

Specification for Speaker	Page	2/9
	Revision No.	1.3
Model No. : KP3440ST1R50-6990	Drawing No.	KFC6990

CONTENTS

1. Scope
2. General
3. Electrical and Acoustic Characteristics.
4. Reliability Test
5. Measurement Block Diagram & Response curve
6. Structure
7. Dimensions
8. Packing
9. Revision

Specification for Speaker	Page	3/9
	Revision No.	1.3
	Drawing No.	KFC6990

Model No. : KP3440ST1R50-6990

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 : 34 mm

2.2 Height : 4 mm

2.3 Weight : 5.5 g

2.4 Operating Temperature range:

-40 ~+85 °C without loss of function

2.5 Store Temperature range:

-40 ~+90 °C without loss of function

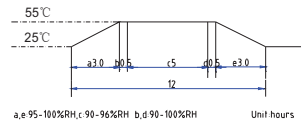
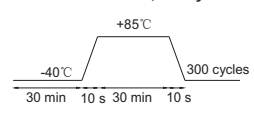
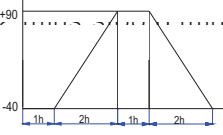
3. Electrical and Acoustic Characteristics.

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

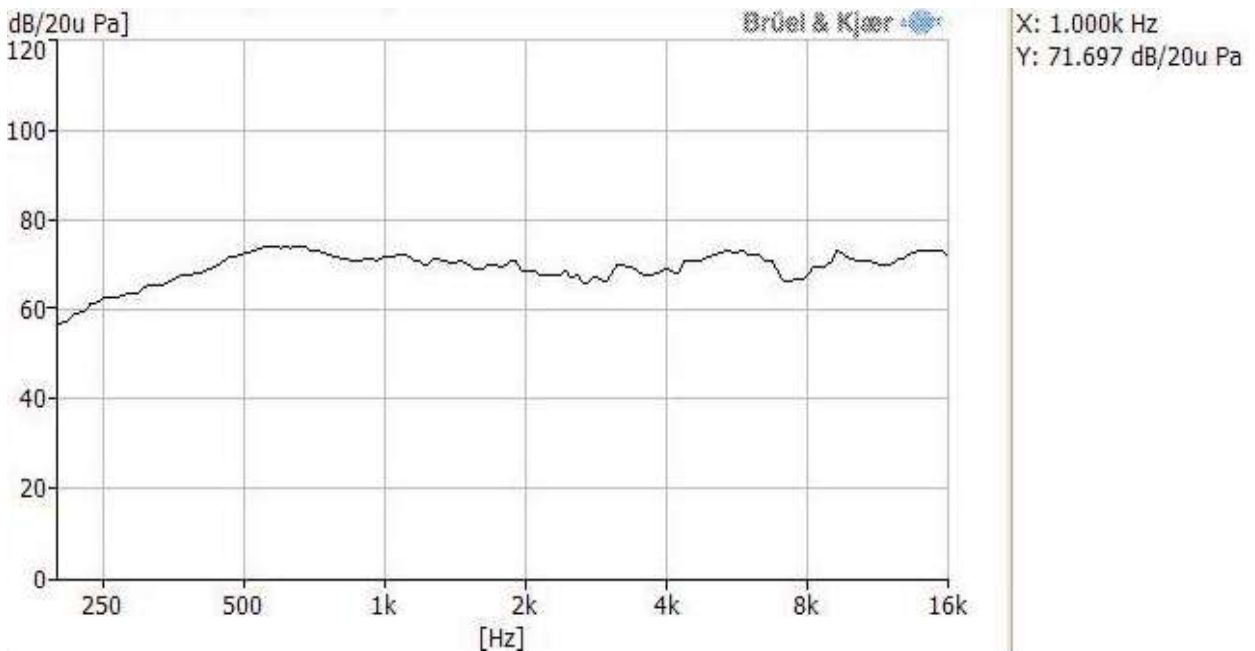
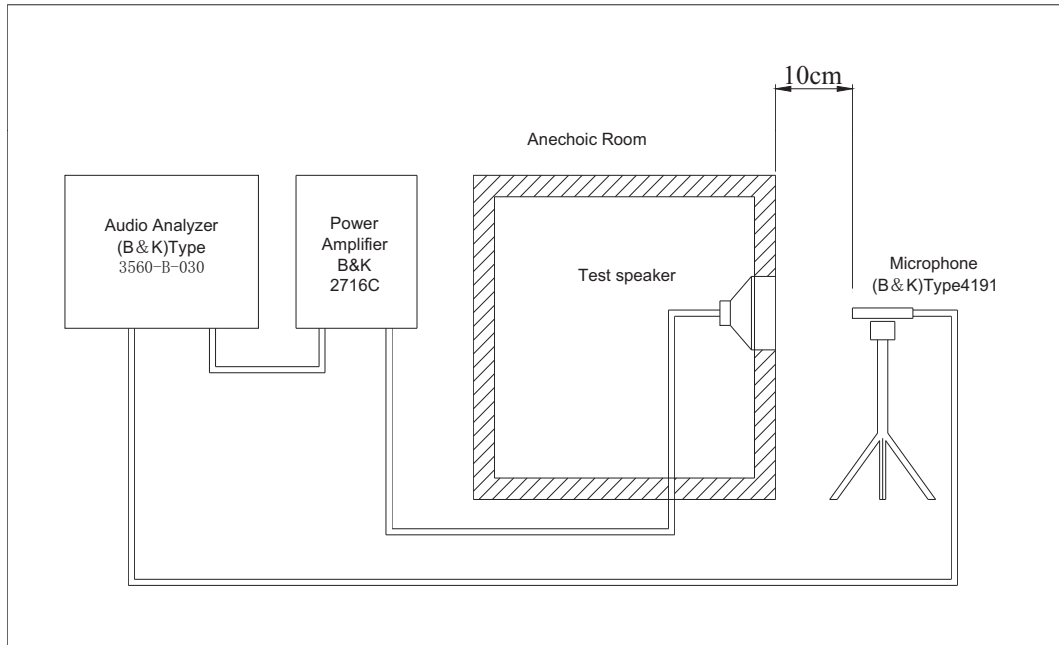
No	Items	Specification
1	Impedance	50 Ω ± 15% (1Vrms at 1KHz)
2	Sound Pressure Level	72 dB ± 3dB (0.1W/1M- at 0.8,1.0,1.2,1.5KHz average)
3	Resonance Frequency	400 Hz ± 20%
4	Frequency Range	200Hz ~17KHz
5	Input Power	Rated 0.3 W / Max. 0.5 W
6	Distortion	5% Max. at 1kHz 0.1W
7	Buzz and Rattle	Should not be audible buzzes,rattles when the 3.9V sine wave signal swept at frequency range.
8	Polarity	When supplied plus D.C. voltage to (+) terminal, the cone diaphragm must move to forward.
9	Flammability	The material of the membrane has to be of low flammability. The maximum burn-rate Bmax has to be less than

4. Reliability Test

After test(1~10item), the speaker S.P.L . difference shall be within $\pm 3dB$, and the appearance not exist any change to be harmful to normal operation (e.g. cracks,rusts,damages and especially distortion).

No	Items	Specification
1	High Temperature Test	After being placed in a chamber with $+90 \pm 3 \text{ }^\circ\text{C}$ for 1000 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 1000 hours and then being placed in natural condition for 1 hour, speaker shall be measured.
3	Humidity Test	 <p>6 cycles</p>
4	Thermal Shock Test	After being placed in a chamber at $+85 \text{ }^\circ\text{C}$ for 30 min, then speaker shall be placed in chamber at $-40 \text{ }^\circ\text{C}$ for 30 min(1 cycle is the below diagram).After 300 above cycles, speaker shall be measured. 
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 free drop, shall with stand 4 times random drops from a height of 1.0 meter to a concrete floor faced with 5mm thick hard wood board.and be nothing mechanical damage.
7	Operation at high temperature Test	put product in $+85 \pm 3 \text{ }^\circ\text{C}$ enviromental for 656Hours,and take out in normal air pressure for 1 hour, and then test signal:5.5Vpp,800Hz square wave 50% Duty Cycle
8	Operation at low temperatures Test	put product in $-40 \pm 3 \text{ }^\circ\text{C}$ enviromental for 24Hours,and take out in normal air pressure for 1 hour, and then test signal:5.5Vpp,800Hz square wave 50% Duty Cycle
9	320 h Thermal cycling El. Load Test	condition: $-40 \text{ }^\circ\text{C}$ working for 1 hours, arise temperature for 2hours, $+90 \text{ }^\circ\text{C}$ working for 1 hour and lower down temperature for 2 hours, speaker parallel connection for continually working signal: 5.5Vpp,800Hz square wave 50% duty cycle. one cycle:1 minutes pulse, working 75ms,stop 294ms,and then continually working  <p>total cycle 320hours</p>
10	shrapnel vibration test	1. slice position is apply for actually field working position:vibration from 5.6mm-6.9mm (9.0 \pm 1 as free position before experiment) 2. Frequency:5Hz 3. 56h.

5. Measurement Block Diagram & Response curve



Specification for Speaker

Page

6/9

Revision No.

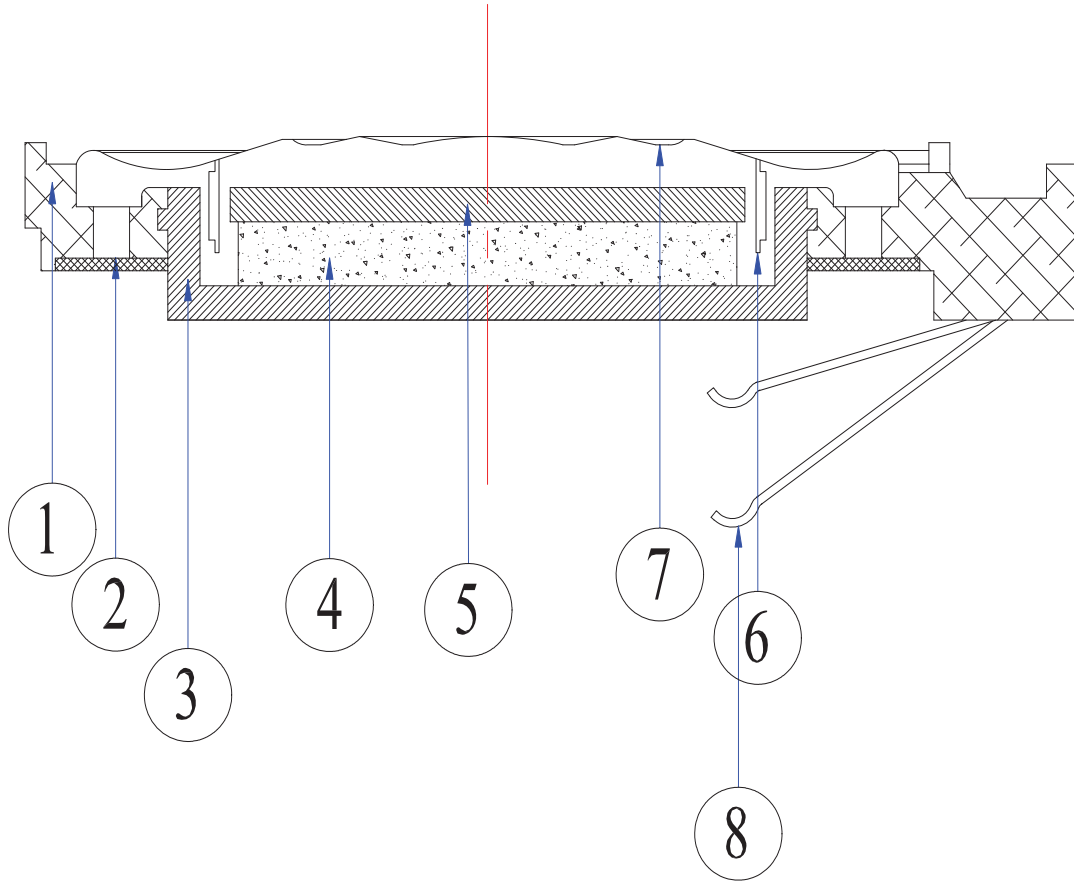
1.3

Model No. : KP3440ST1R50-6990

Drawing No.

KFC6990

6. Structure



8	Spring	1	SUS301 3/4H	
7	Diaphragm	1	PEI	
6	Voice Coil	1	Copper	
5	Plate	1	SPCC	
4	Magnet	1	Nd-Fe-B	
3	U YOKE	1	SPCC	
2	Screen	1	unwoven fabric	
1	Frame	1	PPA	
No.	Part Name	Q'ty	Material	Remarks

Specification for Speaker

Page

7/9

Revision No.

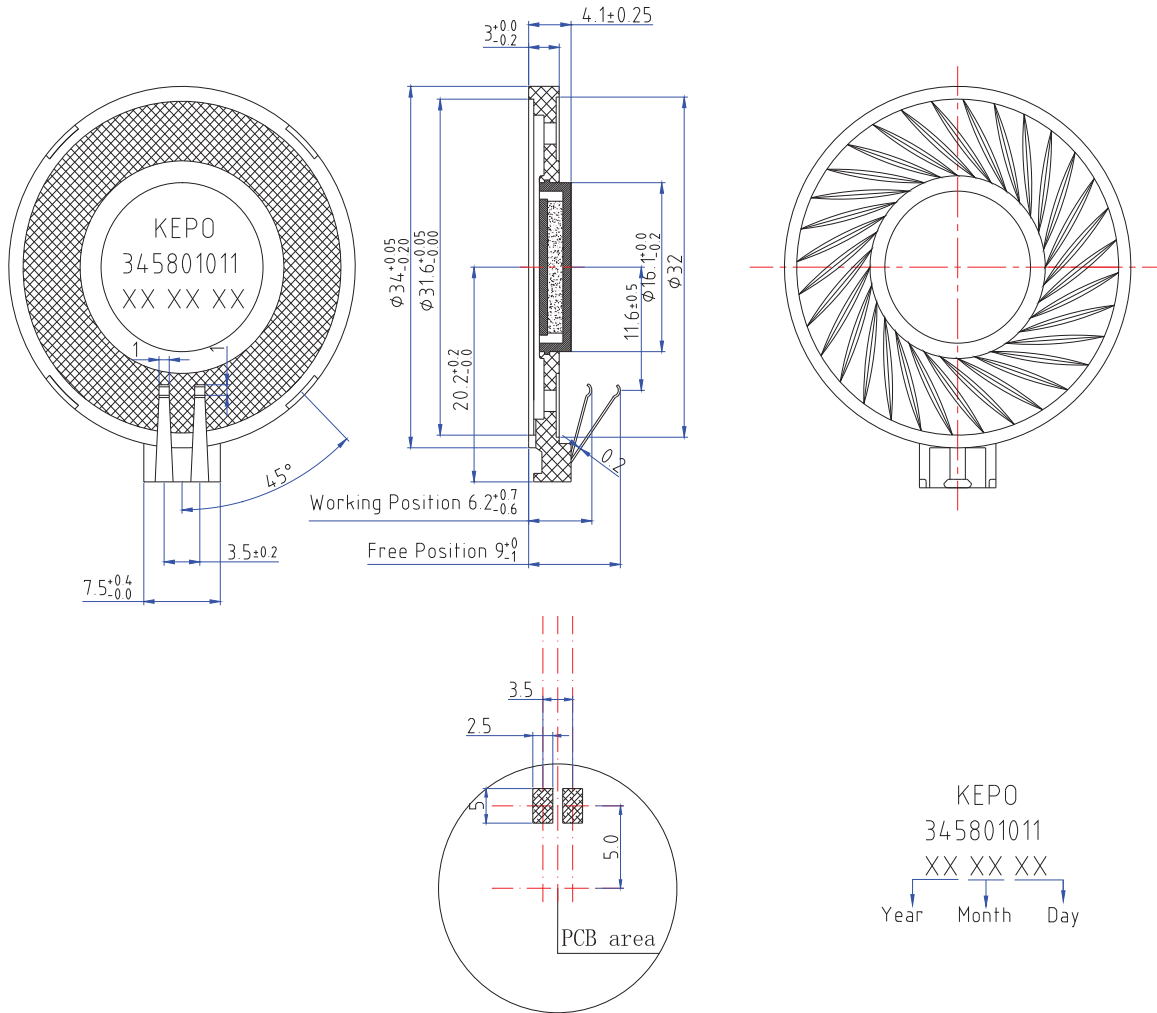
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Model No. : KP3440ST1R50-6990

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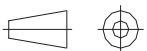
KFC6990

7. Dimensions



PCB接触区域布局图

FIRST ANGLE PROJECTION



UNIT : mm

Tolerance : ± 0.2

Specification for Speaker	Page	8/9
	Revision No.	1.3
Model No. : KP3440ST1R50-6990	Drawing No.	KFC6990

8. Packing