



Loudspeaker
With screw holes
78×41 mm

CS78S410DF8

Revision

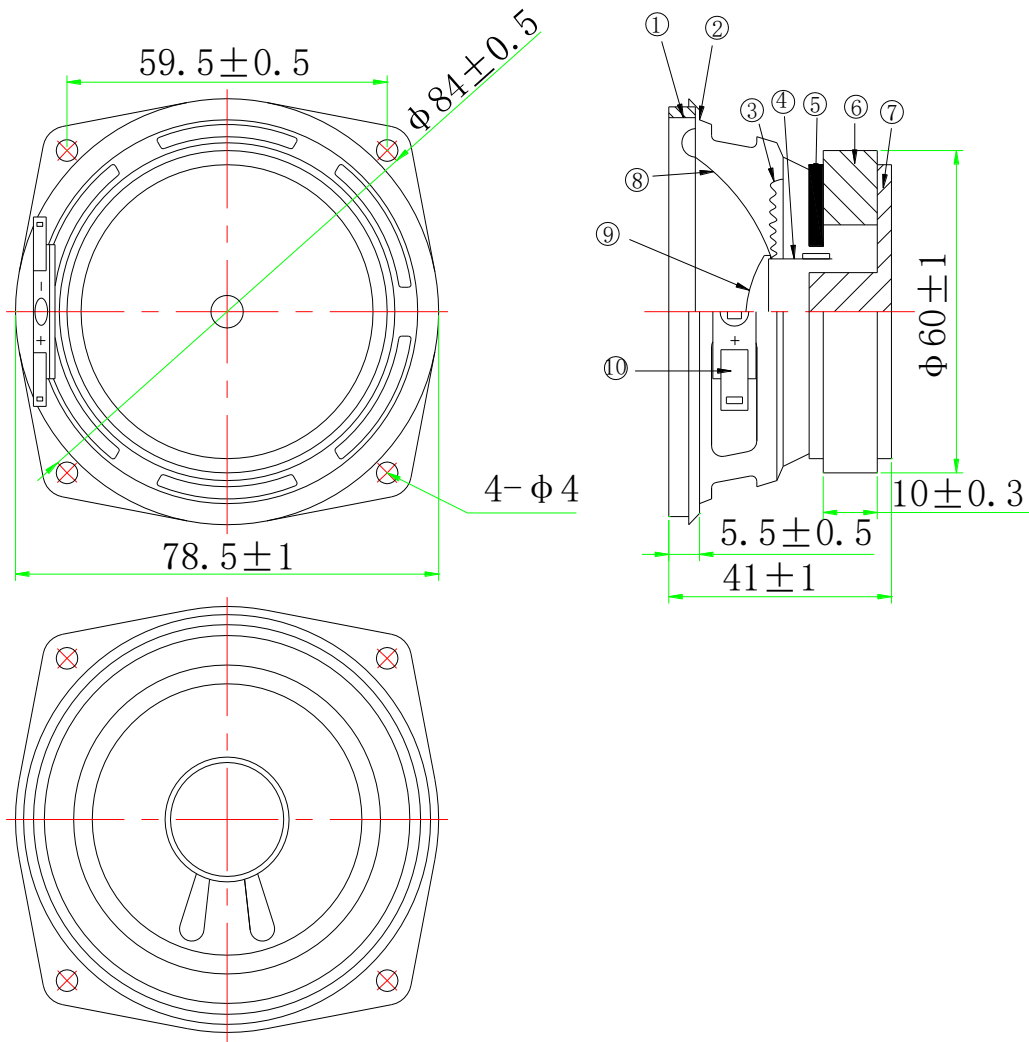
Date	Version	Status	Changes	Approver
2019/3/18	V0.1	Draft	Initial release	AX

Parameter	Conditions/Description	Values	Units
Rated Input Power		15.0	W
Max Input Power		20.0	W
Rated Impedance	at 2.0 kHz	8±15%	Ω
Sound Pressure Level (S.P.L.)	at 0.8K 1.0K 1.2K 1.5K Hz in 1.0W/0.5M average (0dB SPL=20μPa)	84±3	dB
Resonant Frequency (Fo)	at 1.0 V	150±20%	Hz
Frequency Range	Output S.P.L. -10dB	Fo~15K	Hz
Distortion	at 1K Hz, input 1.5V,	< 10%	-
Magnet	Ferrite	Φ60*32*10	mm
Buzz, Rattle, etc.	must be normal at sine wave between Fo ~ 4K Hz	7.74	V
Polarity	cone will move forward with positive dc current to "+" terminal		
Weight		235g±8%	g
Operating Temperature		-20~+60	°C
Storage Temperature		-30~+70	°C

Notes: All specifications measured at 5~35°C, humidity at 45~85%, under 86~106 kPa pressure, unless otherwise noted.

MECHANICAL DRAWING

Units: mm
Tolerance: $\pm 0.5\text{mm}$



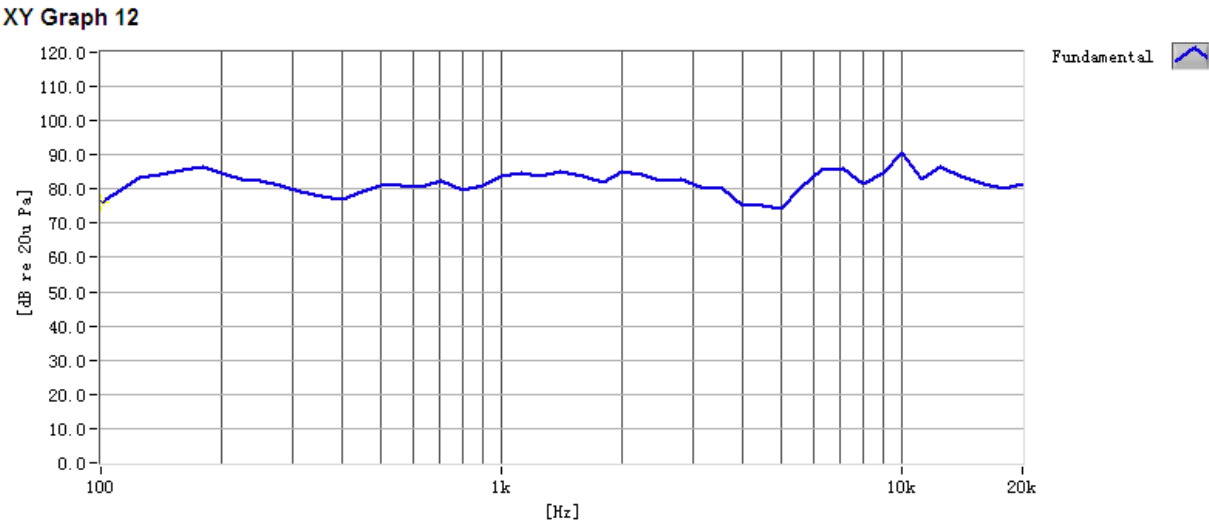
CONSTRUCTION DETAIL

PART NO.	PART NAME	Q'TY	MATERIAL	REMARK
1	Gasket	1	Paper	
2	Diaphragm	1	Rubber+ Paper	
3	VOICE COIL	1	AL+SV	
4	Plate	1	SPCC	
5	Magnet	1	Ferrite	
6	PCB Terminal	1	Paper+steel	
7	Frame	1	Spcc	

RESPONSE CURVES

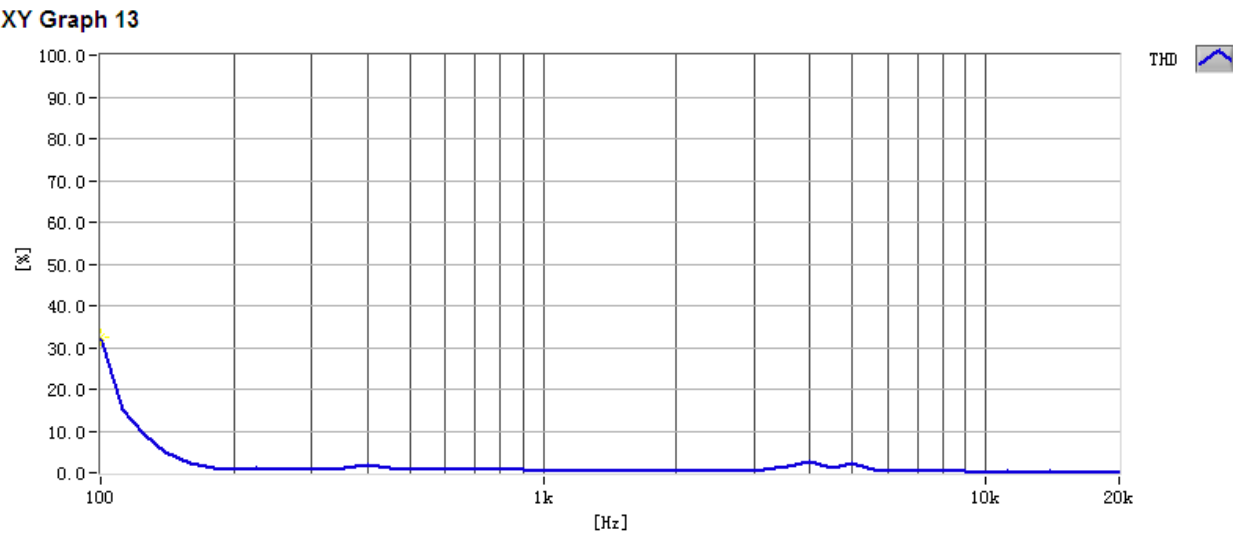
Frequency Response Curve

Test condition: 1.0W/0.5M,

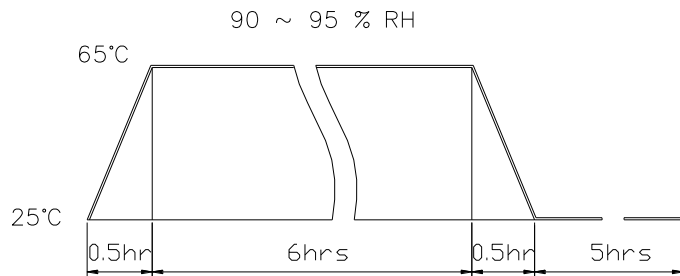


Total Harmonic Distortion Curve

Test condition: 1.5V/0.5M,



RELIABILITY TEST

1	Reliability Test Performance	After any following test, parts should conform to original performance within ± 3 dB tested with Rated Power, after 6 hours of recovery period.
2	High Temperature Test	96 hours at $+70^{\circ}\text{C} \pm 3^{\circ}\text{C}$
3	Low Temperature Test	96 hours at $-30^{\circ}\text{C} \pm 3^{\circ}\text{C}$
4	Humidity Test	96 hours at $+30^{\circ}\text{C} \pm 3^{\circ}\text{C}$, 92-95% RH
5	Temp./Humidity Cycle	The part shall be subjected 5 cycles. One cycle shall be 6 hours and consist of  The graph illustrates a temperature and humidity cycle. The temperature starts at 25°C, ramps up to 65°C over 0.5 hours, stays at 65°C for 6 hours, and then ramps down to 25°C over 0.5 hours. The humidity is 90 ~ 95 % RH during the 6-hour high-temperature plateau. The total cycle time is 7 hours.
6	Vibration Test	Frequency: 10~55~10Hz Oct/min Amplitude: 1.5mm Duration: 2 hours each of 3 perpendicular directions
7	Drop Test	Drop the speaker contained in normal box onto the surface of 40mm thick board 10 times from the height of 75cm
8	Operation Life Test	Must perform normal with program White-Noise source at Rated Power for 96 Hours
9	Termination Strength	Apply 3.0N(0.306kg) to each terminal in horizontal direction for 30 seconds; Apply 2.0N(0.204kg) to each terminal in vertical direction for 30 seconds;

MEASURING METHOD

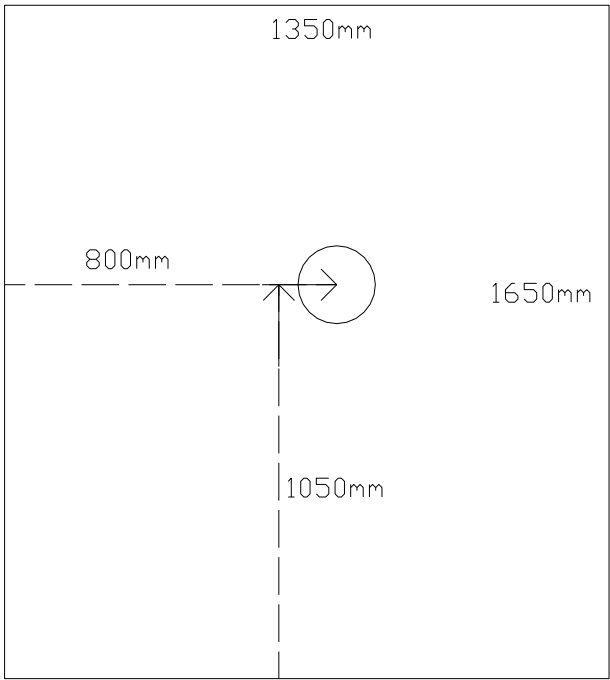
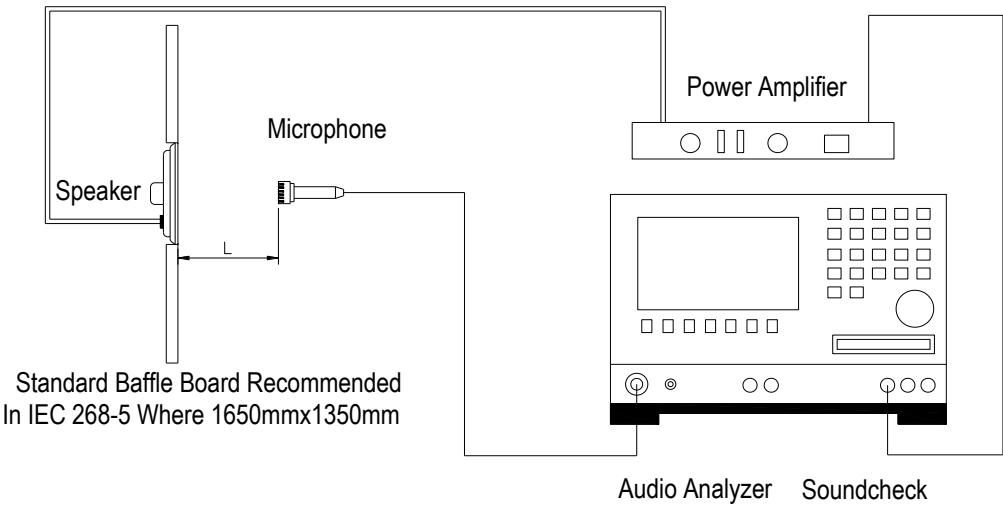


Fig. 1 Block Diagram for Measurement Method

Standard test condition of speaker

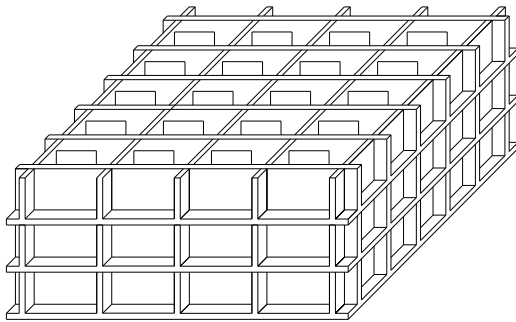
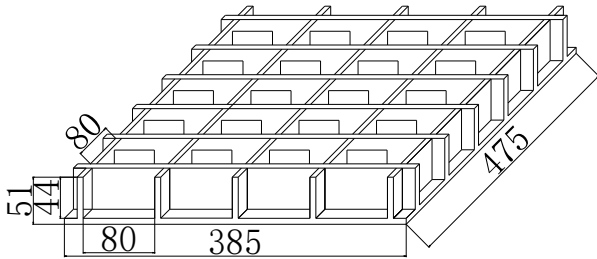


L=50cm

Fig. 2 Speaker Test Condition

PACKAGING

units: mm



1. Each clapboard 20 pcs,
Each carton 3 clapboards,
60 pcs/carton
N.W: 14.1 KG, G.W: 16.1 KG
2. Corrugated paper: 475*385mm 1 pcs
3. Carton size: 490*400*180mm 1 pcs

