Micro speaker

12×5×3.0mm

Solder pad

& Waterproof

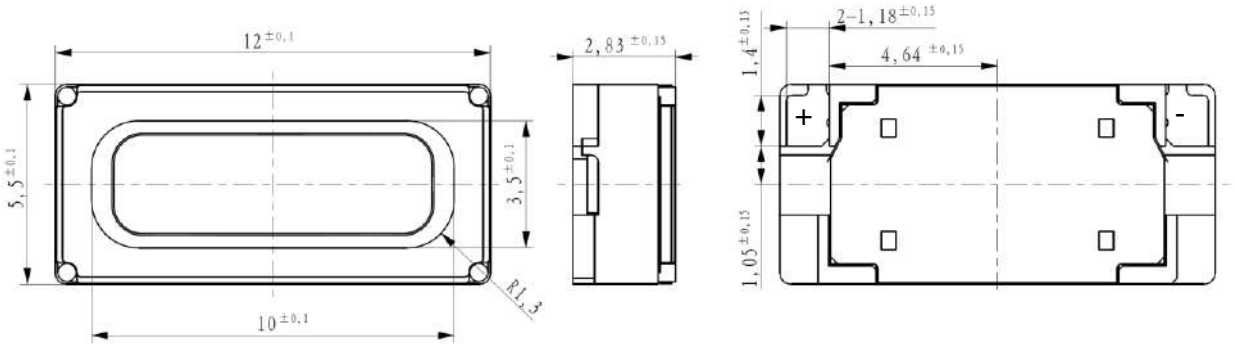
TR1205S030YN8

Revision

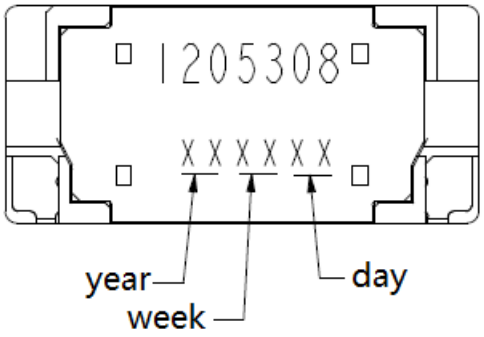
Date	Version	Status	Changes	Approver
2017/11/17	V0.1	Draft	First release	LC
2017/12/19	V0.2	Draft	Add printing	LC
2018//10/08	V0.3	Draft	Add printing	AX
2019/1/2	V0.4	Draft	Change cover	AX
2019/3/1	V0.5	Draft	Add package information	AX
2020/7/22	V0.6	Draft	Update testing condition for F0 and salt mist & waterproof level	AX

1. Mechanical Characteristics

1.1. Mechanical Drawing



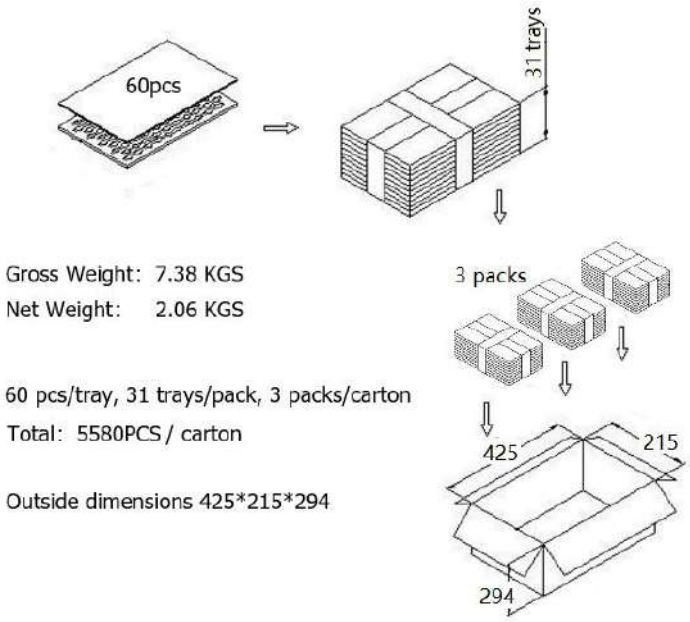
1.2. Code information



1.3. Material List

1）	Membrane	Plastic
2）	Basket	PPA+33%GF(black)
3）	Cover	Steel
4）	Pot	SPCC
5）	Magnet	Nd-Fe-B
6）	Top plate	SPCC
7）	Spring	CrNi-Steel
8）	Dimension	5.5X12X3.0mm
9）	Weight	0.8g

1.4. Packing information

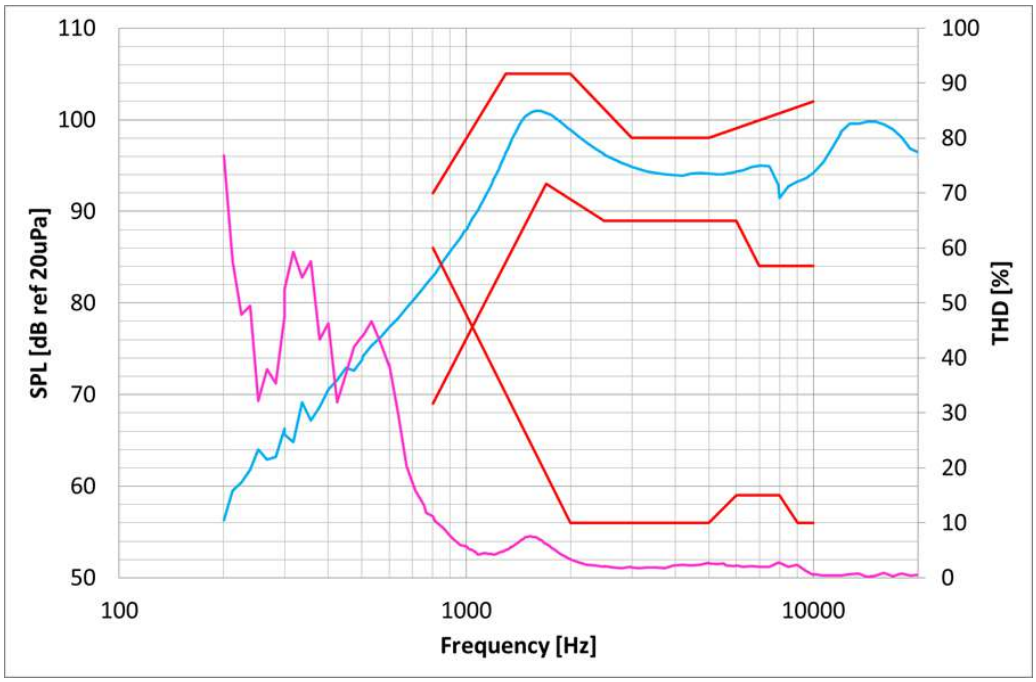


2. Electro-Acoustic Characteristics

2.1. Frequency Response

Typical frequency response measured on baffle according to chapter 2.4

(distance d=3.16cm, 2ccm back cavity at 1.55Vrms)



F(Hz)	SPL lower limit(dB)	F(Hz)	SPL upper limit(dB)	F(Hz)	THD upper limit (%)
800	69	800	92	800	60
1700	93	1300	105	2000	10
2500	89	2000	105	5000	10
6000	89	3000	98	6000	15
7000	84	5000	98	8000	15
10000	84	10000	102	9000	10
				10000	10

2.2. Electro-acoustic Parameters

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

1. Rated impedance	Z:	8Ω
2. Voice coil resistance	R:	7.2Ω ± 10 %
3. Resonance frequency (with 2cc BV)	F_0:	1400Hz ± 15 %
4. Measured sensitivity (at 1.55Vrms 2cc, 2kHz in 3.16cm)		97.5 ± 3dB

5. THD according to chapter 2.1.

All acoustic measurements at 23±3°C

2.3. Power Handling

Loudspeaker mounted in lifetime test device (2ccm back cavity, open front)

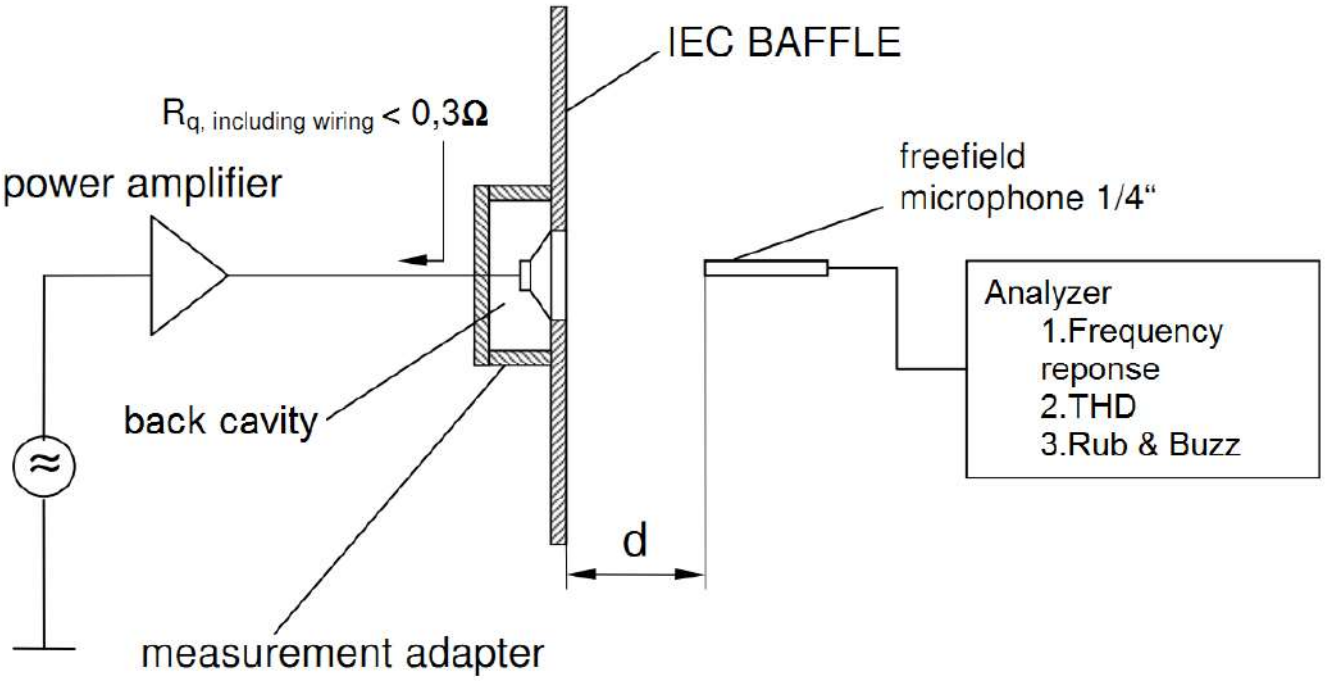
1. MAX.SHORT TERM POWER (1sec. ON / 60sec. OFF) 0.5W (2.0Vrms)

(pink noise, 2nd order high pass filtered, -3dB at 800Hz, crest factor 2)

2. MAX. CONTINUOUS POWER (96h) 0.3W (1.55Vrms)

(pink noise, 2nd order high pass filtered, -3dB at 800Hz, crest factor 2)

2.4. Measurement Setup (Acoustics)



2.5. Measured Parameters

2.5.1. Sensitivity

SPL is expressed in dB ref 20µPa, 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 1.55Vrms with 2cc back cavity will not result in any buzzing or extraneous sound.

3. Environmental Tests

10pcs 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.
The allowable change in sensitivity shall not be greater than 3dB. And all other acoustical parameters according to SPEC with tolerance increased by 50%.

3.1. High Temperature Storage Test

Ref. EN 60068-2-2, +85±2°C, duration 96h

3.2. Low Temperature Storage Test

Ref. EN 60068-2-2, -40±2°C, duration 96h

3.3. Static Humidity Test

Ref. IEC 68-2-67, Soak samples to +85°C with 85% relative humidity for continuous period of 96h.

3.4. Salt Mist Test

5% NaCl mist, 35°C, 24h

3.5. Drop Test

Samples shall be mounted in a 100g fixture, 1.5m three times in each direction, total 18 times.

3.6. Water-resistant Test

acc. IPx8, 1.5m water 30min. No ingress of water through the products allowed. Measurements after samples are dry.

3.7. Long Term Operation Test

Ref. IEC60068-2-2. 96h. 2cc box Signal according to part 2 in chapter 2.3.

3.8. Short Term Maximum Power Test

+85°C, 60 cycles. 2cc box Signal according to part 1 in Chapter 2.3.