

SPECIFICATION

Customer : QUARTZ

Applied To :

Product Name : Speaker

Model Name : KP1530SP1

Drawing No. : KFC2871

Signature of Approval

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Signature of KEPO

Approved by	Checked by	Issued by	Date



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1. Scope

This specification is applied to the dynamic speaker which is used all of the electrical acoustic product.

- compact, rich sound
- applications: mobile phone, PDA, notebook computer, etc. ..

2. General

- 2.1 Out-Diameter : Ø15 mm
- 2.2 Height : 3.4 mm
- 2.3 Weight : 1.45 gr.
- 2.4 Operating Temperature range:
-20~+70 °C without loss of function
- 2.5 Store Temperature range:
-40~+85 °C without loss of function

3. Electrical and Acoustic Characteristics.

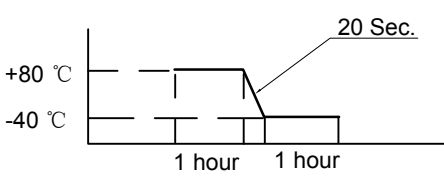
Test condition : 15 ~ 35 °C, 25% ~ 85% RH, 860~1060 mbar

	Items	Specification
1	Impedance	$8 \Omega \pm 15\%$ (at 1Vrms,1.5kHz)
2	Sound Pressure Level	90dB \pm 3dB(1kHz/0.1W/0.1M)
3	Resonance Frequency	800 Hz \pm 20%
4	Frequency Range	F _o ~ 20.0kHz
5	Input Power	Rated 0.5W / Max. 1.0W
6	Distortion	<10% Max. at 2kHz/2Vrms
7	Buzz and Rattle	Should not be audible buzzes,rattles when the 2.0V sine wave signal swept at frequency range.
8	Polarity	When supplied plus D.C. voltage to (+) terminal, the cone diaphragm must move to forward.

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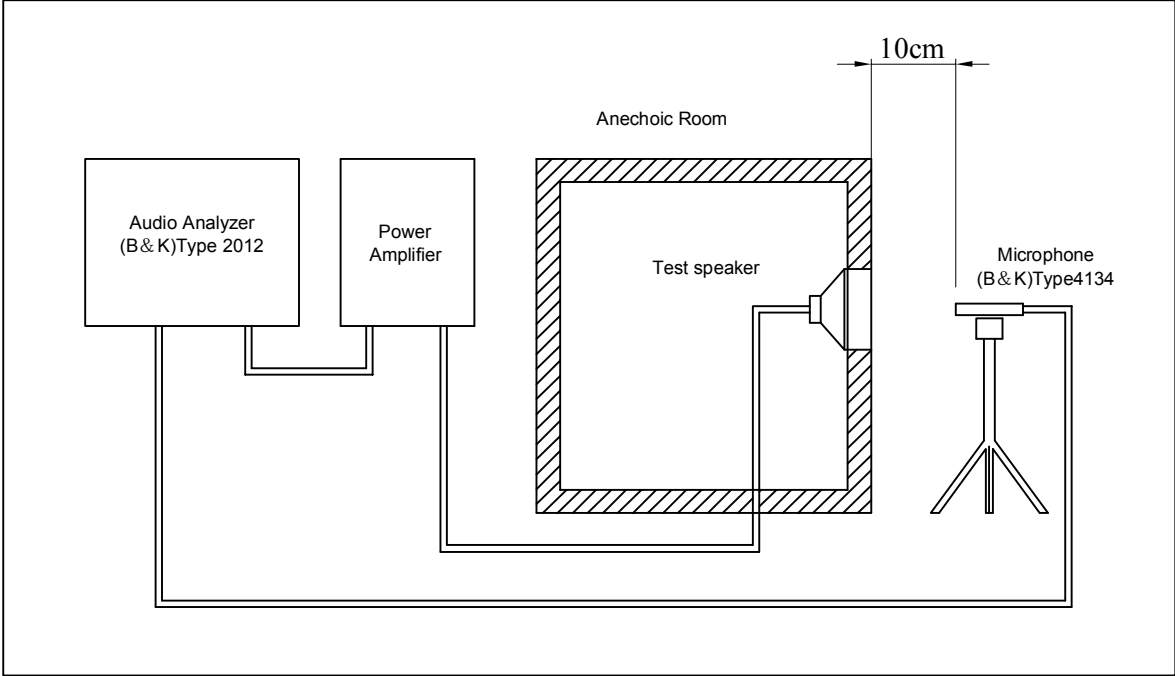
4. Reliability Test

After test(1~7item), the speaker S.P.L . difference shall be within $\pm 3\text{dB}$, and the appearance not exist any change to be harmful to normal operation(e.g. cracks,rusts,damages and especially distortion).

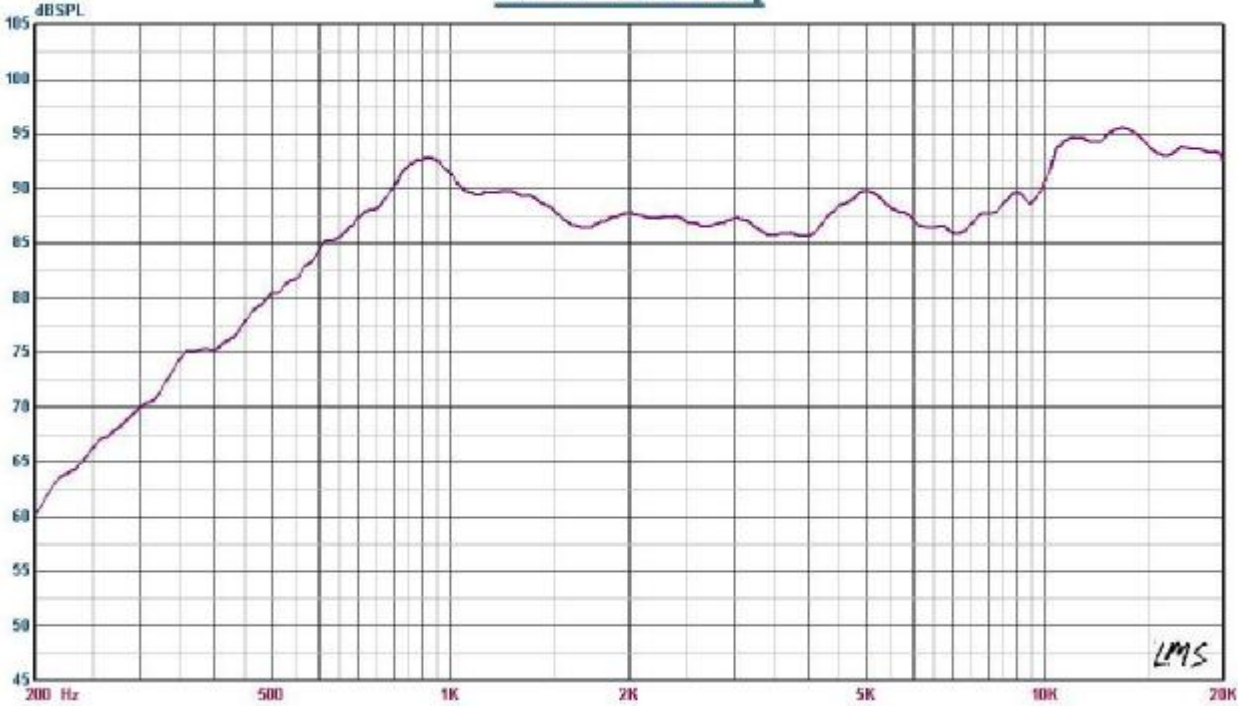
	Item	Specification
1	High Temperature Test	After being placed in a chamber with $+85\pm 3\text{ }^\circ\text{C}$ for 96 hours and then being placed in natural condition for 1 hour, speaker shall be measured.
2	Low Temperature Test	After being placed in a chamber with $-40\pm 3\text{ }^\circ\text{C}$ for 96 hours and then being placed in natural condition for 1 hour, speaker shall be measured.
3	Humidity Test	After being placed in a chamber with 85 to 90%R.H. at $+40\pm 2\text{ }^\circ\text{C}$ for 96 hours and then being placed in natural condition for 1 hour, speaker shall be measured.
4	Thermal Shock Test	<p>After being placed in a chamber at $+80\text{ }^\circ\text{C}$ for 1 hour, then speaker shall be placed in a chamber at $-40\text{ }^\circ\text{C}$ for 1 hour(1 cycle is the below diagram).</p> <p>After 6 above cycles, speaker shall be measured after being placed in natural condition for 1 hour.</p> 
5	Vibration Test	After being applied vibration of amplitude of 1.5mm with 10 to 55Hz band of vibration frequency to each of 3 perpendicular directions for 1 hour, then placed in natural condition for 1 hour, speaker shall be measured.
6	Drop Test	The speaker when mounted in the jig which weight 85g~100g, shall with stand 15 times random drops from a height of 1.5 meter to a concrete floor faced with 5mm thick hard wood board.and be nothing mechanical damage.
7	Load test	After being applied loading white noise with input power 0.5W(2.0Vrms.) for 96 hours, then placed in natural condition for 1 hour, speaker shall be measured.
8	Insulation test	When they are measured with DC 100V the insulation resistance between v.c. terminal and frame must be more than 1 MΩ

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5. Measurement Block Diagram & Response curve

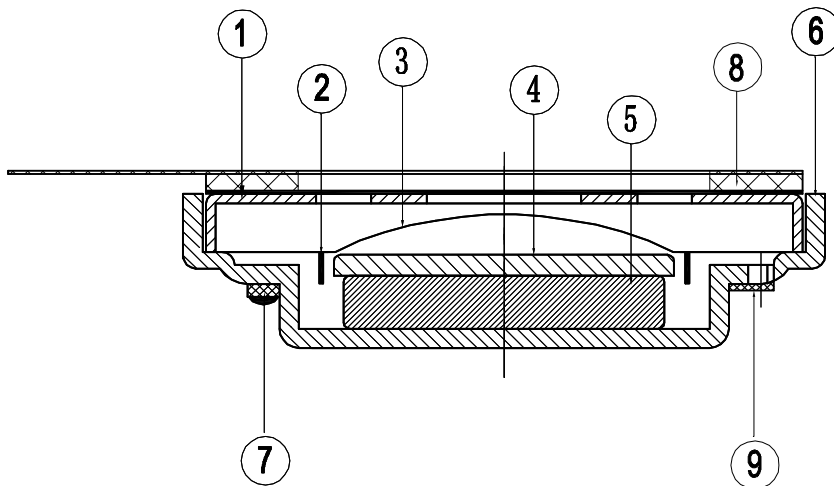


SPL vs Freq



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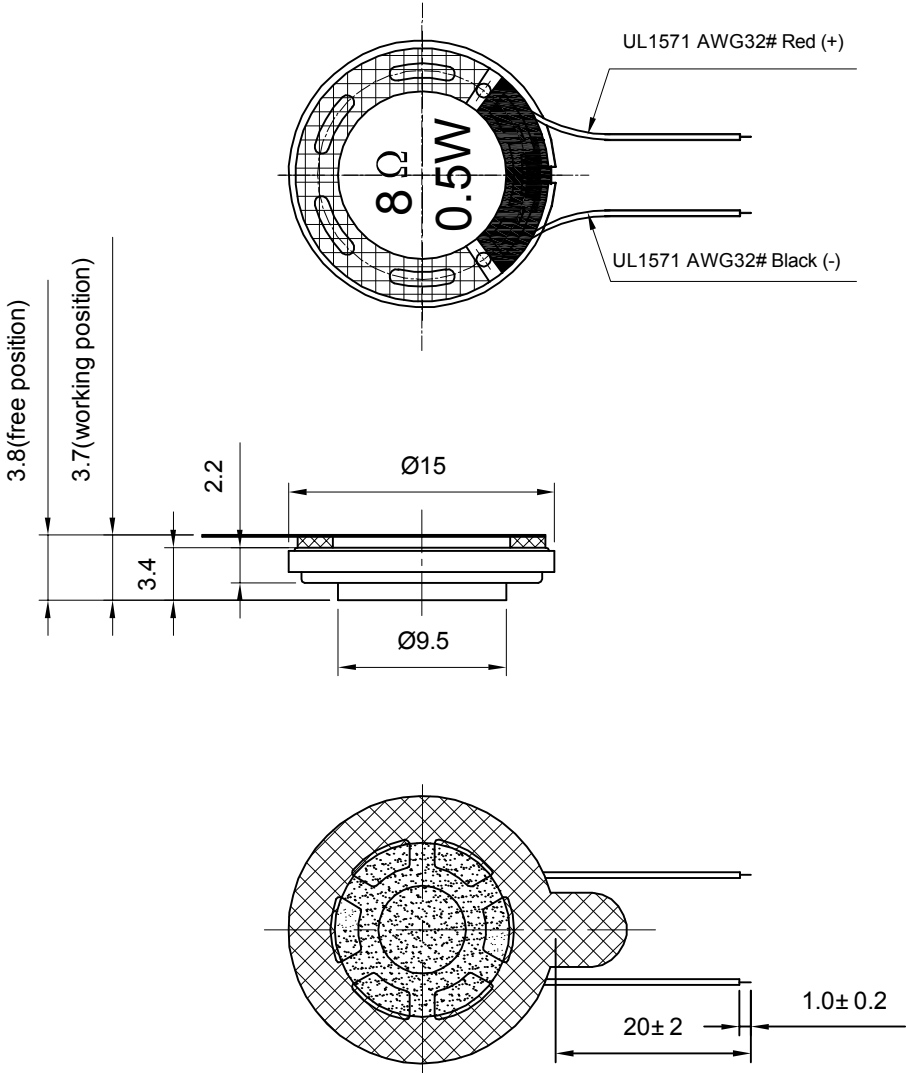
6. Structure



9	Screen	1	net120#	
8	Gasket	1	unwoven fabric	800+2B+800
7	Terminal	1	Epoxy PCB	
6	Frame	1	SPC	
5	Magnet	1	Nd-Fe-B	
4	Plate	1	SPC	
3	Diaphragm	1	PEI	
2	Voice Coil	1	Copper	
1	Cap	1	SPC	
No.	Part Name	Q'TY	Material	Remarks

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7. Dimensions

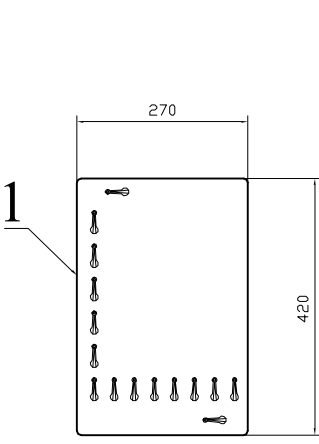


FIRST ANGLE PROJECTION

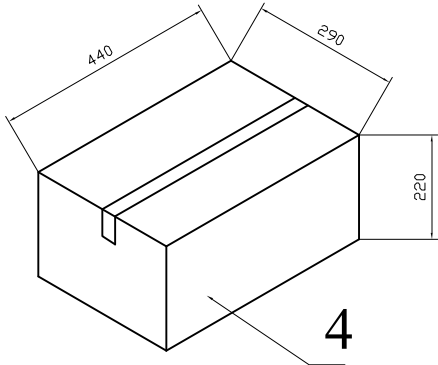
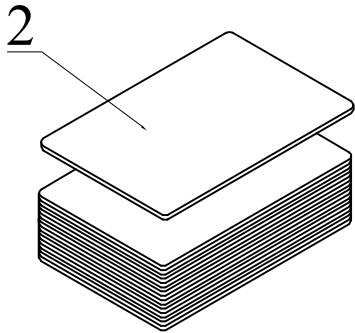
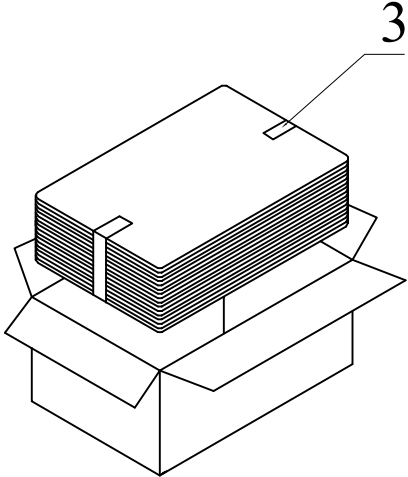
UNIT : mm
Tolerance : ± 0.2

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8. Packing



100Pcs



QTY: 2000Pcs
440 x290 x220

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9. Revision

Rev. No.	DATE	PAGE	DESCRIPTION	BOM
1.0	2007.10.22		Primary	