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Model No. : KP9050SP5-4578	Drawing No.	KFC4578

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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: car speaker, TV speaker, etc. ..

## 2. General

2.1 Out-Diameter : 90x50 mm

2.2 Height : 40 mm

2.3 Weight : 117.5 g

2.4 Operating Temperature range:

-20 ~+60 °C without loss of function

2.5 Store Temperature range:

-25 ~+70 °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	16 Ω ± 20% (1Vrms at 1KHz)
2	Sound Pressure Level	90 dB ± 3dB (0.1W/0.1M Avg. at 0.5,0.6,0.8,1.0kHz)
3	Resonance Frequency	250 Hz ± 20% ( LMS )
4	Frequency Range	Fo ~18KHz
5	Input Power	Rated 5 W / Max. 7 W
6	Distortion	10% Max. at 1kHz 5W
7	Buss and Rattle	Should not be audible buzzes,rattles when the 8.94V 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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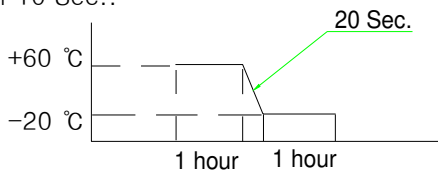
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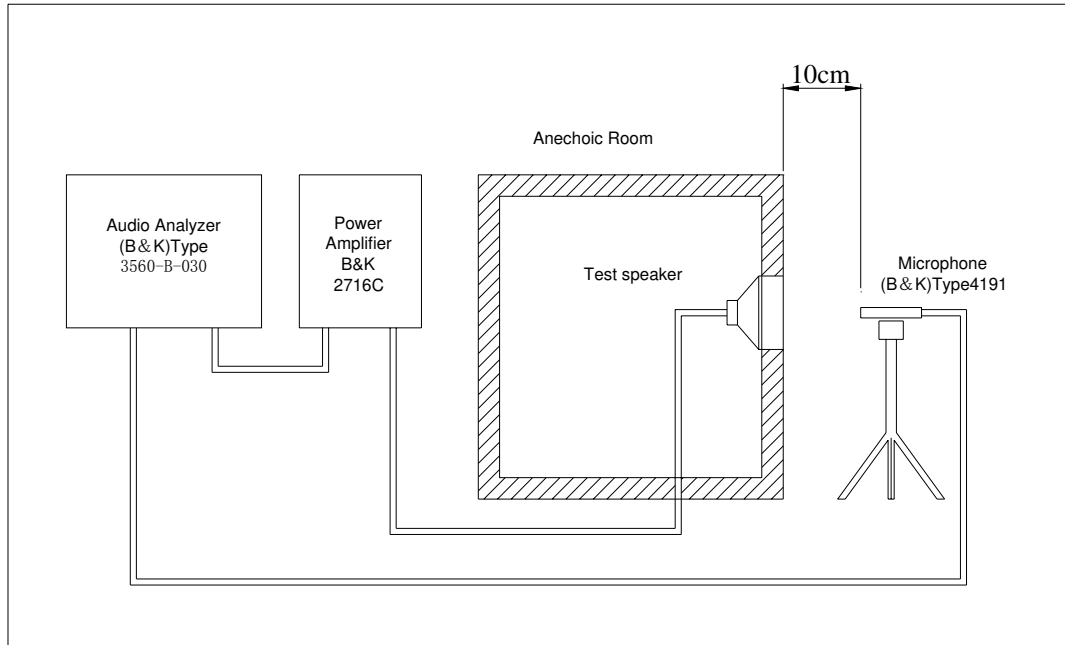
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## 4. Reliability Test

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).

No	Items	Specification
1	High Temperature Test	After being placed in a chamber with $+70 \pm 3 \text{ }^\circ\text{C}$ 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 $-25 \pm 3 \text{ }^\circ\text{C}$ 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 <math>+60 \text{ }^\circ\text{C}</math> for 1 hour, then speaker shall be placed in a chamber at <math>-20 \text{ }^\circ\text{C}</math> for 1 hour(1 cycle is the below diagram). After 4 above cycles, speaker shall be measured after being placed in natural condition for 10 Sec..</p>  <p>The diagram illustrates a thermal shock cycle. It shows a horizontal line representing temperature over time. The line starts at a level labeled <math>+60 \text{ }^\circ\text{C}</math> and remains constant for a duration labeled '1 hour'. It then drops sharply to a level labeled <math>-20 \text{ }^\circ\text{C}</math>. The transition from <math>+60 \text{ }^\circ\text{C}</math> to <math>-20 \text{ }^\circ\text{C}</math> is indicated by a green line and labeled '20 Sec.'. The line remains constant at <math>-20 \text{ }^\circ\text{C}</math> for a duration labeled '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 1.0 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 5W(8.94Vrms.) 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 $1 \text{ M}\Omega$

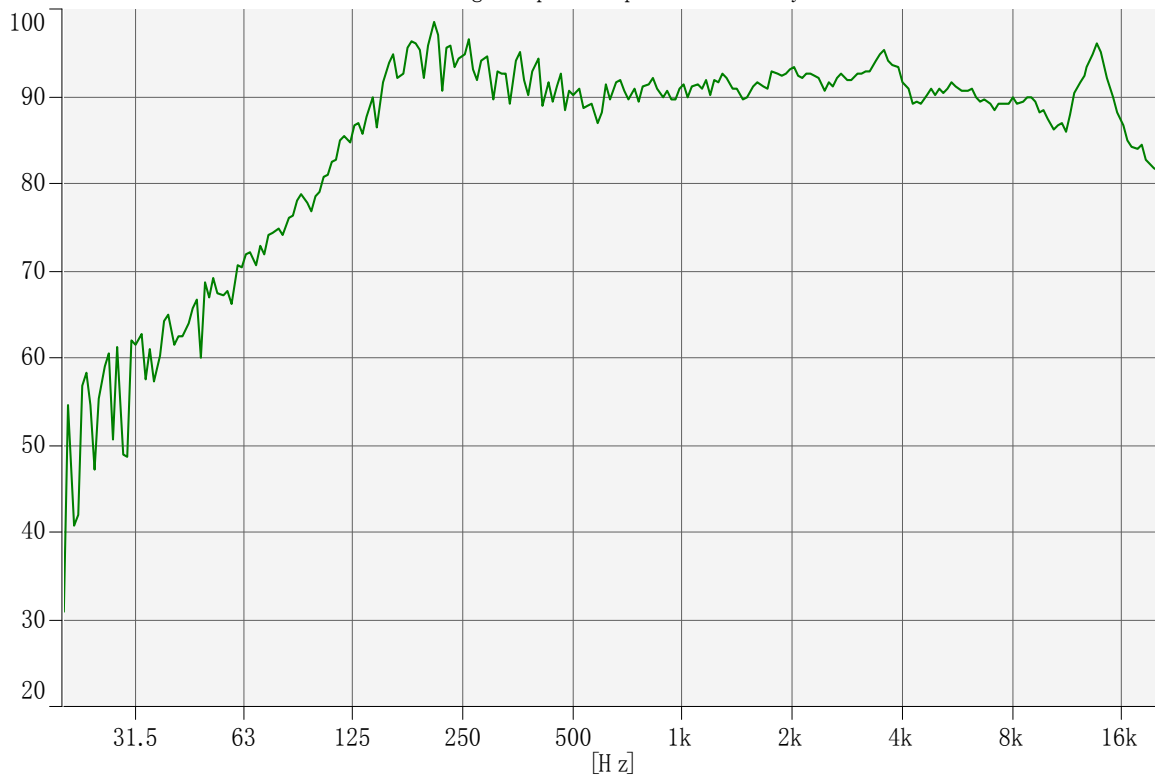
### 5. Measurement Block Diagram & Response curve



[dB / 20.0u Pa]

Output Response (Signal) - Input (Magnitude)

Working : Input : Input : SSR Analyzer



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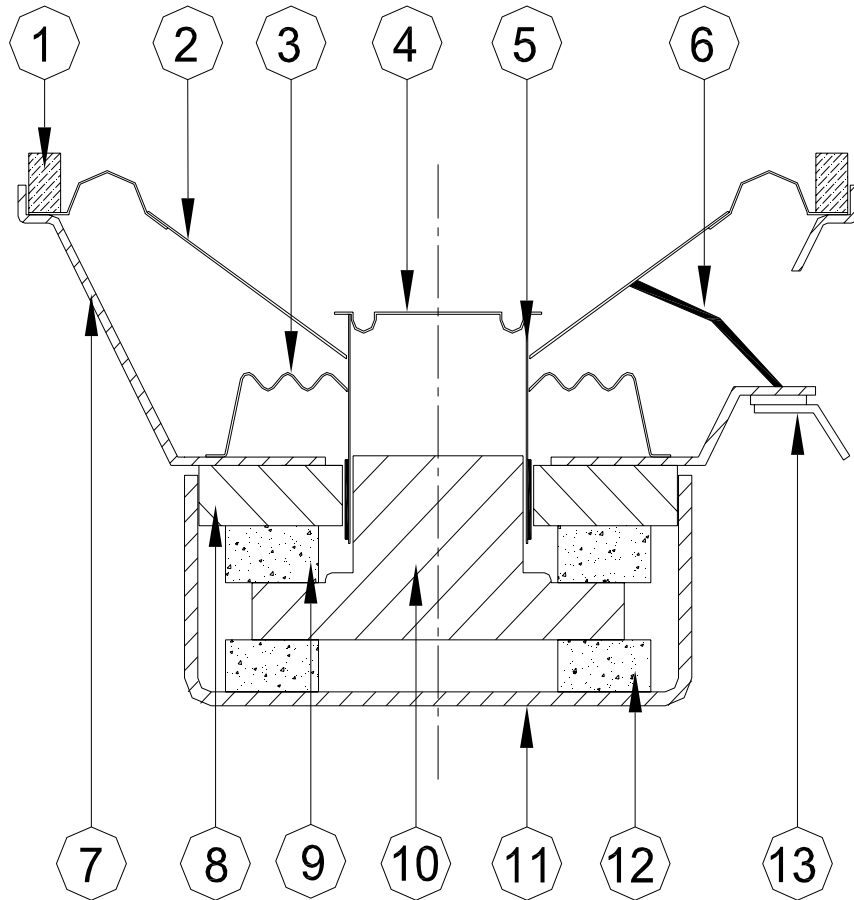
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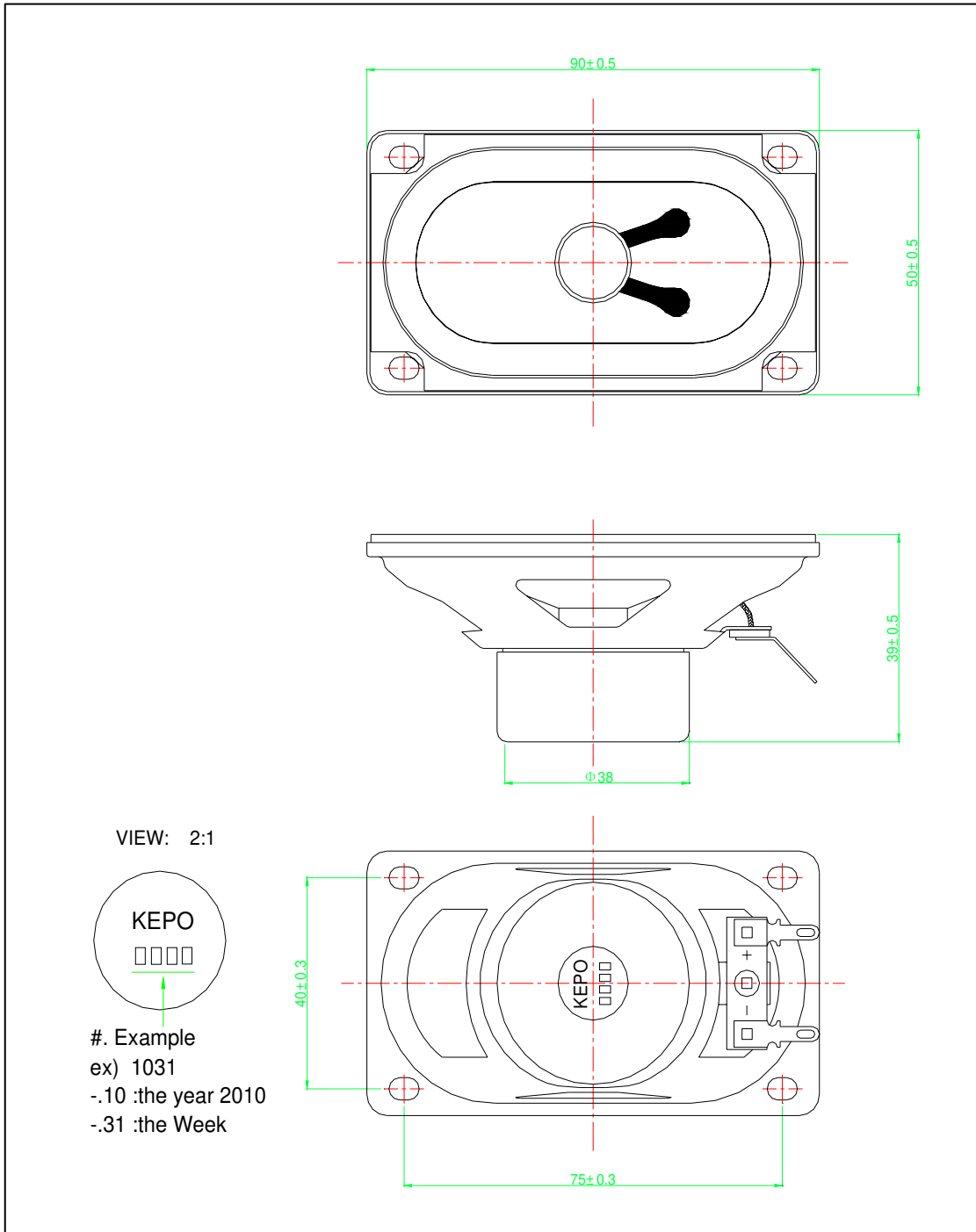
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## 6. Structure

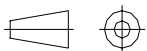


13	Connection	1	Paper+Copper	
12	Magnet	1	Ferrite	
11	Back Cap	1	SPCC	
10	T yoke	1	Q195	
9	Magnet	1	Ferrite	
8	Plate	1	Q195	
7	Frame	1	SPCC	
6	Wire	2	Copper	
5	Voice Coil	1	Paper+Copper	
4	Dust Cap	1	Paper	
3	Damper	1	Cotton	
2	Diaphragm	1	Cloth+Paper	
1	Gasket	1	Paper	
No.	Part Name	Q'ty	Material	Remarks

### 7. Dimensions



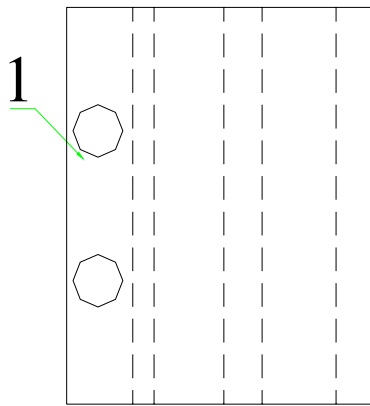
FIRST ANGLE PROJECTION



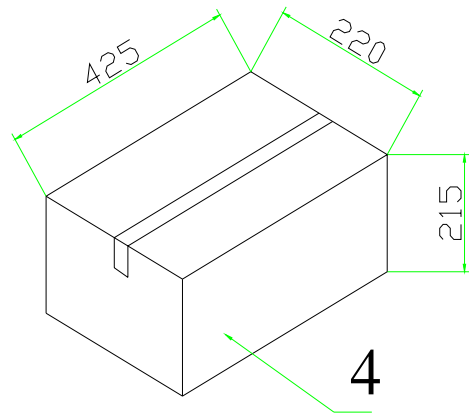
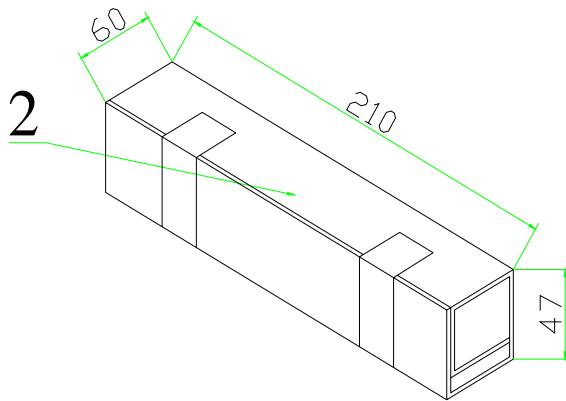
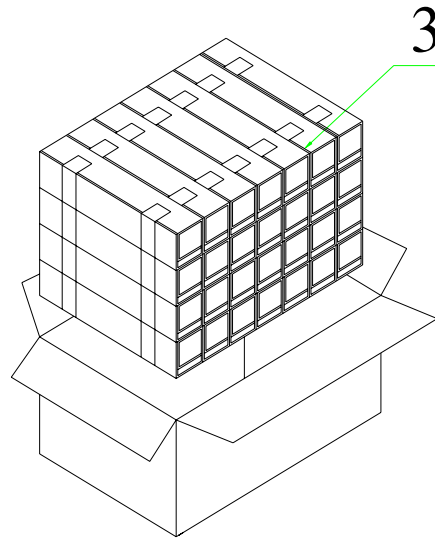
UNIT : mm

Tolerance : ±0.5

### 8. Packing



2Pcs



QTY:98Pcs

425 x220 x315

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9. Revision

Rev. No.	DATE	PAGE	DESCRIPTION	BOM
1.0	2009-6-17		Primary	1.0
1.1	2010.03.02		Packing change	
1.2	2010.07.19		LOGO change	