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	Revision No.	1.0
Model No. : KP3640ST1R50-6815	Drawing No.	KFC6815

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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 : 36 mm

2.2 Height : 4 mm

2.3 Weight : 6.8 g

2.4 Operating Temperature range:

-40 ~+85 °C without loss of function

2.5 Store Temperature range:

-40 ~+85 °C without loss of function

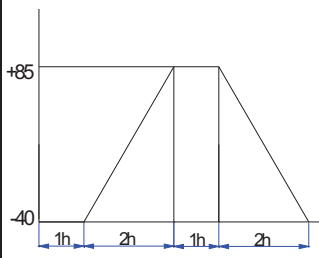
## 3. Electrical and Acoustic Characteristics.

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

No	Items	Specification
1	Impedance	50 Ω ± 15% (1Vrms at 2.0KHz)
2	Sound Pressure Level	85 dB ± 3dB 0.5m The applied signal has to be a 10 Vpp positive square wave with 800 Hz and a pulse pause ratio of 50% to 50%.
3	Resonance Frequency	650 Hz ± 20%
4	Frequency Range	Fo ~2KHz
5	Input Power	Rated 0.8 W / Max. 1.2 W for the duration of 3 seconds
6	Distortion	5% Max. at 1kHz 0.5W
7	Buzz and Rattle	Should not be audible buzzes,rattles when the 6.32V sine wave signal swept at frequency range.
8	Polarity	When supplied plus D.C. voltage to (+) terminal, the cone diaphragm must move to forward.

## 4. Reliability Test

Before any tests, all parts shall be stored for 48 hours at 85°C without being electrically operated.

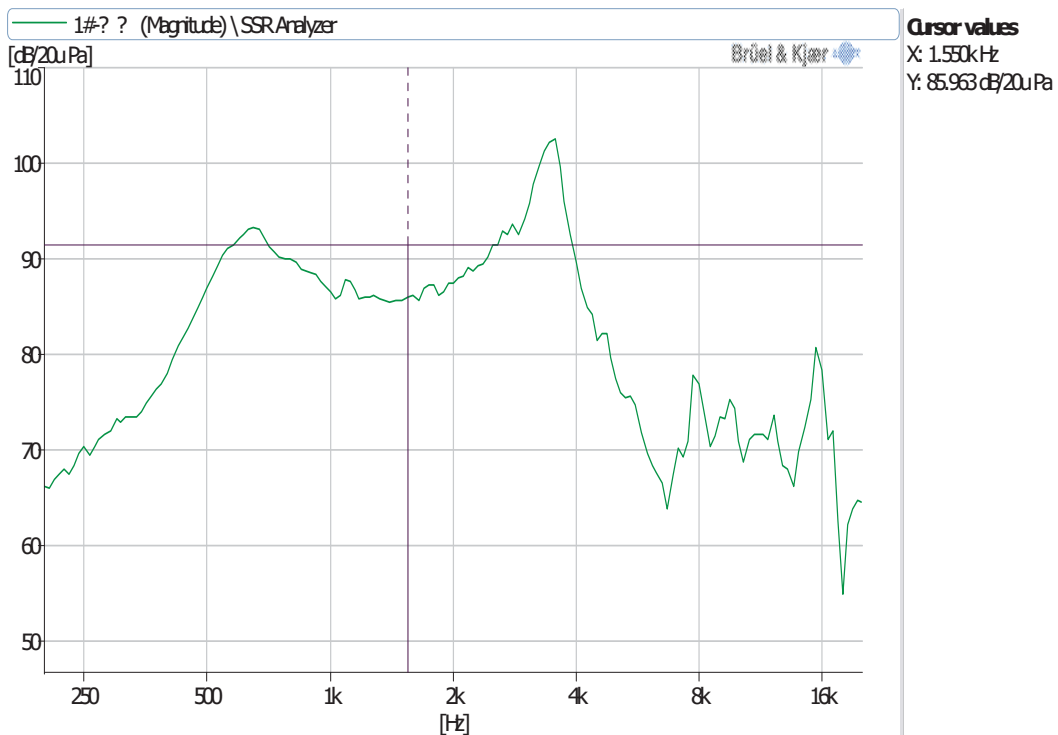
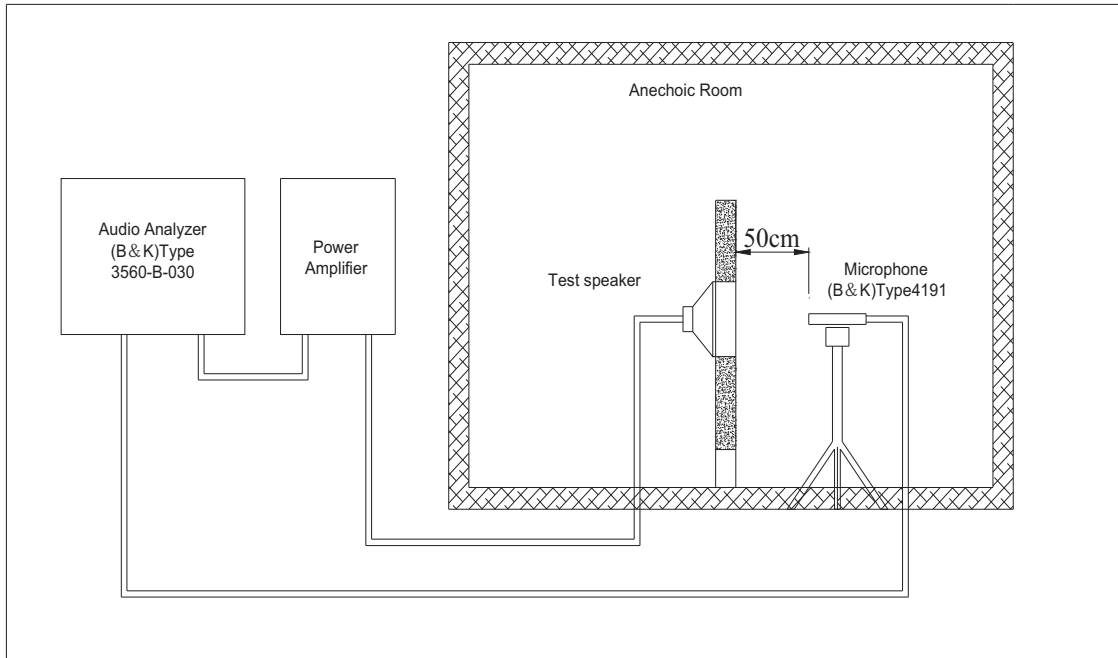
No	Items	Specification
1	Operation at high temperature	This test is intended to simulate the operation of the speaker at high temperatures. Test duration: 656 h Test temperature: +85°C
2	Operation at low temperatures	This test is intended to simulate the operation of the speaker at low temperatures. Test duration: 24 h Test temperature: -40°C
3	Moist heat, cyclic	Operation of the DUT at high air humidity is simulated. This test is performed using the DUT which have undergone the sealing test against dust. Test procedure according to test Db, type 1, stated in DIN EN 60068-2-30. - Upper temperature +55 °C
4	Thermal Shock Test	<p>Temperature profile: -40° C 1 h / temperature rise 2 h / +85° C 1 h / temperature drop 2 h</p> <p>Signal: square-wave voltage, 0 V/10 V, 800 Hz</p> <p>Time pattern: 1 min pulsing operation with pulse-to-pause ratio corresponding to obstacle detection at distance of 1 m (= 75 ms 800 Hz, 294 ms pause) 1 min continuous tone 800 Hz 8 min pause Then repeat cycle. the test is continued as a</p> 
5	Thermal shock test	<p>After the test, the units under test must not be subjected to any further tests.</p> <p>Load none</p> <p>Duration of test (normal requirements) 300 cycles</p> <p>Test cycle:</p> <ol style="list-style-type: none"> <li>Expose to lower limit of operating temperature for 40 min</li> <li>Move unit within 10 s to expose it to upper limit of operating temperature</li> <li>Expose unit to upper limit of operating temperature for 20 min</li> <li>Within 10 s, again expose unit to lower limit of operating temperature</li> </ol>

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6	Drop Test	<p>Following the tests, the requirements stated in section 3 still must be met. Performance of test:</p> <p>Test according to DIN 40 046 Part 30</p> <p>Drop height 1000 mm</p> <p>Dropping surface Concrete</p> <p>Direction of drop 2 x magnet system pointing down 2 x magnet system pointing to side</p> <p>Performance Free fall</p>
7	Isolation resistance	<p>Riso (kΩ) 100</p> <p>Measuring voltage 24 V DC</p> <p>The isolation resistance is determined between moving coil and speaker chassis or magnet system.</p>
8	Mechanical requirements	<p>Maximum long-time input Voltage according to drawing. Highest voltage which the speaker can sustain for a duration of 1 minute without permanent damage. The signal is a normal program simulating noise (according to IEC 60268-1).</p> <p>The test must be repeated 10 times with a pause of 2 minutes between each repetition.</p>

After test(1~8item), 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).

### 5. Measurement Block Diagram & Response curve



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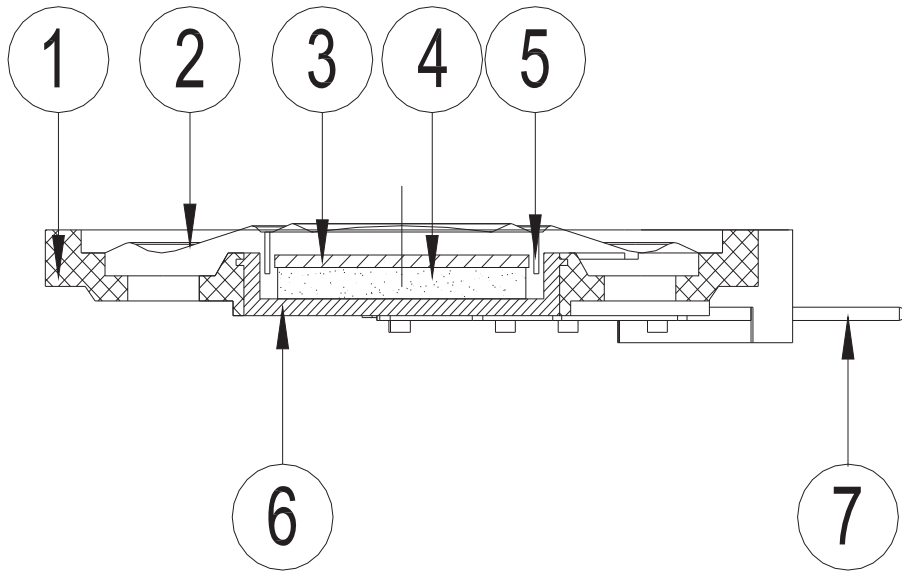
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## 6. Structure



No.	Part Name	Q'ty	Material	Remarks
7	Spring	1+1	Cu	
6	Yoke	1	SPCC	
5	Voice Coil	1	Copper	
4	Magnet	1	Nd-Fe-B	
3	Plate	1	SPCC	
2	Diaphragm	1	PEI	
1	Frame	1	PPA	

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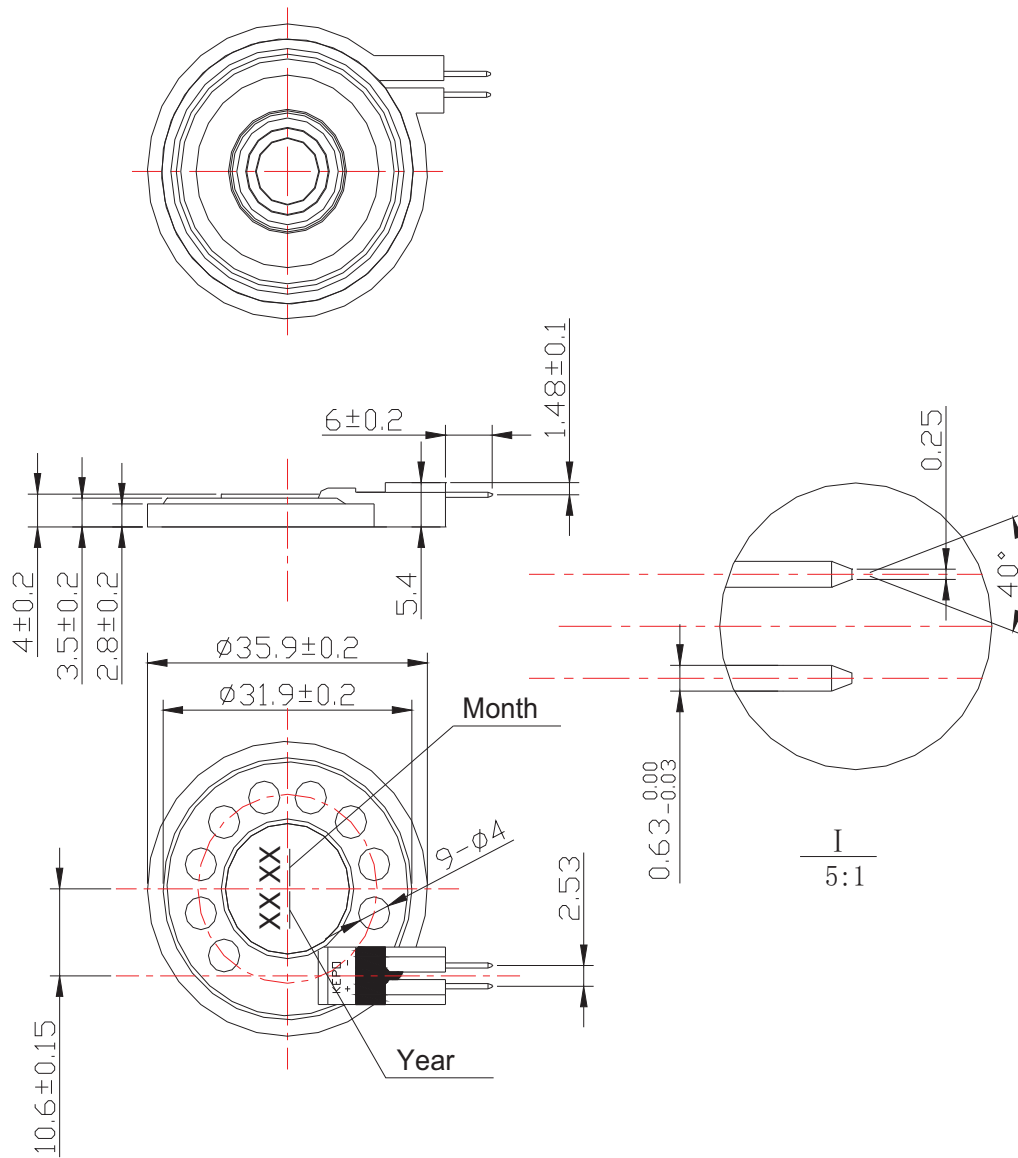
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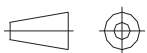
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## 7. Dimensions



FIRST ANGLE PROJECTION



UNIT : mm

Tolerance :  $\pm 0.2$

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## 8. Packing

Each minimum package unit of products shall be in a carton box and it shall be clearly marked with Part Number ,quantity and outgoing inspection number.

There shall be no mechanical damage on products during tsansportation and/or in storage.



