CLS87S32.5-8F6-E500R Version:SP1.09.107-A5

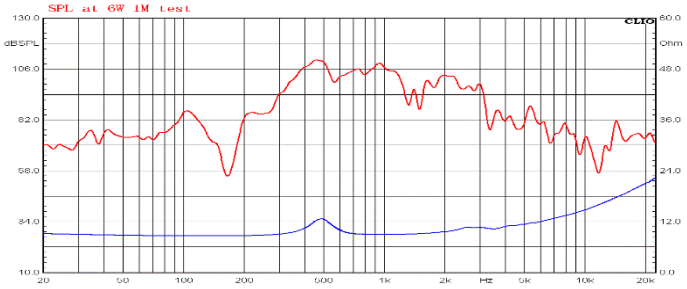
Description

Chinasound Loudspeaker 87mm diameter, Square metal frame, 32.5mm height – 8ohm, Ferrite, 6W –PEI cone, 500 Hz, RoHS compliant

- RoHS complaint
- Water-proof IP67 in the front

Picture

Frequency Response Curve Tested by CLIO



Specification

Rated Impedance		8+/-15% ohm	
Rated Power		6 W	
Max. Power		12 W	
Resonant Frequency	**Before all experiments**	500+/-20% Hz	
	After Reliability Test	280~600 Hz	
Frequency Range		fo ~ 10,000 Hz	
Sound Pressure Level		96dB min at 6W1m at a point between 350 to 650 Hz	
Operating Temperature		-40 ºC to +74 ºC	
Storage Temperature		-40ºC to +85 ºC	
Humidity Operating		25 ºC&95%RH	
Termination	**Description**	2 soldering lugs	
Construction Materials	**Case**	Steel，Zn plated	
	Diaphragm	PEI cone	
Weight (Typical)		271g	
Reliability	***Buzzes & Rattles**	Must be normal at 6.93V(=6W) sine wave	
	***Load Test**	6W white noise for 96hrs	
	Hi Pot	**Voltage**	1.20 KVDC
		Max Limit	10μA
		Min Limit	0.00μA
		Ramp Up	2 Seconds
		Dwell	1 Second
		Ramp Down	2 Seconds
	Air Leakage	**Max test pressure**	130
		Min test pressure	110
		n.i.O.limit	5.0
		Measuring time	3 sec
		Fill time	3 sec
		Rest time	1 sec
	Storage Temperature Humidity Test	See details Storage Temperature / Humidity Test standard as below.	
	Operating Temperature Humidity Test	See details Operating Temperature / Humidity Test standard as below.	
	***Vibration**	1.5mm with 10 to 50Hz of vibration frequency to each of 3 perpendicular direction for 2 hrs	
	***Soldering Heat Resistance**	350+/-5 ºC iron put on soldering lugs for 3+/-1 seconds	
	****Solderability**	Soldering lugs are soldered by iron 350+/-5 ºC for 3+/-0.5 seconds.	
Warranty		For a period of one (1) year from date of manufacture under norma l operations	

* All specifications must be satisfied after the test (Recovery:2 to 4 hrs of recovery under the standard condition after the removal from test chamber).

**90% min. soldering pads shall be with solder.(except the edge of pad)

Composed by: Chrissy D/190328 Checked by: James Z /190328 Approved by: William W /190328

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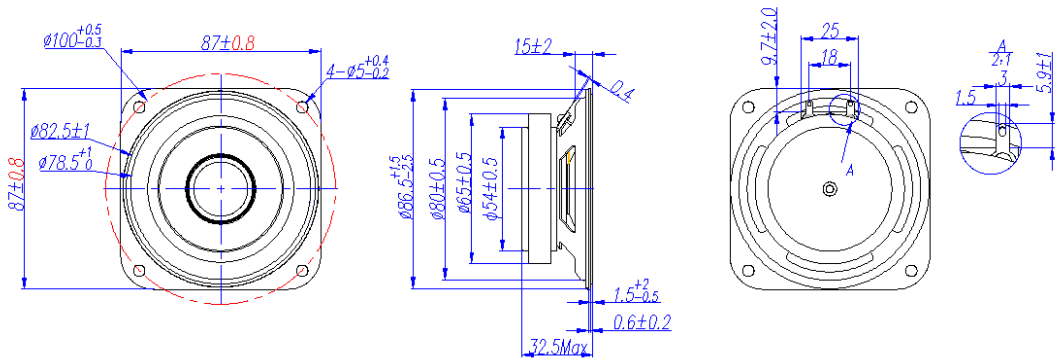
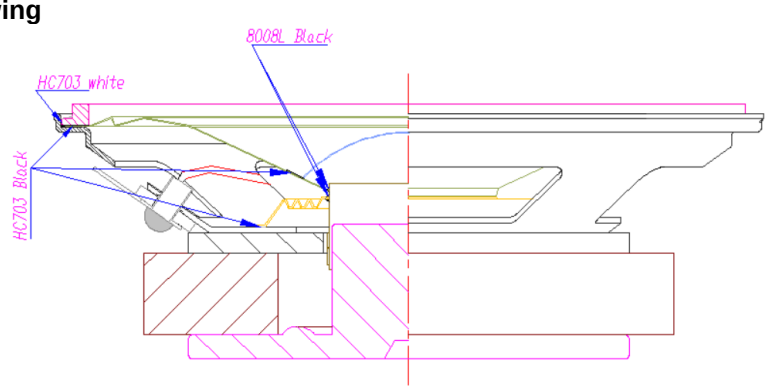
Dimensions (Unit: mm, Tolerance: +/-0.5mm)



Assembly drawing



Test procedure

Storage Temperature / Humidity Test:

Assures that speakers will survive storage and remain operative. Units are not powered when undergoing storage testing.

1.1 Requirement: Speaker to function before and after exposure to environmental conditions listed in table below. (Storage Test Chamber Program).

1.2 Responsibility: Test Technician.

1.3 Sample: 10 acceptable (Hi-Pot & leakage) speakers. Label 1 thru 10.

1.4 Standard Pre- & Post-Test:

1.4.1 Measure resistance: 8-Ohm ± 1.2 Ohms.

1.4.2 Visual Inspection: Observe and record adhesive joint quality for spider, cone, and dust cap on all Units Under Test, UUT's. Adhesive should appear bonded and not exhibit stringing. (Take photos)

1.4.3 Audio: Set average SPL to 95db @ 1m. Record and graph SPL versus frequency for all UUT's. Record the maximum SPL at resonant frequency, f0.

1.5 Orient speakers on chamber rack (no trays):

1.5.1 Five speakers with magnet up.

1.5.2 Five units with magnet down.

1.6 Storage Test Chamber Program:

Step	Starting Temp [C]	Ending Temp [C]	Humidity [%]	Time [h:mm:ss]	Event
0	Pre-test per Paragraph 6.44 above				
1	20	-40	OFF	4:00:00	Ramp Down
2	-40	-40	OFF	1:00:00	Dwell
3	-40	+85	95	8:00:00	Ramp Up
4	+85	+85	95	1:00:00	Dwell
5	+85	-40	OFF	8:00:00	Ramp Down
6	-40	-40	OFF	1:00:00	Dwell
7	-40	+85	95	8:00:00	Ramp Up
8	+85	+85	95	1:00:00	Dwell
9	+85	20	OFF	8:00:00	Ramp Down
10	20	20	OFF	0:30:00	Dwell
11	Remove speakers and re-test per paragraph 6.44 above				
			Total	36:30:00	

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1.7 Hi-Pot Test: Per Hi-Pot Test standard above.

1.8 Air Leakage Test: (repeat after storage temperature / humidity exposure.)

1.8.1 Requirement: See details air leakage test standard above

1.8.2 Responsibility: Production.

1.8.3 Sample Size: 100%.

Operating Temperature / Humidity Test:

Assures that units will operate throughout exposure to varying temperature / humidity. Speaker will be powered while being exposed to various environmental conditions.

2.1 Sample: One speaker will be tested. Additional single speaker tests may be required.

2.2 Orientation: Speaker is to be mounted vertically in chamber next to hole in wall with the speaker cone facing outward (from chamber) and terminals pointing down. Two wires are to be attached to the speaker terminals and routed outside of chamber. Wires are to be coupled to an audio playback system capable of providing 95 db of averaged SPL output when measured at 1m distance.

2.3 Standard Pre- & Post-Test:

2.3.1 Measure resistance: 8-Ohm ± 1.2 Ohms.

2.3.2 Visual Inspection: Observe and record adhesive joint quality for spider, cone, and dust cap on all Units Under Test, UUT's. Adhesive should appear bonded and not exhibit stringing. (Take photos)

2.3.3 Audio: Set average SPL to 95db @ 1m. Record and graph SPL versus frequency for all UUT's. Record the maximum SPL at resonant frequency, f0.

Operating Test Chamber Program

Step	Starting Temp [C]	Ending Temp [C]	Humidity [%]	Time [h:mm:ss]	Event
0	Pre-test per Paragraph 6.44 above				
1	20	-34	OFF	3:30:00	Ramp Down
2	-34	-34	OFF	1:00:00	Dwell
	TEST: Begin testing at start of dwell				
3	-34	+43	90	5:00:00	Ramp Up
4	+43	+74	18	2:00:00	Ramp Up
5	+74	+74	18	1:00:00	Dwell
	TEST: Begin testing at start of dwell				
6	+74	20	OFF	3:30:00	Ramp Down
7	20	20	OFF	0:30:00	Dwell
8	Remove speakers and re-test per paragraph 6.44 above				
			Total	16:30:00	

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Revisions History

Version Number	Description	Name	Date
SP1.09.107-A0	Original, CLS87S32.5-8F6-N500R	Chrissy Deng	2016-08-08
SP1.09.107-A1	1)Change the material of the cone from PEN to PEI 2) Change the material of the gasket from rubber to plastic 3)Change the shape of the gasket	Chrissy Deng	2017-03-14
SP1.09.107-A2	1)Change the material of the damper from PEI to cotton 2)Change the thickness of the cone from 0.178mm to 0.125mm 3)Add the parameter of the Resonant Frequency after the Operating Temperature / Humidity Test and Storage Temperature / Humidity Test 4) Add a ring epoxy glue (3300A&3300B) on the top mounting seal 5)Add the description of the Humidity Operating	Chrissy Deng	2017-07-27
SP1.09.107-A3	1)Update picture Change the glue from neoprene glue to silica glue due to environmental requirement 2)Add assembly drawing with note of glues	Chrissy Deng	2017-12-13
SP1.09.107-A4	1)Correct the operating temperature from -20° ~+74° to-40° ~+74° and the storage temperature from -30° ~+85° to -40° ~+85°. 2) Update picture Change the cover layer of the frame from Zn plated to black spray-paint 3)Change the thickness of the cone from 0.125mm to 0.178mm Because the 0.125mm cone was found to be damaged in the customer's test. 4)Change the tolerance of the out diameter from 0.5mm to 0.8mm	Chrissy Deng	2019-03-28
SP1.09.107-A5	1)Update the curve pic Beacause the thickness of the cone from 0.125mm to 0.178mm 2) Add the description of the waterproof rating	Chrissy Deng	2019-07-29

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