraded in the solderability due to the storage in a chemical atmosphere.

(2) Please use the products immediately after the package is opened, because the characteristics may be reduced at quality, and/or be degraded in the solderability due to storage under the poor condition.

5.5 Rated and Max input power

Rated input power

Rated input power is the maximum (limit) value which can be input to the component intentionally. If the actual input power to component keeps exceeding Rated Input power, it will damage the component acoustic performances and reliability. In the worst case, the component will get broken and no sound.

Max input power

Max input power is the maximum (limit) value for unexpected input power which is caused in the customer's circuit like surge voltage. If the actual input power to component keeps exceeding Maximum input power, it will break the component and cause no sound in a short time. Please note that component will have a risk to get broken if the unexpected input power continues.

The value of input power is set based on the sinusoidal power in the normal speaker use. If the special signal is input to component, the values of Rated and Max input power will be different. Please make a well-investigation at your laboratory in the case of the special signal input.

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