



# **Dynamic loudspeaker**

**14 × 20 × 3.8 mm**

**With spring contacts**

**CO2014L038BN8MDA**

## **Revision**

<b>Date</b>	<b>Version</b>	<b>Status</b>	<b>Changes</b>	<b>Approver</b>
2017/10/02	V0.1	Draft	First release	LC
2017/12/13	V0.2	Draft	Correct speaker thickness+template	LC
2019/8/28	V0.3	Draft	Add print code	AX

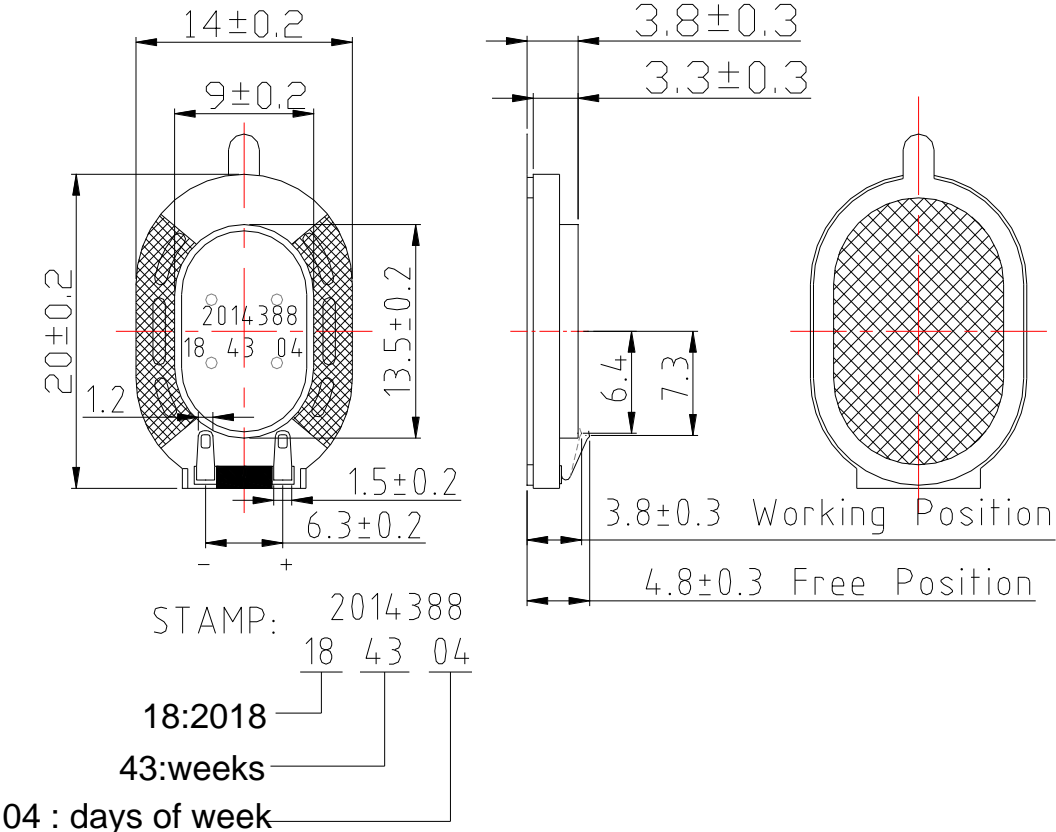
## Specifications

Parameter	Conditions/Description	Values	Units
Rated Input Power		0.5	W
Max Input Power		1.0	W
Rated Impedance	at 2.0 kHz	8±15%	Ω
Sound Pressure Level (S.P.L.)	at 2KHz in 0.5W/0.1M average (0dB SPL=20μPa)	93±3	dB
Resonant Frequency (Fo)	at 1.0 V	800±20%	Hz
Frequency Range	Output S.P.L. -10dB	Fo~20K	Hz
Distortion	at 1K Hz, input 0.1W,	< 5%	-
Magnet	NdFeB	10*5.5*1.0	mm
Buzz, Rattle, etc.	must be normal at sine wave between Fo ~ 5K Hz	2.0	V
Polarity	cone will move forward with positive dc current to "+" terminal		
Weight			g
Operating Temperature		-20~+60	°C
Storage Temperature		-30~+70	°C
Waterproof Rating		N/A	

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: ±0.5mm



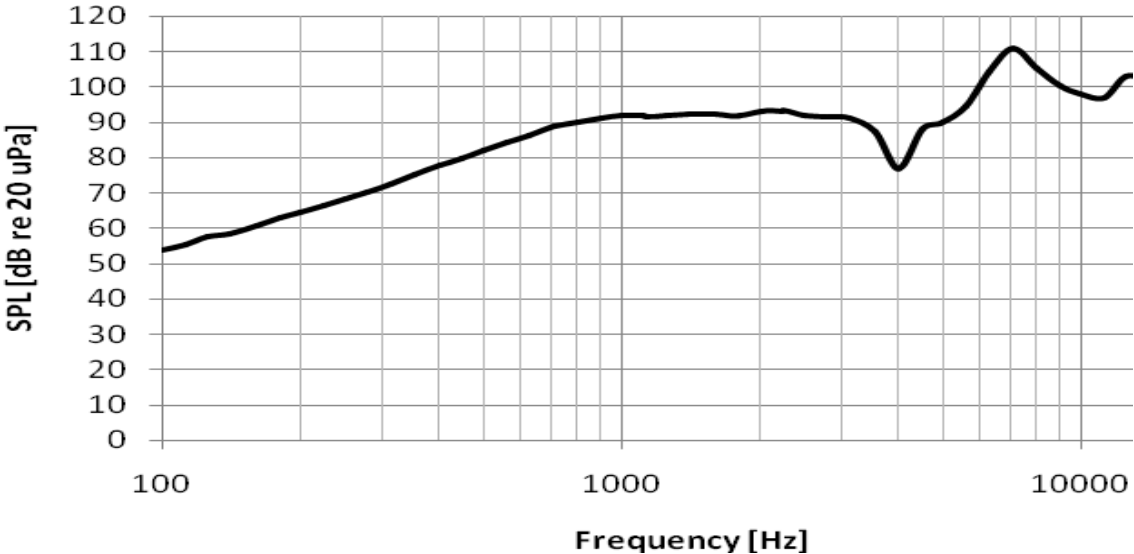
**CONSTRUCTION DETAIL**

PART NO.	PART NAME	Q'TY	MATERIAL	REMARK
1	Cap	1	SUS304	
2	Diaphragm	1	PEN	
3	VOICE COIL	1	Cu	
4	Plate	1	SPCC	
5	Magnet	1	NdFeB	
6	PCB Terminal	1	FR4	
7	Frame	1	PBT	

# RESPONSE CURVES

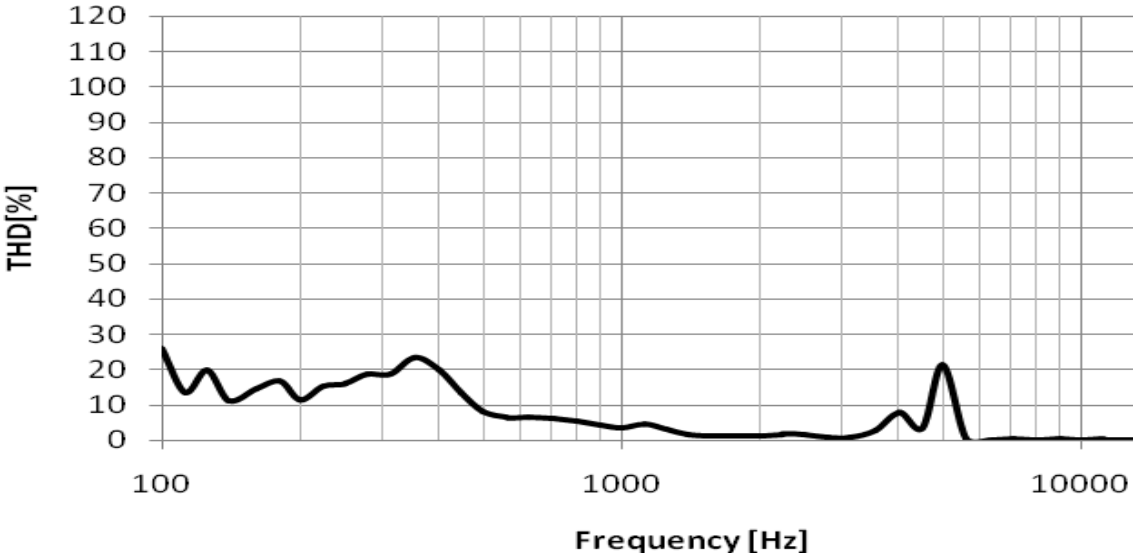
## Frequency Response Curve

Test condition: 0.5W/0.1M,

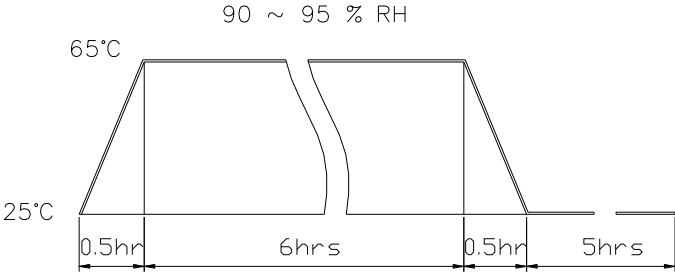


## Total Harmonic Distortion Curve

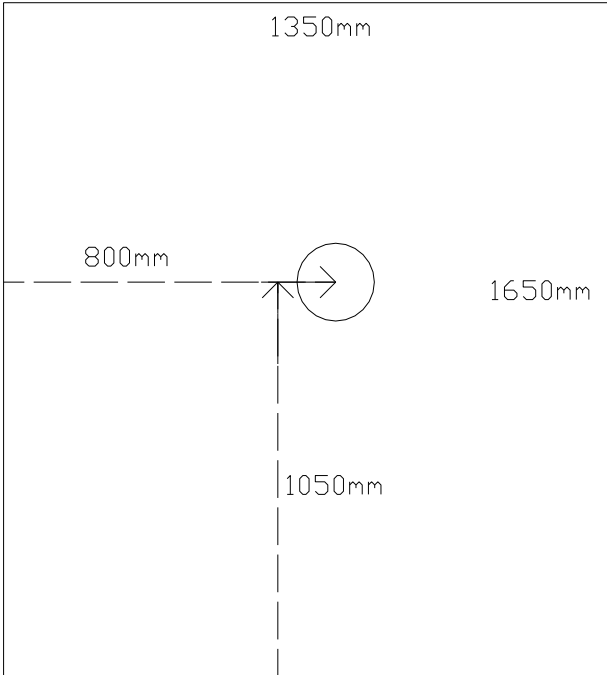
Test condition: 0.1W/0.1M,



**RELIABILITY TEST**

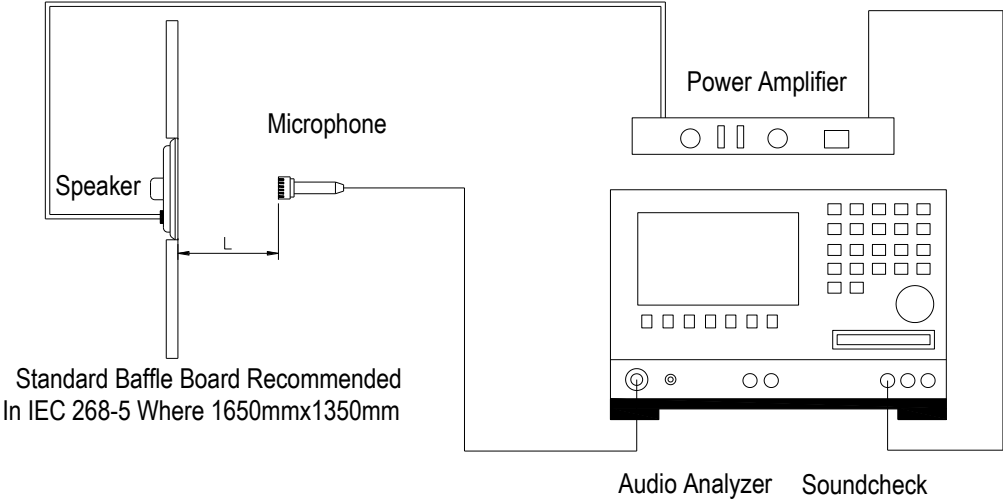
1	Reliability Test Performance	After any following test, parts should conform to original performance within $\pm 3$ dB tested with Rated Power, after 6 hours of recovery period.
2	High Temperature Test	96 hours at $+70^{\circ}\text{C}\pm 3^{\circ}\text{C}$
3	Low Temperature Test	96 hours at $-30^{\circ}\text{C}\pm 3^{\circ}\text{C}$
4	Humidity Test	96 hours at $+30^{\circ}\text{C}\pm 3^{\circ}\text{C}$ , 92-95% RH
5	Temp./Humidity Cycle	<p>The part shall be subjected 5 cycles. One cycle shall be 6 hours and consist of</p> 
6	Vibration Test	<p>Frequency: 10~55~10Hz Oct/min      Amplitude: 1.5mm          Duration: 2 hours each of 3 perpendicular directions</p>
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=10cm**

**Fig. 2 Speaker Test Condition**

**PACKAGING**

units: cm

Remark:

100pcs per tray

10 trays for unit, 2 units per carton

Total:2000 pcs per box

Size:51.5\*33\*21.5cm

