



# TAOGLAS®



## Datasheet

### 36 mm Miniature Speaker – 8 Ohm – IP67

*Part No:*  
**SPKM.36.8.B**

*Description:*

36mm Miniature Speaker - 8 Ohm 1W RMS – IP67

Compact design for integration in a wide range of products

*Features:*

8 Ohm Impedance

Rated Input Power 1W RMS

Max Input Power 1.5W peak

High Sensitivity

Dimensions:  $\varnothing$ 36 x 3.5mm

Connector: Wire Lead

RoHS & Reach Compliant

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## 1. Introduction



Featuring a compact design, enabling ease of integration in a wide range of electronics products, including IoT devices, with high levels of long-term reliability and best in class performance Taoglas products are known for.

Our 36 mm Miniature Speake has an IP67 rating, offers 100 Hz - 10 kHz frequency response, 98 dB sensitivity, 8 Ohm impedance, 1W RMS and 1.5W Peak power handling Proven performance in demanding applications where accurate reproduction of voice communications is required. Taoglas added speakers to our product portfolio to provide both reliable connectivity and high-quality audio solutions from one trusted company.

Please contact your regional Taoglas customer support team for more information or installation guidelines.

## 2. Specifications

| Electroacoustic      |  |
|----------------------|--|
| Sound Pressure Level | 98 dB SPL ( $\pm 3$ dB) @ 1000Hz (0 dB SPL = 20 $\mu$ Pa)<br>Measuring Condition: 0.5W (Sine wave) @ 0.1 m with baffle |
| Impedance            | 8 $\Omega$ ( $\pm 15\%$ ) @ 1 kHz with 2 V input signal and without baffle in place                                    |
| Frequency Response   | 100 Hz – 10 kHz  |
| Resonant Frequency   | 600 Hz ( $\pm 15\%$ ) Typical frequency @ 1 V  |
| Nominal Input Power  | 1 Watt   |
| Maximum Input Power  | 1.5 Watt   |
| Distortion           | Less than 10% @ 1KHz, with input levels up to 2 V RMS  |
| Mechanical           |  |
| Height               | 3.5 mm   |
| Diameter             | 36 mm  |
| Weight               | 0.022 Kg   |
| Connector            | Wire leads - AWG#32 (UL1571)   |
| Material             | PEI diaphragm with Neodymium Magnet, (without enclosure)   |
| Environmental        |  |
| Temperature Range    | -40°C to 80°C  |
| Humidity             | Non-condensing up to 95% Relative Humidity @ up to 65°C  |

| Reliability Testing    |  |                     |
|------------------------|--|---------------------|
| High Temperature Test  | High Temp  | +80°C (±2°C)        |
|                        | Duration   | 96 Hours            |
| Low Temperature Test   | Low Temp   | -40°C (±2°C)        |
|                        | Duration   | 96 Hours            |
| Heat Shock Test        | High Temp  | +75°C (±2°C)        |
|                        | Low Temp   | -40°C (±2°C)        |
|                        | Changeover time  | <30 Seconds         |
|                        | Duration   | 1 Hour              |
|                        | Cycle  | 100 cycles          |
| Humidity Test          | Temp   | +40°C (±2°C)        |
|                        | Relative humidity  | 90 - 95 %           |
|                        | Duration   | 96 Hours            |
| Temperature Cycle Test | Temp   | -40°C to +75°C      |
|                        | Duration   | 45 minutes          |
|                        | Temperature gradient   | 1°C to 3°C / minute |
|                        | Cycle  | 25 cycles           |
| Drop Test              | Mounted with dummy set mass  | 100 g               |
|                        | Height   | 1 m                 |
|                        | Cycle  | 6 cycles            |
| Load Test              | White noise (EIA filter) for 96 hours @ 0.8 W (2.53 V) input power |                     |
|                        | White noise (EIA filter) for 1 minute @ 1.0 W (2.83 V) input power |                     |

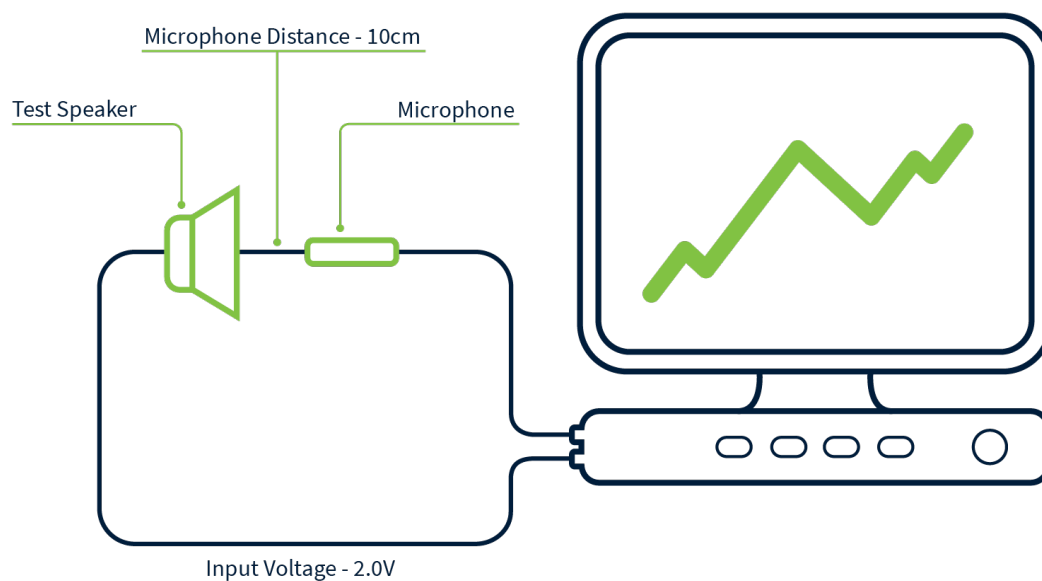
\* SPL (Sound Pressure Level) as specified did not deviate more than ±3 dB from initial value, with no significant damage after testing.

## 3. Speaker Measurement Conditions

### 3.1 Conditions

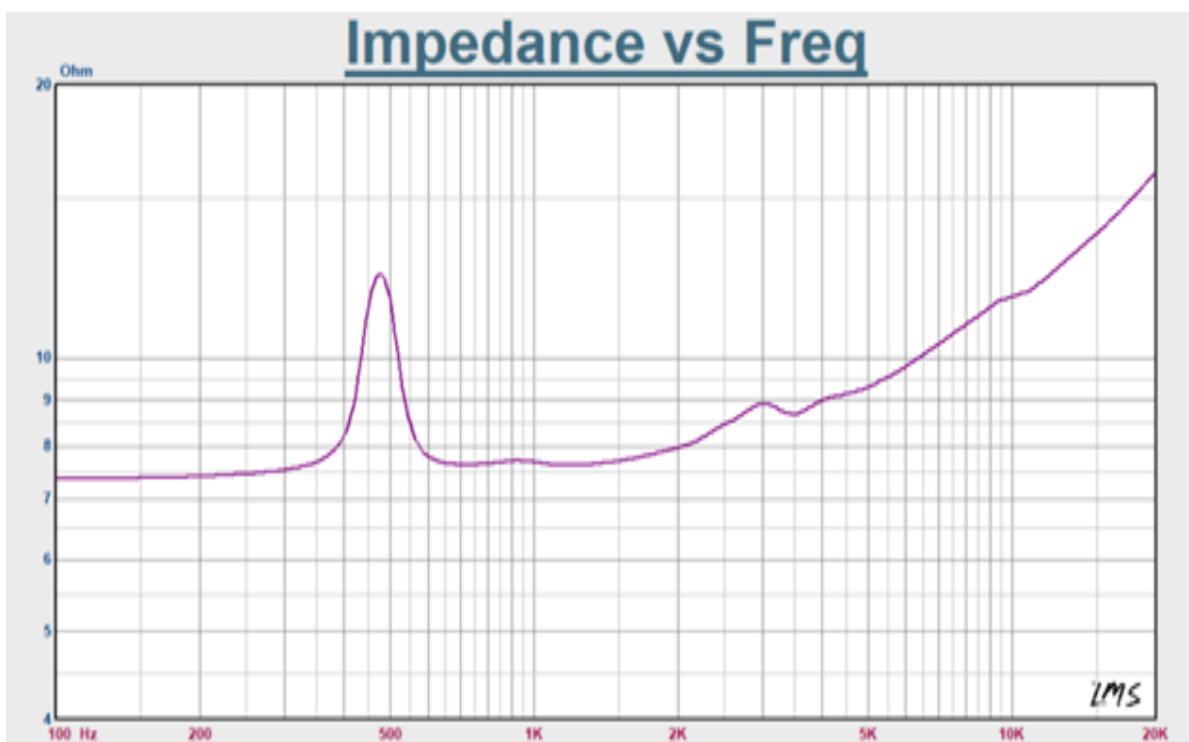
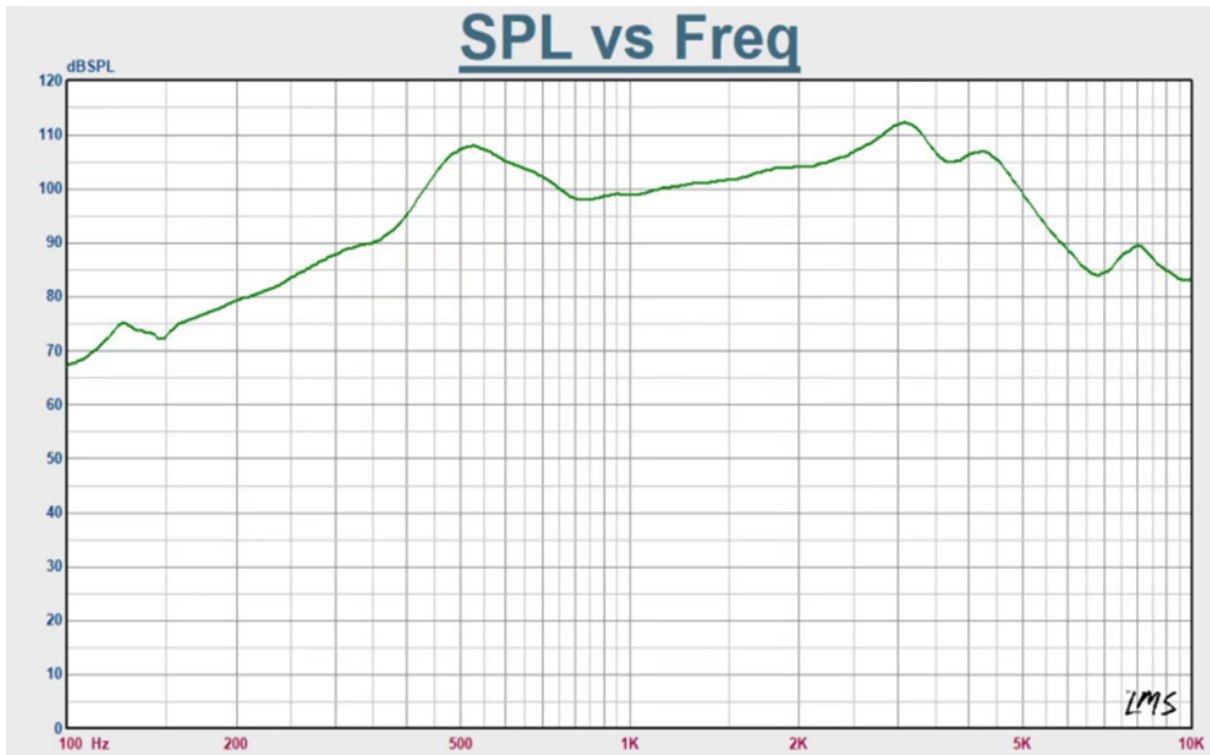
| Standard Test Fixture Conditions |                 |
|----------------------------------|-----------------|
| Input Power                      | 0.5 Watts (2 V) |
| Mode                             | TSR             |
| Potentiometer Range              | 50 dB           |
| Sweep Time                       | 0.5 seconds     |

### 3.2 Measurement Fixture Diagram

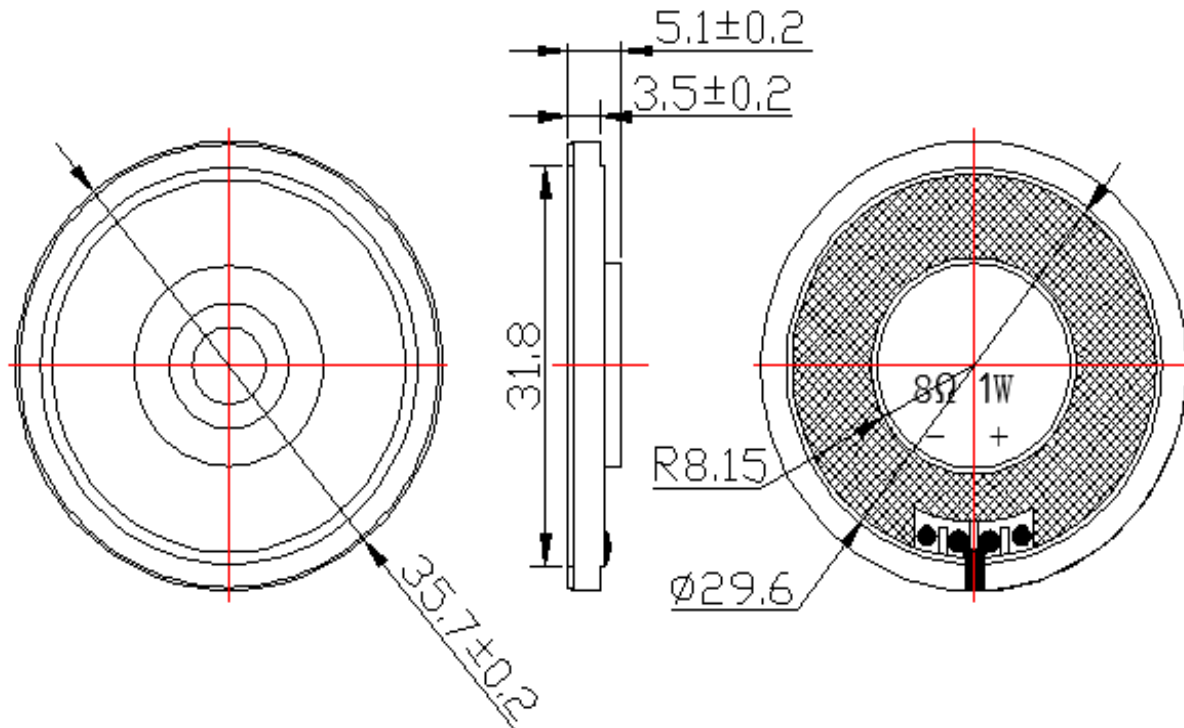


## 4. Speaker Characteristics

### 4.1 SPL vs Frequency



## 5. Mechanical Drawing (Units: mm)

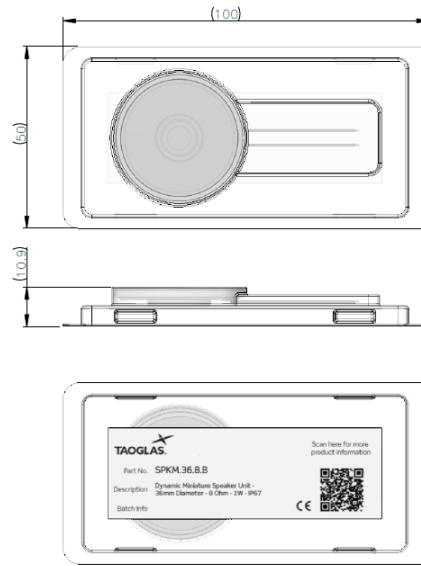


| ITEM | DESCRIPTIONS | SPEC.        | QTY | REMARK    |
|------|--------------|--------------|-----|-----------|
| 1    | Frame        | 36 mm        | 1   | Fe        |
| 2    | Voice coil   | 8Ω           | 1   | Copper    |
| 3    | Magnet       | Ø12.5×1.5 mm | 1   | (Nd-Fe-B) |
| 4    | Diaphragm    | 34.8×75μ     | 1   | PET       |
| 5    | Lead wire    |              | 2   |           |

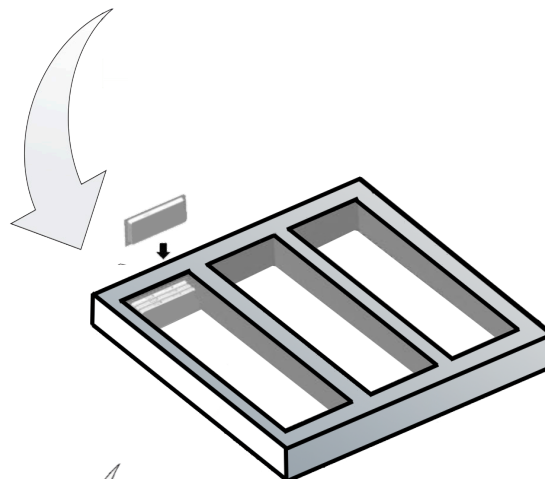


## 6. Packaging

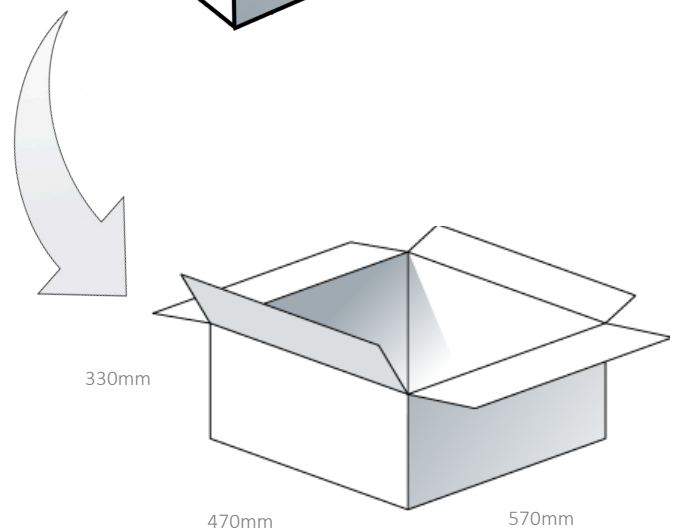
1 pcs SPKM.36.8.B per Blister  
 Dimensions – 100 x 50 x 10.9mm



272 pcs SPKM.36.8.B per EPE Tray



1360 pcs SPKM.36.8.B per Carton  
 Dimensions – 570 x 470 x 330mm



Changelog for the datasheet

**SPE-23-8-085-A– SPKM.36.8.B**

|                    |                 |
|--------------------|-----------------|
| <b>Revision: A</b> |                 |
| Date:              | 11-04-2023      |
| Changes:           | Initial Release |
| Changes Made by:   | Carlos Gomes    |

**Previous Revisions**

|  |  |
|--|--|
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