



**MODEL:** SP-1511S-4  
**PRODUCT:** Dynamic Speaker  
**EDITION:** A/2016

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

**SPEAKER ELECTROACOUSTIC CHARACTERISTICS**

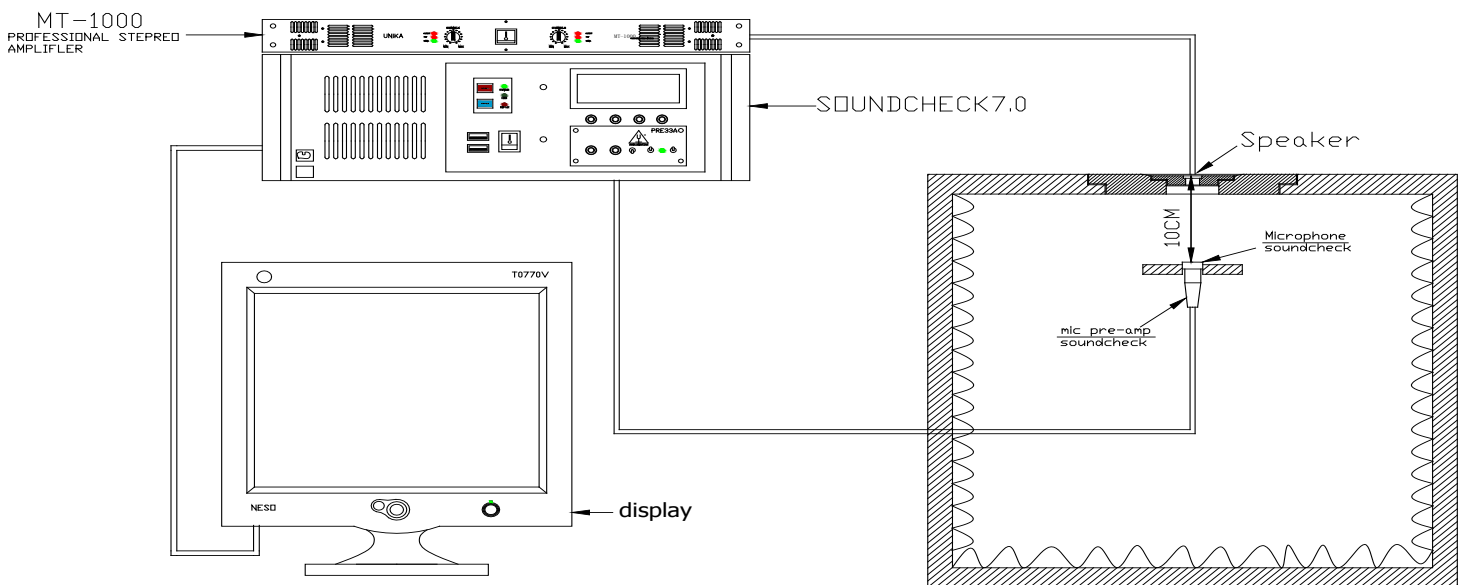
sound pressure level	82±3dB Spl @ 2KHZ 1.0V(Sine wave) 0.1m measured with baffle shown in Fig.1. (1CC BOX)
resonance frequency (FO)	950±20%Hz @ 1Vrms. (In 1CC BOX)
measuring diagram	Shown in Fig.1
typical frequency response curve	Shown in Fig.2.
rated noise power	0.7W (In 1CC Box)
short-term max.power	1.0W (In 1CC Box)
distortion	Less than 10% at 1KHz 1V
operation test	Must be free of audible noise (buzzes and rattles) (200 ~ 3400Hz frequency range, input level up to 2.37Vrms (In 1CC BOX))

**GENERAL SPECIFICATIONS**

operating temperature range	-25°C ~ +65°C
storage temperature range	-40°C ~ +75°C
ac impedance	8.0Ω±15% (@2KHz 1Vrms)
dimension	15 x 11 x 3.9 mm

**TYPICAL FREQUENCY RESPONSE CURVE**

**FREQUENCY MEASURING CIRCUIT (SPEAKER MODE) (Fig.1)**



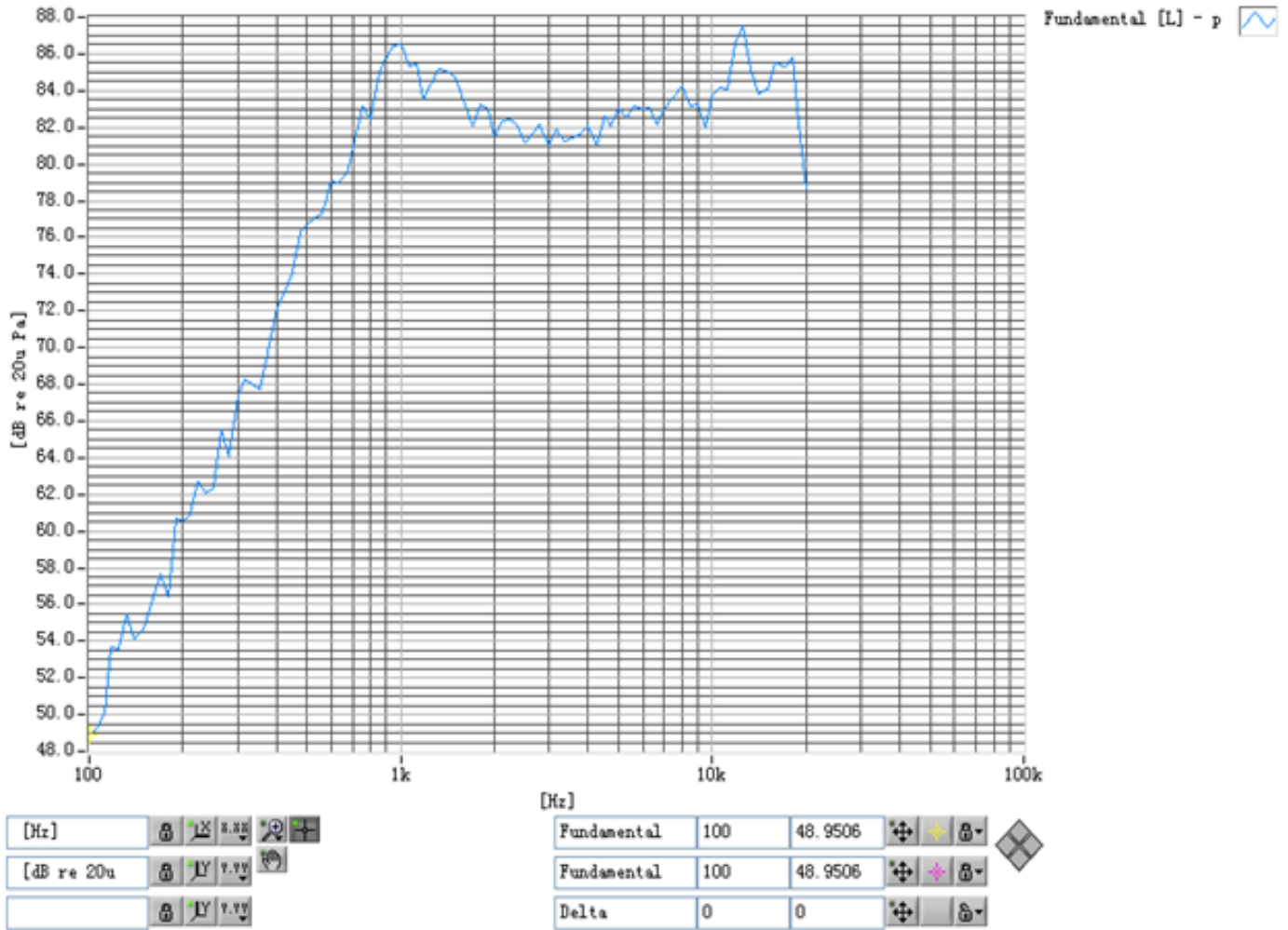


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**TYPICAL FREQUENCY RESPONSE CURVE** (Continued)

**TYPICAL FREQUENCY RESPONSE CURVE (SPEAKER MODE)** (Fig.2)

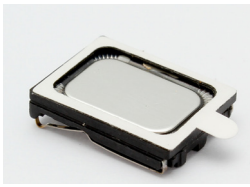
**XY Graph 1**



**TEST CLIMATIC CONDITIONS**

**STANDARD TEST CONDITIONS**

temperature	17~25°C
relative humidity	45%~80%(RH)
air pressure	860~1060 hPa



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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	$+75\pm 2^\circ\text{C}$
duration	96 hours

### LOW TEMPERATURE TEST

low temperature	$-25\pm 2^\circ\text{C}$
duration	96 hours

### HEAT SHOCK TEST (See in Fig.3)

high temperature	$+75\pm 2^\circ\text{C}$
low temperature	$-40\pm 2^\circ\text{C}$
changeover time	< 30 seconds
duration	1 hour
cycle	10

### HUMIDITY TEST

temperature	$+40\pm 2^\circ\text{C}$
relative humidity	90~95%
duration	48 hours

### TEMPERATURE CYCLE TEST (See in Fig.4)

temperature	$-40^\circ\text{C}$ $+75^\circ\text{C}$
duration	45 minutes    45 minutes
temperature gradient	1~3°C/min.
cycle	10

### DROP TEST

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

### LOAD TEST

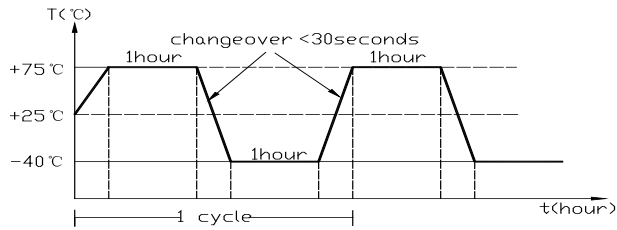
noise signal	White noise (EIA filter)
input power	0.7W (1CC BOX) (2.37Vrms)
duration	96 hours



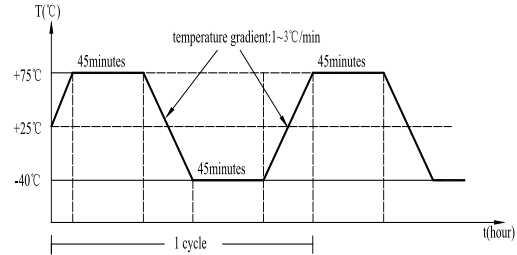
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**TEST METHOD**

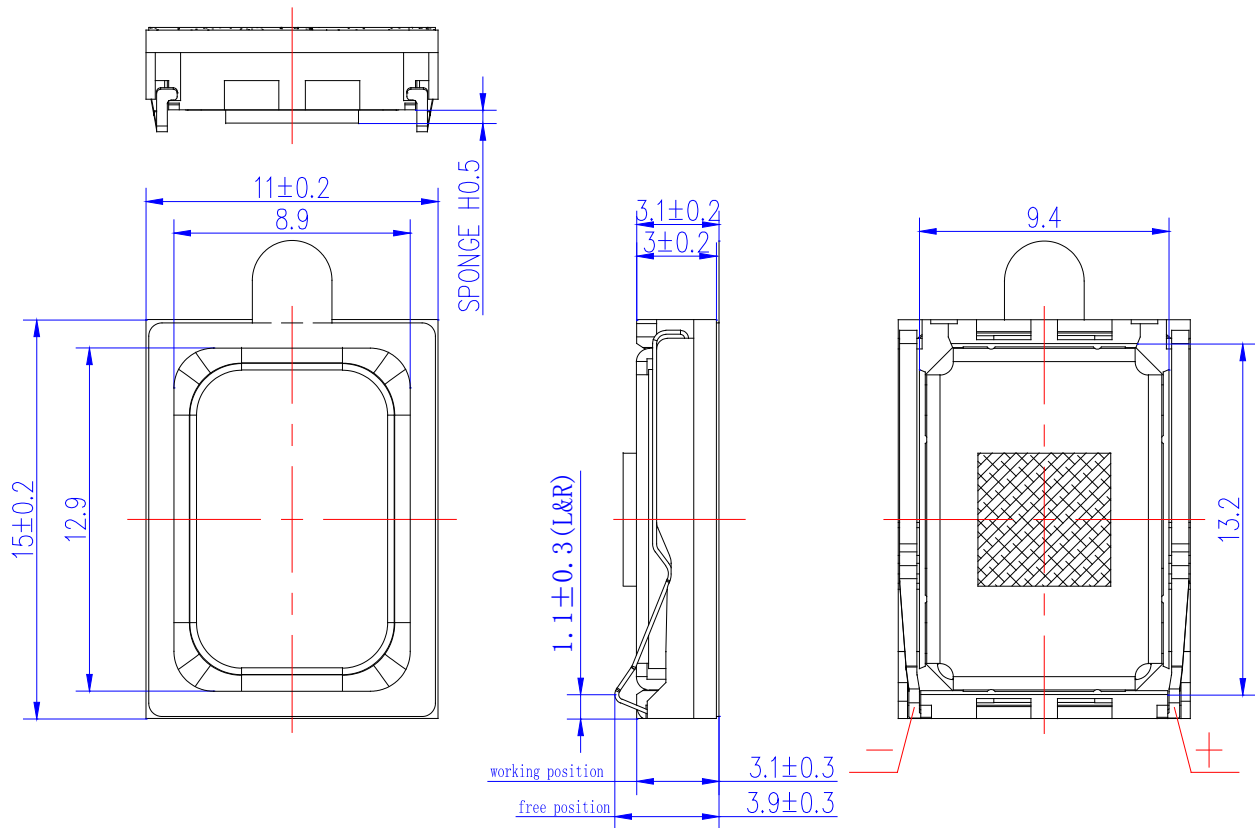
**HEAT SHOCK TEST (Fig. 3)**



**TEMP. CYCLE TEST (Fig. 4)**



**PRODUCT EXTERNAL VIEW AND DIMENSIONS (Fig. 5)**



no	item	material	quantity
1	Magnet	Nd-Fe-B	1
2	U-Yoke	Iron	1
3	Pole Piece	Iron	1
4	Voice coil	Copper	1
5	Frame	PPA	1
6	Gasket	PE	1



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Soberton Inc.

## PACKING

