



**MODEL:** SP-4005  
**PRODUCT:** Dynamic Speaker  
**EDITION:** A/2016

Soberton Inc.

**THIS SPECIFICATION COVERS OUR PRODUCT OF DYNAMIC SPEAKER UNIT FOR MOBILE PHONE USE**

**DYNAMIC SPEAKER ELECTROACOUSTIC CHARACTERISTICS**

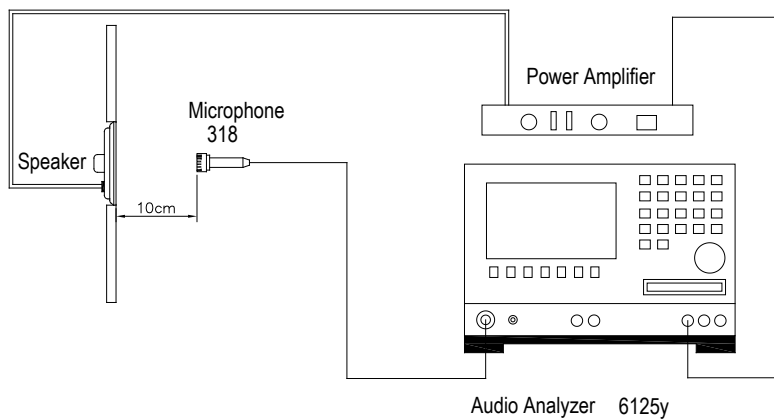
sound pressure level	92±3dB SPL @0.6,1.0,1.5and 2.0KHz in average (0dB SPL=20μPa)
measuring condition	0.1W (Sine wave)10cm measured with baffler shown in Fig.1
ac impedance	8±15%Ω(@1KHz 1V) without baffler.
frequency response curve	As shown in Fig.2
response frequency	550±20%Hz @ 1V. (Without Baffler)
rated noise power	2.0W
short-term max. power	2.5W must be normal at a white noise (1W, F <sub>0</sub> -20KHz) for one
operation test	Must be free of audible noise (buzzes and rattles) (300~8KHz frequency range, input level up to 4.0Vrms)
distortion	Less than 10% @1KHz, 5cm, 0.1W frequency range, input level up to 0.1W

**GENERAL SPECIFICATIONS**

operating temperature range	-20°C ~ +65°C
standard test conditions	
temperature	17°C ~ 25°C
relative humidity	45% ~ 80%(RH)
dimension	ø 40 x 5.5mm

**MEASURING METHOD (SPEAKER MODE)** (Figure 1)

Standard test condition of speaker



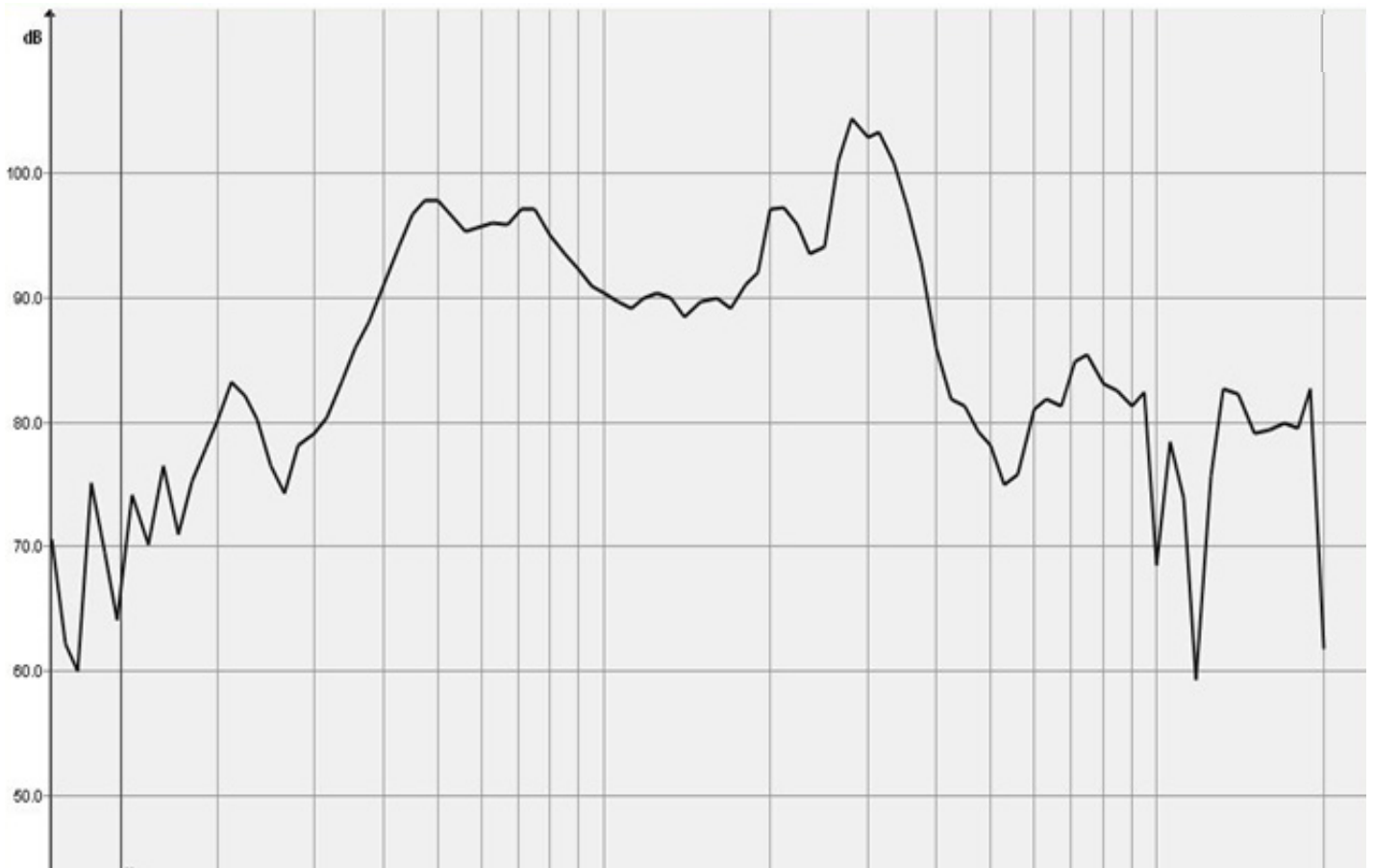
TEST CONDITION	
STANDARD	
temperature	15 ~ 35°C
relative humidity	45% ~ 85%
atmospheric pressure	860mbar to 1060mbar.
STANDARD TEST FIXTURE	
input power	0.1W (0.89V)
zero level	-dB
mode	TSR
potentiometer range	50dB
sweep time	0.5sec



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**TYPICAL FREQUENCY RESPONSE CURVE (Figure 2)**





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## RELIABILITY TESTS

The sound pressure as specified shall neither deviate more than  $\pm 3\text{dB}$  from the initial value, nor have any significant damage after any of following testing.

### HIGH TEMPERATURE TEST

high temperature	$+65\pm 2^{\circ}\text{C}$
duration	96 hours

### LOW TEMPERATURE TEST

low temperature	$-20\pm 2^{\circ}\text{C}$
duration	96 hours

### HEAT SHOCK TEST

high temperature	$+65\pm 2^{\circ}\text{C}$
low temperature	$-20\pm 2^{\circ}\text{C}$
duration	1 hour
changeover time	< 30 seconds
cycle	100

### HUMIDITY TEST

temperature	$+40\pm 2^{\circ}\text{C}$
relative humidity	90~95%
duration	96 hours

### TEMPERATURE CYCLE TEST

temperature	$-20^{\circ}\text{C}$	$+65^{\circ}\text{C}$
duration	45 minutes	45 minutes
temperature gradient	1~3 $^{\circ}\text{C}/\text{min}$ .	
cycle	25	

### DROP TEST

mounted with dummy set mass	100 g
height	1.5 m
cycle	6 (1 each plain) onto the concrete board

### LOAD TEST

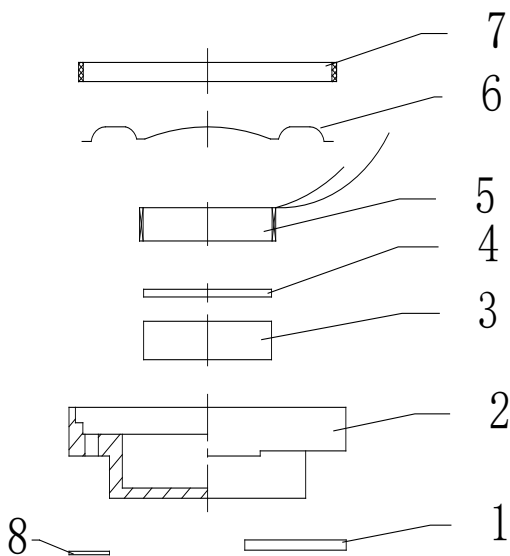
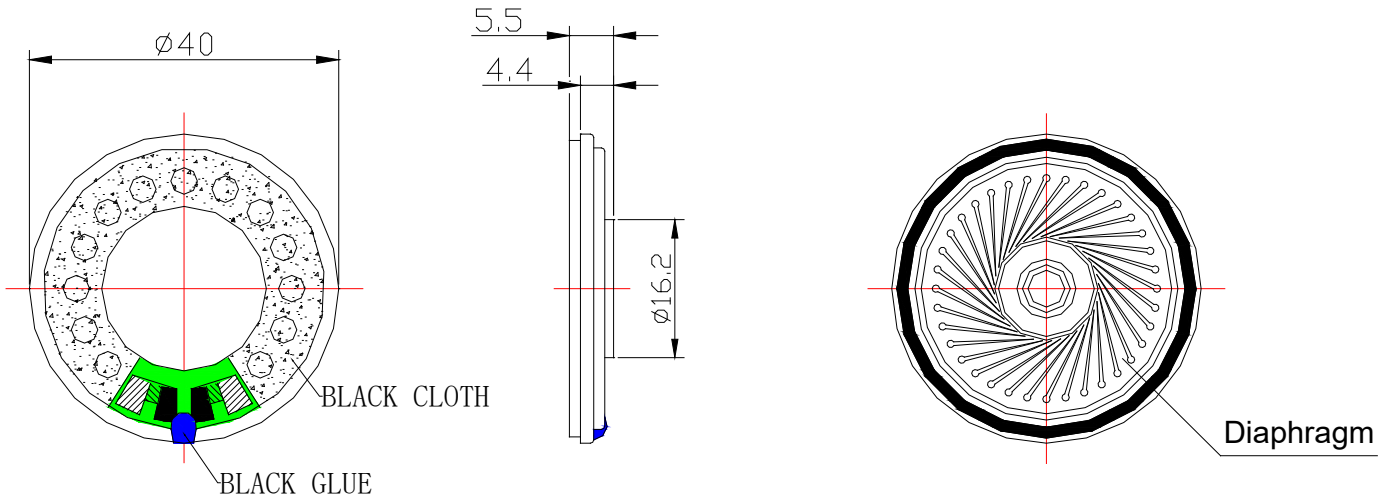
noise signal	White noise (EIA filter)
input power	2.0 W
duration	96 hours



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**DIMENSIONS**

Tolerance:  $\pm 0.5$  (unit: mm)



no	item	material	quantity
1	PCB	FR-4	1
2	Frame	SPCC	1
3	Magnet	$\phi 12.5 \times 1.5$ -N38Nd Fe B	1
4	Plate	$\phi 12.7 \times 0.8$ SPCC	1
5	Voice Coil	KSV-13.3-2.4-7.4 $\Omega$	1
6	Diaphragm	black PEI	1
7	Gasket	black paper	1
8	Silk Screen	black cloth	1



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## PACKING

42 pcs per box

24 units per box

Total:1000 pcs per box

Size:37×28×28cm

$$42\text{PCS} \times 24 - 8 = 1000\text{PCS}$$

