



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





**MODEL:** SP-1810  
**PRODUCT:** Dynamic Speaker  
**EDITION:** A/2016

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

**DYNAMIC SPEAKER ELECTROACOUSTIC CHARACTERISTICS**

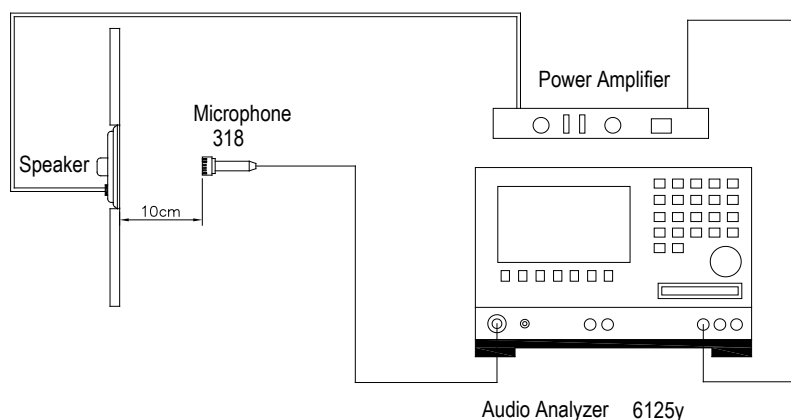
sound pressure level	82±3dB SPL @1.0, 1.2, 1.5 and 2.0KHz in average (0dB SPL=20μPa)
measuring condition	0.1W (Sine wave) 10cm measured with baffle shown in Fig.1
ac impedance	8±15%Ω (@ 2 KHz 1V) without baffle
frequency response curve	As shown in Fig.2
response frequency	1000 ± 20% Hz @ 1V. (Without Baffle)
rated noise power	0.5W
short-term max. power	1.0W must be normal at a white noise (1W, F <sub>0</sub> -20KHz) for 1 minute
distortion	Less than 10% @1KHz, 0.1M, 0.1W frequency range, input level up to 0.1W
operation test	Must be free of audible noise (buzzes and rattles) 300 ~ 8KHz frequency range, input level up to 0.2Vrms

**GENERAL SPECIFICATIONS**

operating temperature range	-20°C ~ +60°C
storage temperature range	-30°C ~ +70°C
standard test conditions	
temperature	17°C ~ 25°C
relative humidity	45% ~ 80%(RH)
dimension	18 x 10 x 4.1mm

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

Standard test condition of speaker



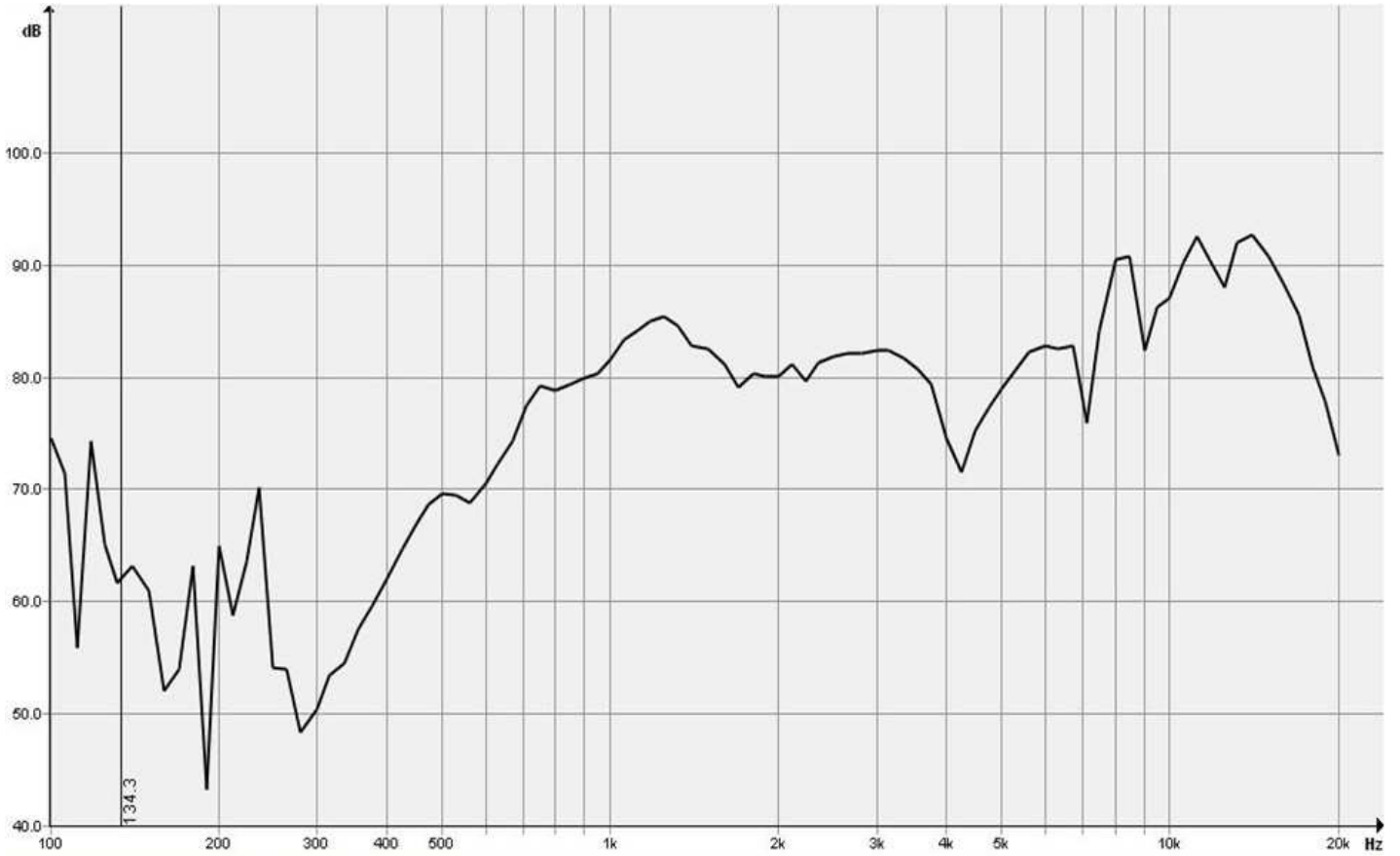
TEST CONDITION	
STANDARD	
temperature	15 ~ 35°C
relative humidity	45% ~ 85%
atmospheric pressure	860mbar to 1060mbar.
STANDARD TEST FIXTURE	
input power	0.1W (0.89V)
zero level	-dB
mode	TSR
potentiometer range	50dB
sweep time	0.5sec



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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	$+60\pm 2^\circ\text{C}$
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duration	96 hours
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### LOW TEMPERATURE TEST

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

high temperature	$+60\pm 2^\circ\text{C}$
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low temperature	$-20\pm 2^\circ\text{C}$
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duration	1 hour
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changeover time	< 30 seconds
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cycle	100
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### HUMIDITY TEST

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

temperature	$-20^\circ\text{C}$ $+60^\circ\text{C}$
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duration	45 minutes    45 minutes
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temperature gradient	1~3°C/min.
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cycle	25
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### DROP TEST

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

noise signal	White noise (EIA filter)
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input power	0.5W
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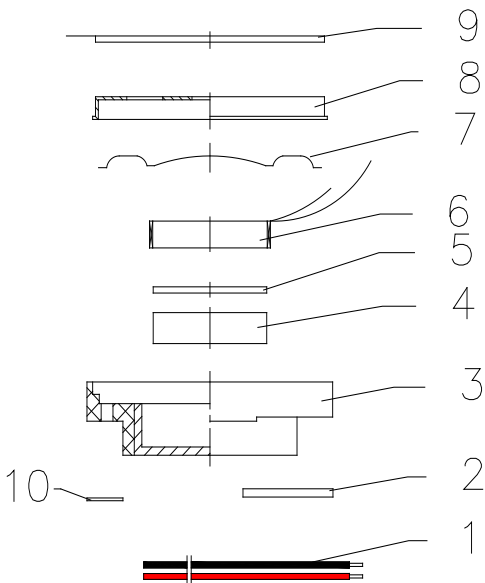
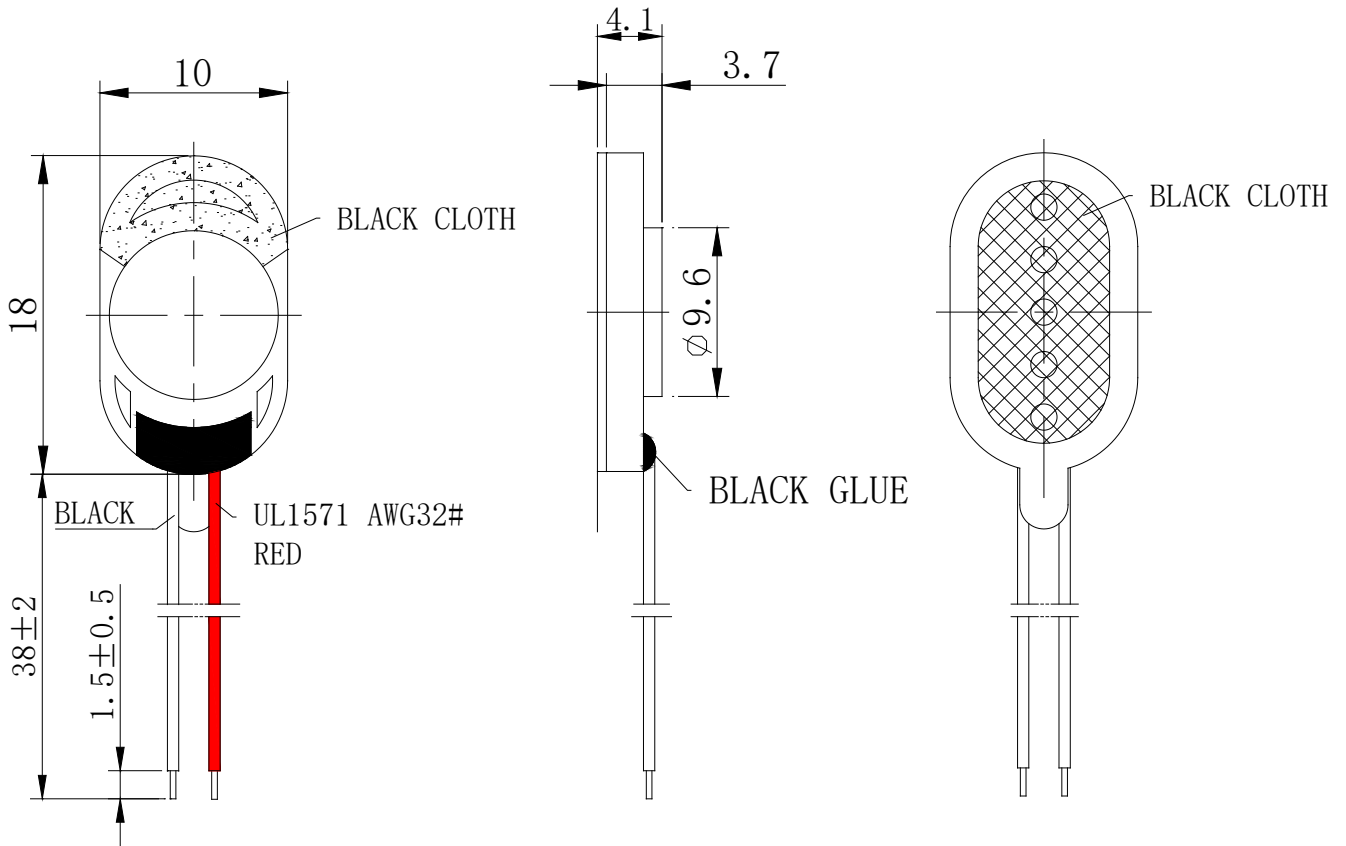
duration	96 hours
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**DIMENSIONS**

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



no	item	material	quantity
1	UL1571 AWG30#	Red/Black	2
2	PCB	FR-4	1
3	Frame	PBT	1
4	Magnet	ND Fe B-N38	1
5	Plate	SPCC	1
6	Voice Coil	Copper	1
7	Membrane	PEN	1
8	Cap	Stainless steel	1
9	Gasket	black cloth	1
10	Screen	black cloth	1



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**PACKING**

