



Dynamic Loudspeaker

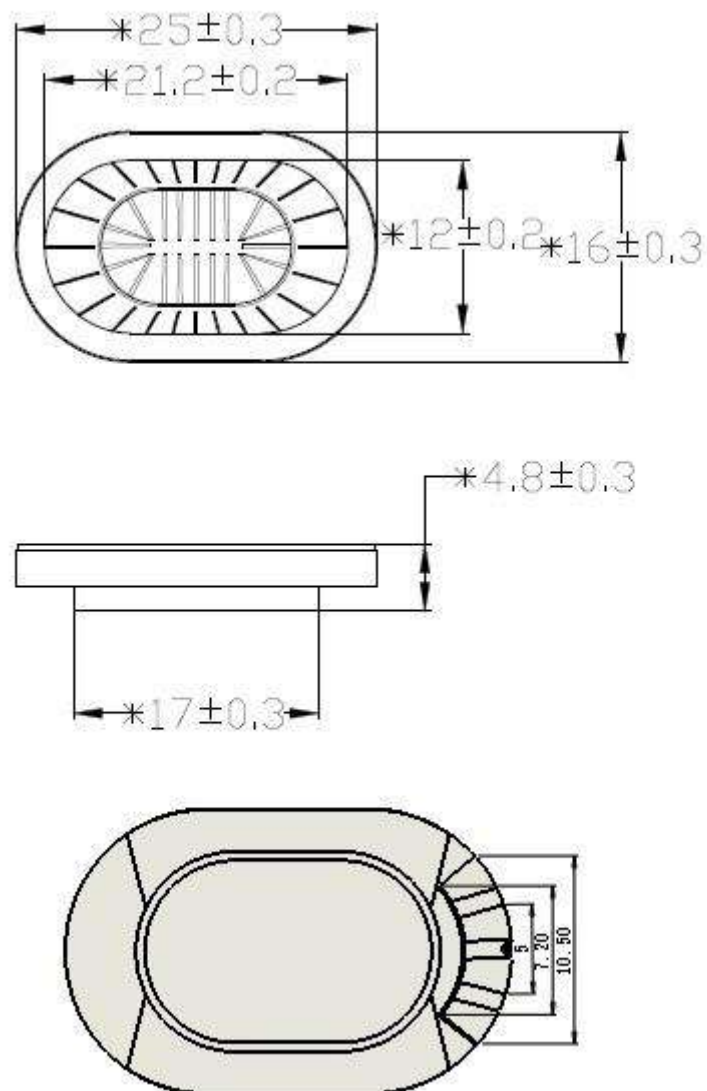
25 × 16 × 4.8 mm

BO2516S048YN8

Revision

Date	Version	Status	Changes	Approver
2019/10/24	V0.1	Draft	First release	AX
2020/12/08	V0.2	Draft	update SPL curves,F0 & THD limited	AX

1.1. Mechanical Drawing



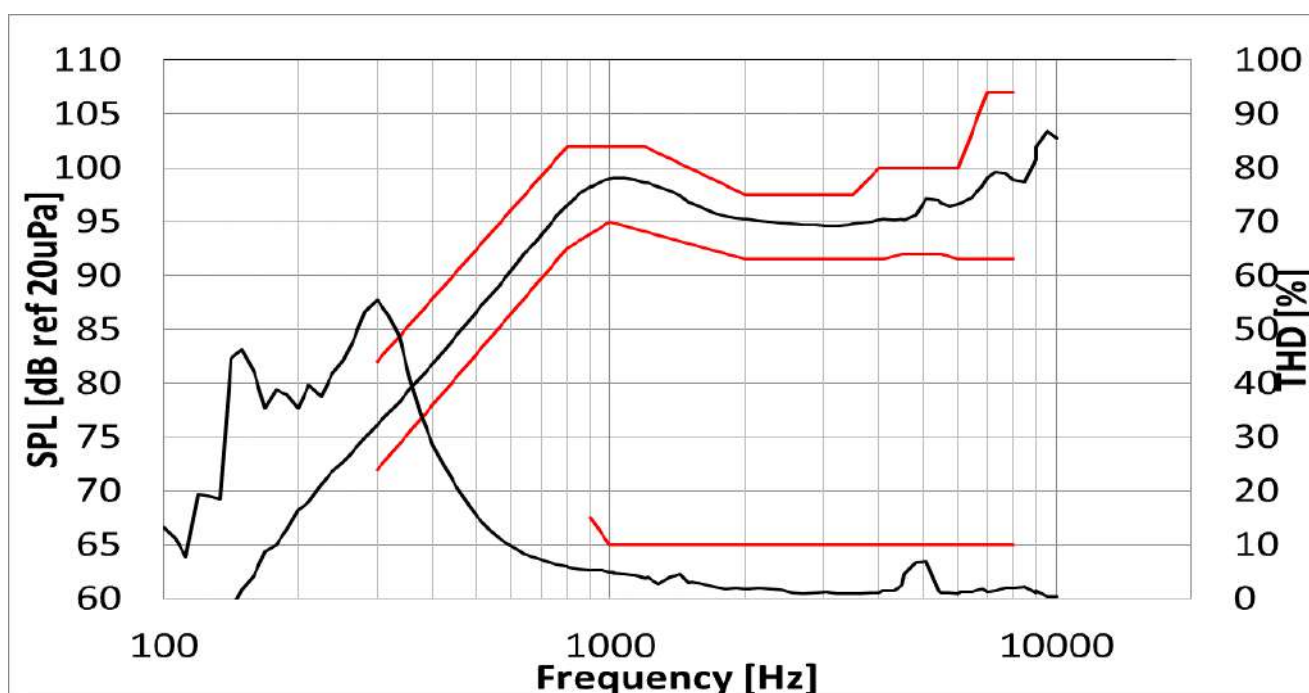
1.2. Material List

- | | | |
|----|------------|-------------|
| 1) | Membrane | Plastic |
| 2) | Basket | PPA+33%BF |
| 3) | Cover | PPA+33%BF |
| 4) | Pot | SPCC |
| 5) | Magnet | Nd-Fe-B |
| 6) | Top plate | SPCC |
| 7) | Solder Pad | SUS301H |
| 8) | Dimension | 16X25X4.8mm |

2. Electro-Acoustic Characteristics

2.1. Frequency Response

Typical frequency response measured on baffle according to chapter 2.4
(distance $d=10\text{cm}$, no back cavity at 2.83Vrms)



f (Hz)	LL (dB)	f (Hz)	HL (dB)	f (Hz)	HL (%)
300	72	300	82	900	15
800	92.5	800	102	1000	10
1000	95	1200	102	8000	10
2000	91.5	2000	97.5		
4100	91.5	3500	97.5		
4500	92	4000	100		
5500	92	6000	100		
6000	91.5	7000	107		
8000	91.5	8000	107		

2.2. Electro-acoustic Parameters

Receiver mounted in adapter according to 2.6 measured on baffle according to 2.4.

1. Rated impedance	Z:	8Ω
2. Voice coil resistance	R:	7.0Ω± 8 %
3. Resonance frequency	F ₀ :	850Hz ± 20 %

(measured 2.83Vrms open back cavity)

4. Nominal characteristic sensitivity (calculated for 1W 1m)	76dB (typical)
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Open back cavity at the frequency point: 2kHz

5. Measured characteristic sensitivity (at 1W in 10cm)	96 ± 3dB
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3.5cc back cavity at the frequency point: 2kHz

6. THD according to chapter 2.1	
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All acoustic measurements at 23±3°C

2.3. Power Handling

Loudspeaker mounted in lifetime test device (open back cavity, open front)

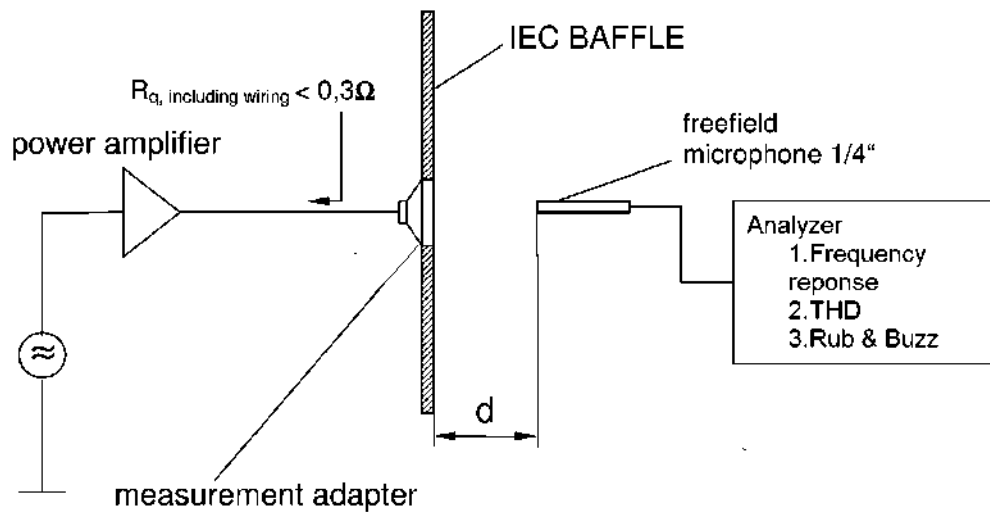
1. MAX.SHORT TERM POWER (1sec. ON / 60sec. OFF)	1.2W (RMS)
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(pink noise, 2nd order high pass filtered, -3dB at 1000Hz, crest factor 2)

2. MAX. CONTINUOUS POWER (96h)	1.0W (RMS)
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(pink noise, 2nd order high pass filtered, -3dB at 1000Hz, crest factor 2)

2.4. Measurement Setup (Acoustics)



2.5. Measured Parameters

2.5.1. Sensitivity

SPL is expressed in dB ref $20\mu\text{Pa}$, computed according to IEC 268-5

Measurement set up according to chapter 2.4

This test is performed for 100% of products in the production line

2.5.2. Frequency Response

Frequency response is measured according to test set up in chapter 2.4 and checked against the tolerance window defined in chapter 2.1. This Test is performed for 100% of products in the production line.

2.5.3. Total Harmonic Distortion (THD)

Total harmonic distortion (THD) is measured according to IEC 268-5 (2nd to 5th harmonics) and test set up in chapter 2.4 and checked against the tolerance window defined in chapter 2.1. This test is performed for 100% of products in the production line.

2.5.4. Rub& Buzz

300-5000Hz at 2.83Vrms open back cavity will not result in any buzzing or extraneous sound.

3. Environmental Tests

20pcs fresh samples for each environmental test.

Immediately after reliability test, samples should be stored under climatic conditions such as normally exist in ordinary rooms. Unless otherwise noted, the recovery period should be 2 hours at least before performance test.

All samples after environmental test should meet the requirements specified in chapter 2.1 and 2.2 with 50% widened tolerances.

3.1. Low Temperature Storage Test

Ref. EN 60068-2-1, $-40 \pm 2^{\circ}\text{C}$, duration 96h, 2 hours recovery time.

3.2. High Temperature Storage Test

Ref. EN 60068-2-2, $+85 \pm 2^{\circ}\text{C}$, duration 96h, 2 hours recovery time.

3.3. Long Term Operation Test

Ref. IEC60068-2-2. 96h. open back cavity signal according to part 2 in chapter 2.3.

3.4. Short Term Maximum Power Test

60 cycles. Open back cavity signal according to part 1 in Chapter 2.3.

4. Related Documents

Refer to general terms.

5. Legal Information

Refer to general terms.

6. Package information

TBD