Loudspeaker

50×37×21mm

With waterproof IP65

CO5037S021AN8WP

Revision

Date	Version	Status	Changes	Approver
2025/9/17	V0.1	Draft	First release	AX

Parameter	Conditions/Description	Values	Units
Rated Input Power		8	W
Max Input Power		10	W
Rated Impedance		8±15%	Ω
Sound Pressure Level (S.P.L.)	8W/0.1m at 800,1000,1180,1500HZ average in baffle	113±3	dB
Resonant Frequency (Fo)	at 1.0 V in free air	330±20%	Hz
Frequency Range	Output S.P.L. -10dB	150~20K	Hz
Distortion	at 1K Hz, input8W/0.1M,	< 5%	-
Magnet	NdFeB	19.8*5	mm
Buzz, Rattle, etc.	must be normal at sine wave between 50 ~ 10K Hz	8	V
Polarity	cone will move forward with positive dc current to“+” terminal		
Weight		56	g
Operating Temperature		-40~+85	℃
Storage Temperature		-40~+105	℃
Waterproof		IP65	

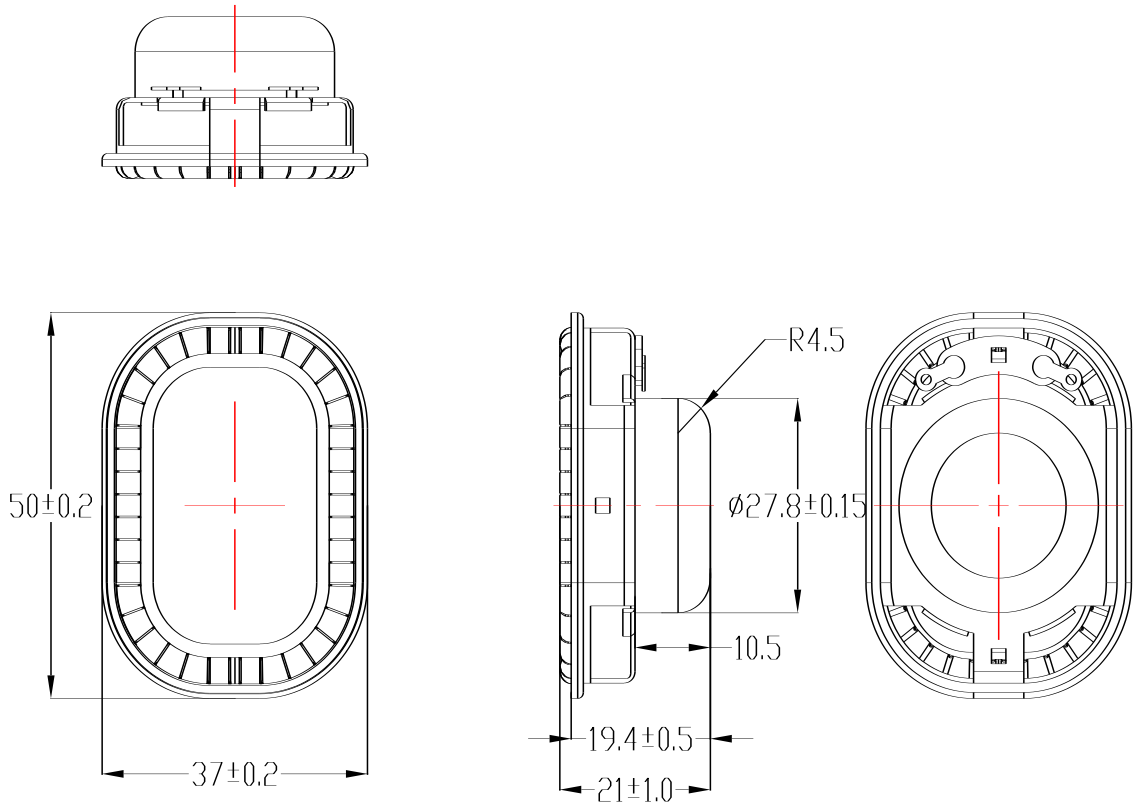
Above Measuring condition under temperature : 15~35℃ R.H. 25 ~75%.86 kPa to 106 kPa (860 mbar to 1 060 mbar According to standard GB/T 9397—200X and IEC 60268-1

This document is the property of Seltech and cannot be duplicated or communicated without prior permission.

MECHANICAL DRAWING

Units: mm

Tolerance: ±0.5mm



CONSTRUCTION DETAIL

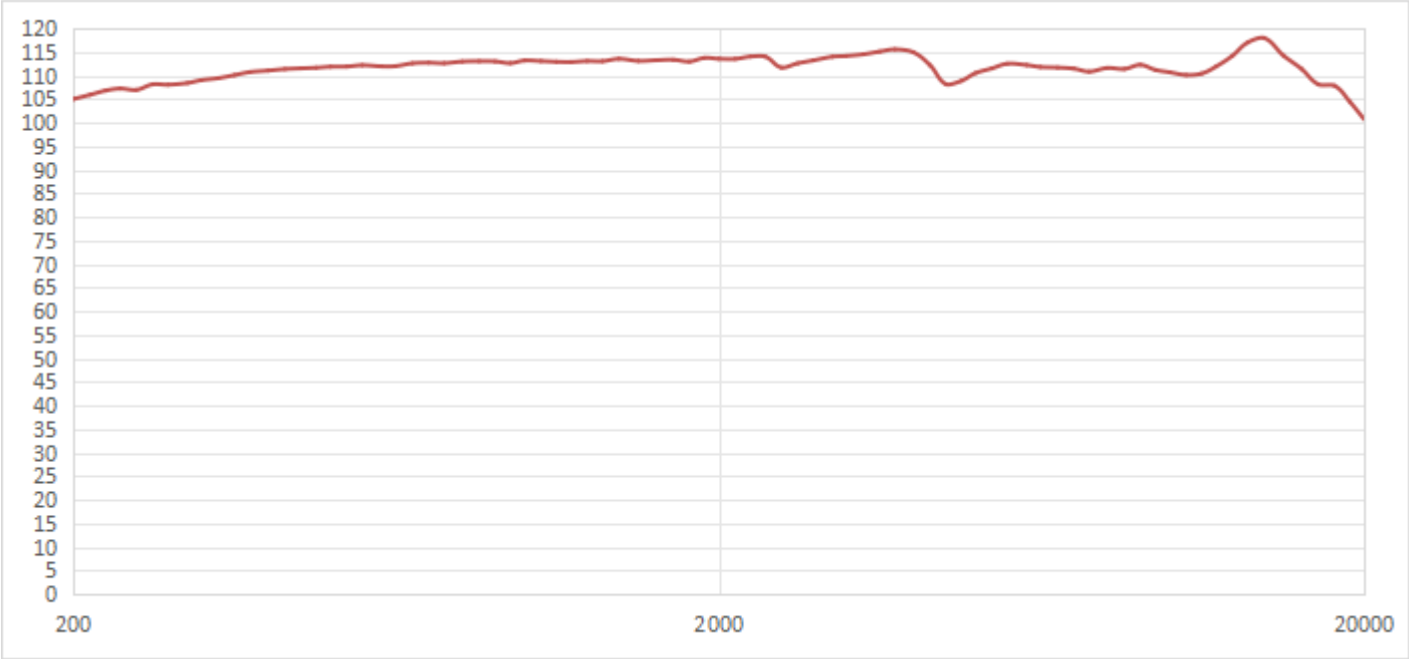
NO.	PART NAME	Q'TY	MATERIAL	REMARK
1	Diaphragm	1	RUBBER+Carbon fiber	
2	VOICE COIL	1	AL+Cu	
3	Plate	1	SPCC	
4	Magnet	1	NdFeB	
5	Yoke	1	SPCC	
6	Frame	1	SPCC	
7	Damper	1	Cloth	
8	PCB Terminal	1	Paper+metal	

This document is the property of Seltech and cannot be duplicated or communicated without prior permission.

RESPONSE CURVES

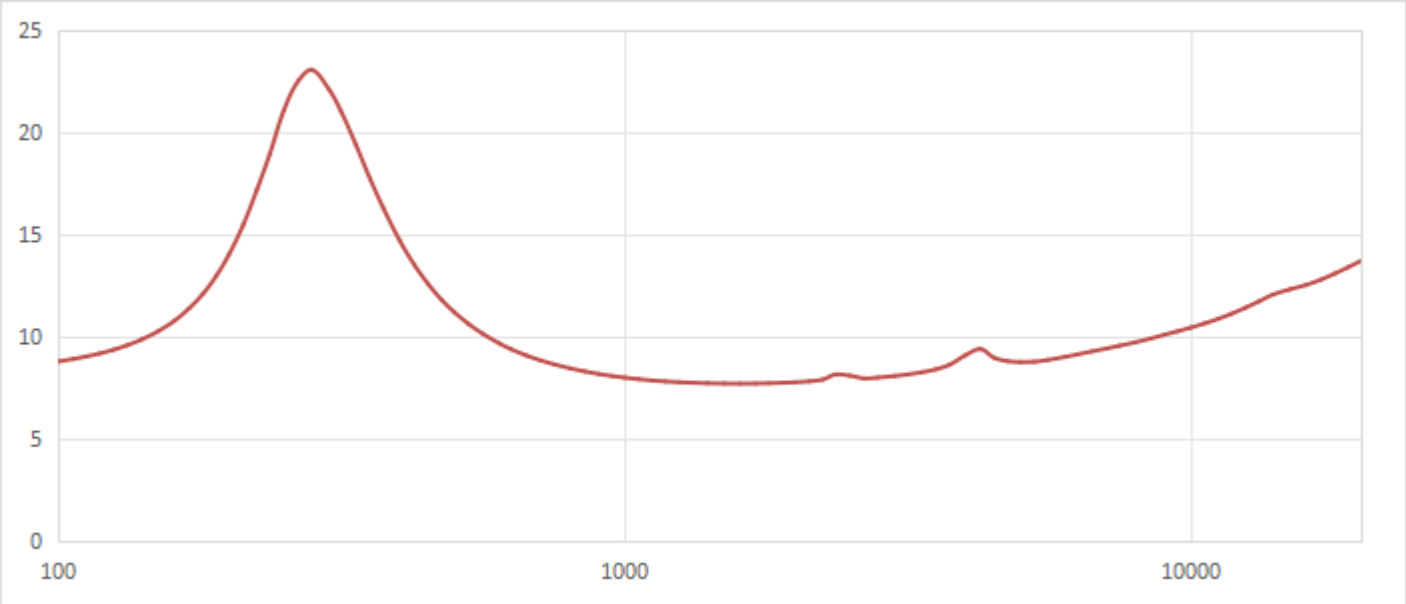
Frequency Response Curve

Test condition: 8W/0.1M,



Impedance Curve

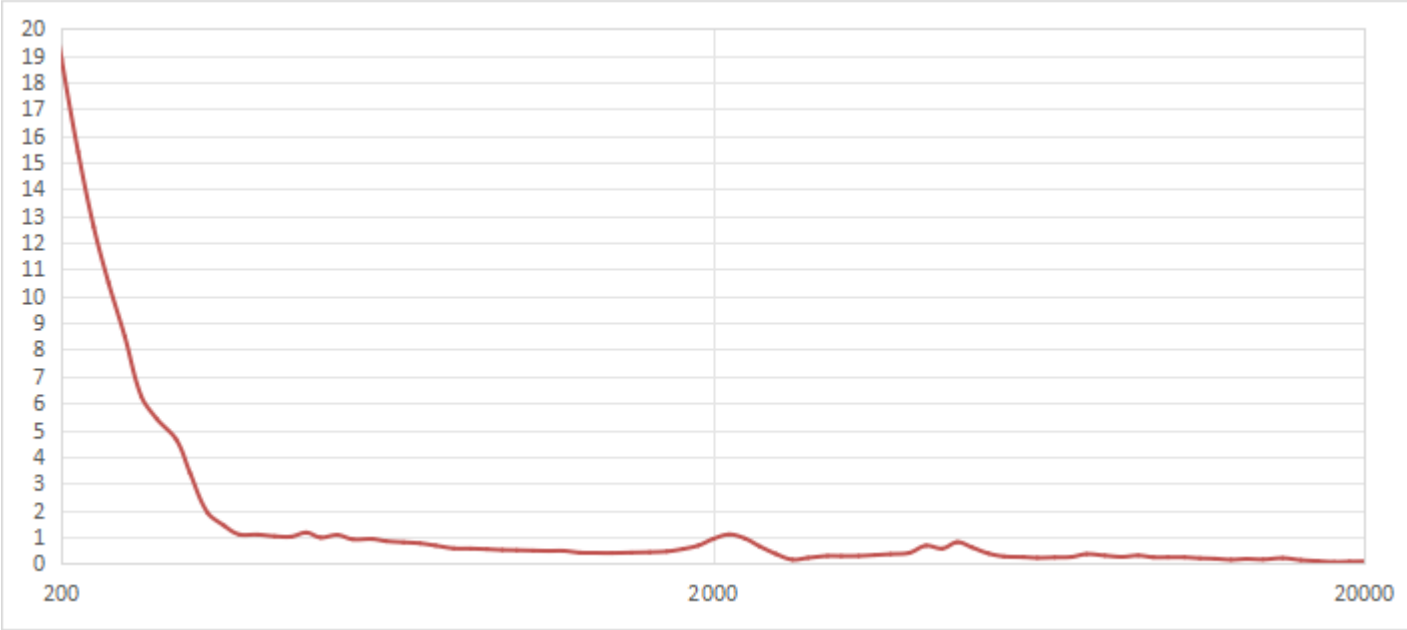
Test condition: 1V



This document is the property of Seltech and cannot be duplicated or communicated without prior permission.

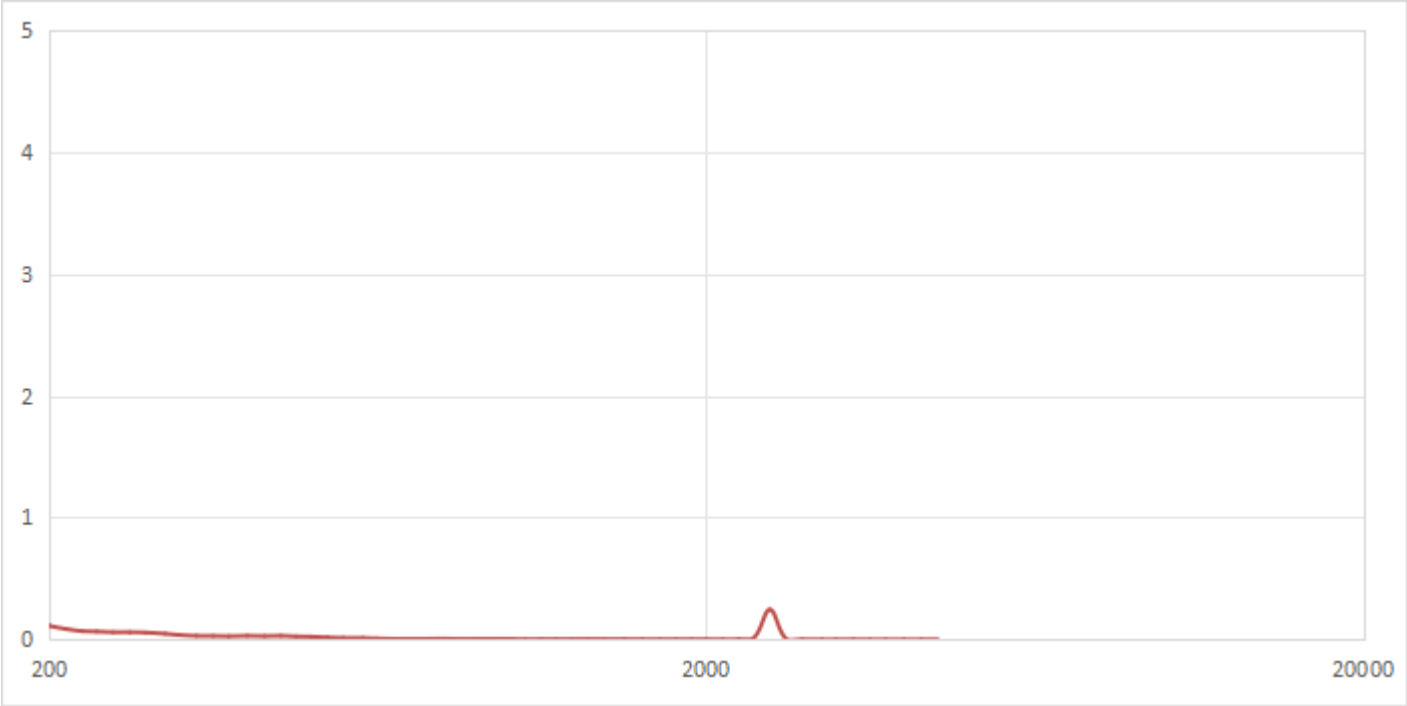
Total Harmonic Distortion Curve

Test condition: 8W/0.1M,



Rub&Buzz Curve

Test condition: 8W/0.1M,



This document is the property of Seltech and cannot be duplicated or communicated without prior permission.

RELIABLITY 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.(with Test Signal: Pink noise crest factor=6, High-Pass filter: 12dB/Oct, -3dB@Fb)
2	Long-term rated power test	Input rated power pink noise to the speaker, low temperature（-40± 2°）for 24hrs, then raising temperature to（70±2°) for 72hrs
3	Short-term maximum power test	Room temperature 25℃ Input 1sec Max power pink noise to the speaker, idle for 59sec, cycling 30times.
4	Voice coil destructive test	(1) Before testing, Please use multimeter to measure the sample’s DC resistance and use X-Ray to check the voice coil, it must meet specification and not be broken, scattered, deformed and short-circuited. (2)Room temperature 25℃ Input Max power DC Signal for 30sec. 5Pcs for normal connection(Power+→Speaker+, Power-→Speaker-) 5Pcs for inverse connection(Power+→Speaker-, Power-→Speaker+) (3) After test, measure sample’s DC resistance and use X-Ray to check whether the voice coil is scattered, deformed or short-circuited.
5	Voice coil destructive test Ⅱ	(1) Before testing, Please use multimeter to measure the sample’s DC resistance and use X-Ray to check the voice coil, it Must meet specification and not be broken, scattered, deformed and short-circuited. (2)Input Max power sweep signal to the speaker. Sweep frequency range: 300Hz to 20kHz Cycle time: 2Sec for one cycle, cycling for 8 hrs. (3) After test, measure sample’s DC resistance and use X-Ray to check whether the voice coil is scattered, deformed or short-circuited.

This document is the property of Seltech and cannot be duplicated or communicated without prior permission.

6	Long-term temperature cycling test	Input rated power pink noise to the speaker Temperature range: -40°C~70°C Temperature change rate is 5~10°C/min, 15min at -40°C and 70°C, cycling 50 times. 1) Before testing, Please check appearance and acoustic performance, it must meet the specifications. (2) Put speaker into the middle of the test chamber, the distance between speaker and chamber inner wall is not less than 5cm (3) Check appearance and acoustic performance.
7	Long-term high temperature and high humidity test	Input rated power pink noise to the speaker Temperature 70°C,humidity 90%RH for 72hrs. (1) Before testing, Please check appearance and acoustic performance, it must meet the specifications. (2) Put speaker into the middle of the test chamber, the distance between speaker and chamber inner wall is not less than 5cm (3)Cooling down to room temperature 25 °C, 2hrs, then check the appearance and acoustic performance.
8	High temperature and high humidity test	Input rated power pink noise to the speaker Temperature 90°C, humidity 90%RH for 6hrs. (1) Before testing, Please check appearance and acoustic performance, it must meet the specifications. (2) Put speaker into the middle of the test chamber, the distance between speaker and chamber inner wall is not less than 5cm (3)Cooling down to room temperature 25 °C, 2hrs, then check the appearance and acoustic performance.
9	Salt mist test	Salt mist concentration: 5% NaCl PH: 6.5~7.2 solution, which was continuously sprayed at 35 ° C for 48 hours. (1) Put into salt mist chamber and do not overlap each test speaker, sample shall be supported or suspended between 15 and 30° C from the vertical and preferably parallel to the principal direction of flow of fog through the chamber, based upon the domaint surface being tested (2)Continuously spray NaCl solution into the test chamber for 48 hours. (3)After this test, taken out the sample and washed this sample carefully to remove the residual NaCl solution on the surface.

This document is the property of Seltech and cannot be duplicated or communicated without prior permission.

10	Drop test	Mounted in a special fixture, all the speaker module or drive should be in a small plastic box. Sample size: 5 for Plywood over concrete, 5 for Concrete. Height of the drop: 160cm Surface: 2" Plywood over concrete and Concrete Drop sequence: Six faces Standard: EN 60068-2-31 (1) Before testing, Please check appearance and acoustic performance, it must meet the specifications. (2) Check appearance and acoustic performance.
11	Siren file test	50℃ for 12hrs, -20℃ for 12hr, 3 round, total testing time is 72hr. Input rated power siren file to the speaker, low temperature (-20±2°) for 12hrs, then raising temperature to (50±2°) 12hrs, 3 round, total testing time is 72hr.

MEASURING METHOD

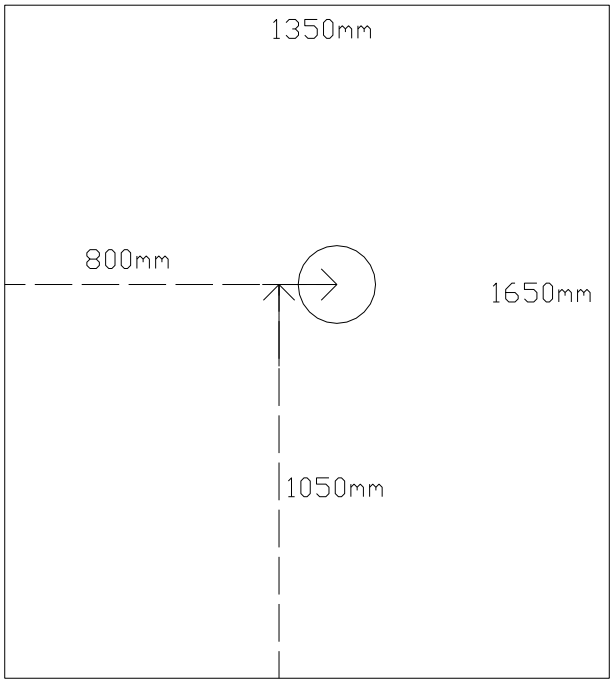
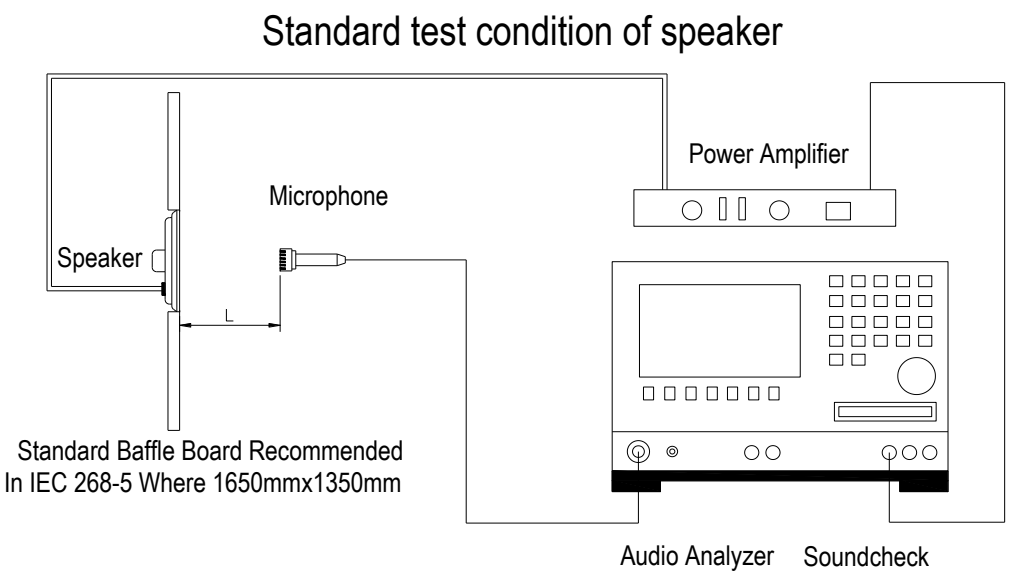


Fig. 1 Block Diagram for Measurement Method

This document is the property of Seltech and cannot be duplicated or communicated without prior permission.



L=10cm

Fig. 2 Speaker Test Condition

Package

TBD

This document is the property of Seltech and cannot be duplicated or communicated without prior permission.