



# TAOGLAS®



# Datasheet

## 20 mm Miniature Speaker - 8 Ohm

**Part No:**  
SPKM.20.8.A

### **Description:**

20mm Miniature Speaker - 8 Ohm 800mW RMS

Compact design for integration in a wide range of products

### **Features:**

8 Ohm Impedance

Rated Input Power 800mW RMS

Max Input Power 1W peak

High Sensitivity

Dimensions:  $\varnothing$  20 x 3.6mm

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 20 mm Miniature Speaker offers a frequency response of 100 Hz - 11 kHz and high sensitivity, with 8 Ohm impedance and power handling of 0.8W RMS and 1W peak. Proven performance in demanding applications where the accurate reproduction of voice communications is required. Taoglas added miniature 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.

The table below shows a guide to help select the best speaker for your application based on size requirements:

Part Number	Dimensions
SPKM.10.8.A	Ø10 x 3.5 mm
SPKM.15.8.A	Ø15 x 3.7 mm
SPKM.17.8.A	Ø17 x 4.4 mm
SPKM.20.8.A	Ø20 x 4.3 mm
SPKM.23.8.A	Ø23 x 6 mm
SPKM.28.8.A	Ø28 x 5.1 mm
SPKM.2030.8.A	30 x 20 x 5.1 mm
SPKM.2413.8.A	24 x 13 x 8.7 mm
SPKM.289.8.A	28 x 9 x 3.8 mm
SPKM.50.8.A	Ø50 x 8.3 mm

## 2. Specifications

Electroacoustic	
Sound Pressure Level	93 dB SPL ( $\pm 3$ dB) @1000Hz (0 dB SPL= 20 $\mu$ Pa) Measuring Condition: 0.5 W (Sine wave) @ 0.1 m with baffle
Impedance	8 $\Omega$ ( $\pm 15\%$ ) @ 2 kHz with 1 V input signal and without baffle in place
Frequency Response	100 Hz – 10 kHz
Resonant Frequency	850 Hz ( $\pm 20\%$ ) Typical frequency @ 1 V
Nominal Input Power	800 milliwatts
Maximum Input Power	1 Watt
Distortion	Less than 10% @ 1 kHz, with input levels up to 2 V RMS
Mechanical	
Height	3.6 mm
Diameter	20 mm
Weight	0.005 Kg
Connector	Wire leads – 32 AWG (UL1571)
Material	PEI diaphragm with Neodymium Magnet, (without enclosure)
Environmental	
Temperature Range	-20°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	-20°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 @ 0.5 W (1.25 V) input power	
	White noise (EIA filter) for 1 minute @ 0.8 W (1.75 V) input power	

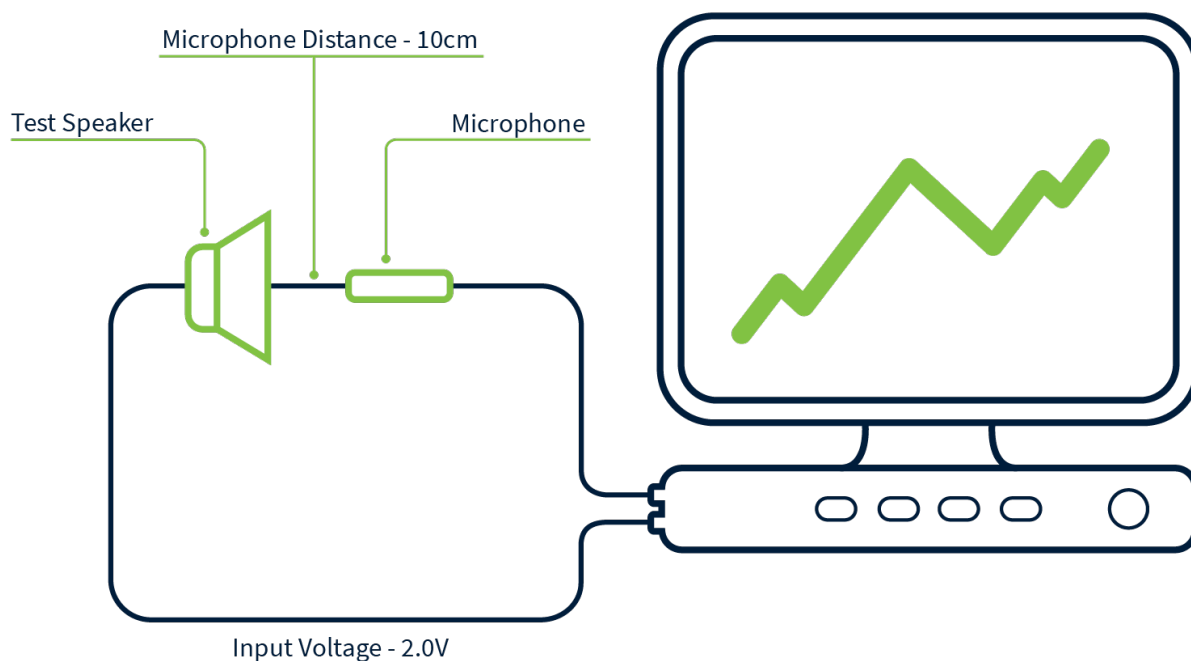
\* SPL (Sound Pressure Level) as specified did not deviate more than ±3 dB from initial value, with no significant damage after testing.

## 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

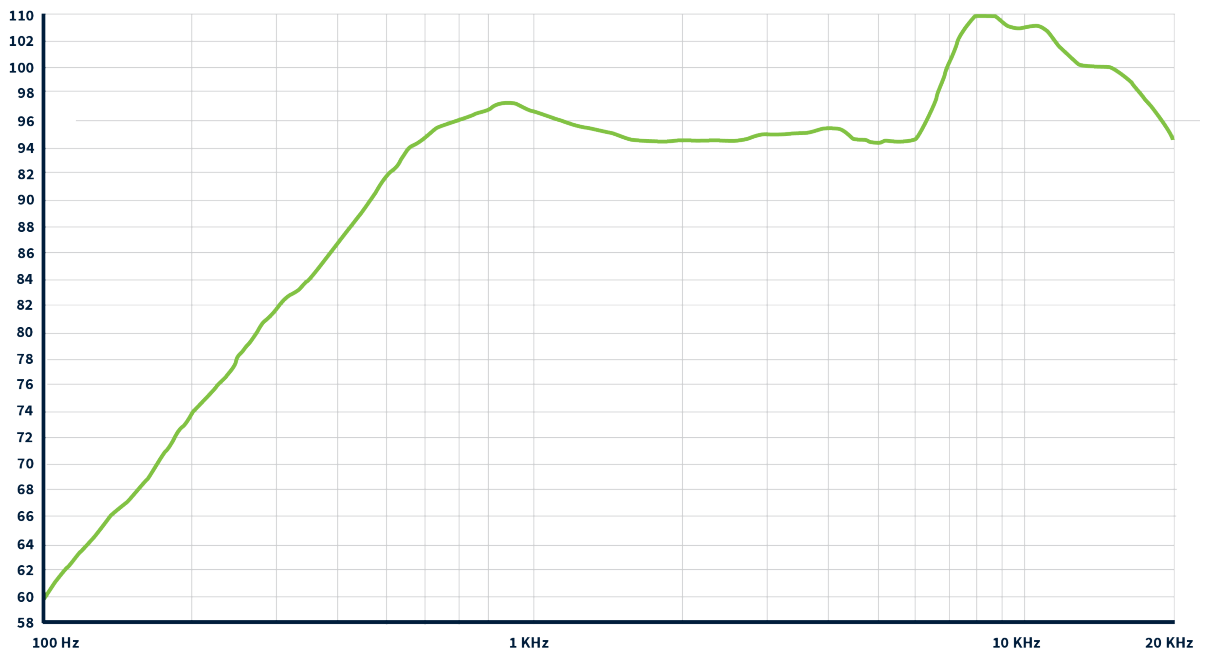
### 3.2 Measurement Fixture Diagram



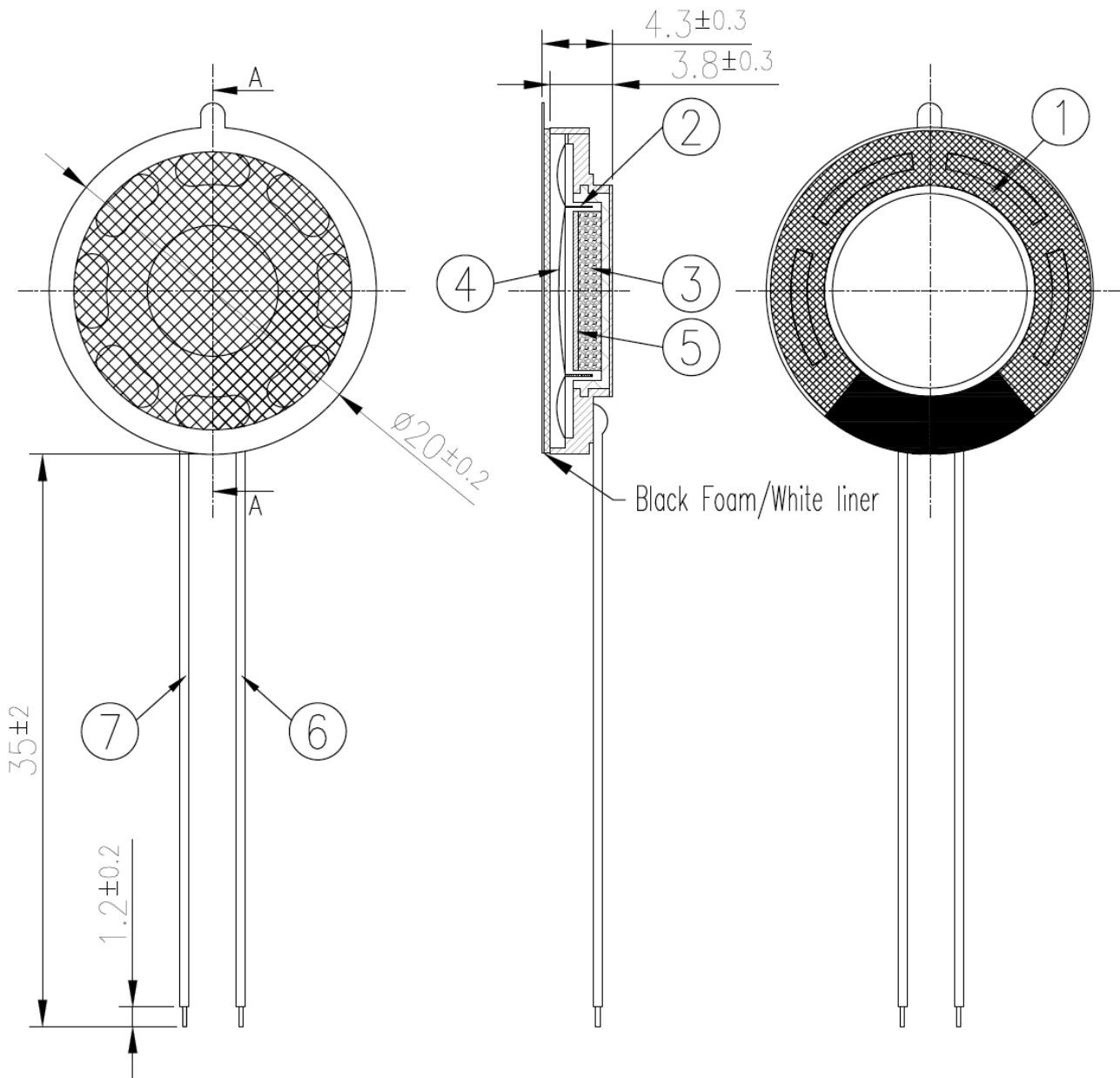
## 4. Speaker Characteristics

### 4.1 SPL

dB SPL vs. Frequency



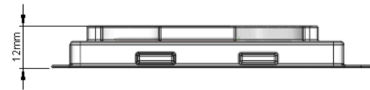
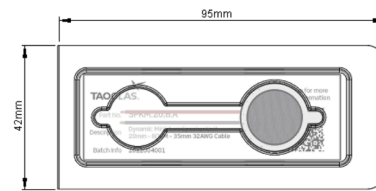
## 5. Mechanical Drawing (Units: mm)



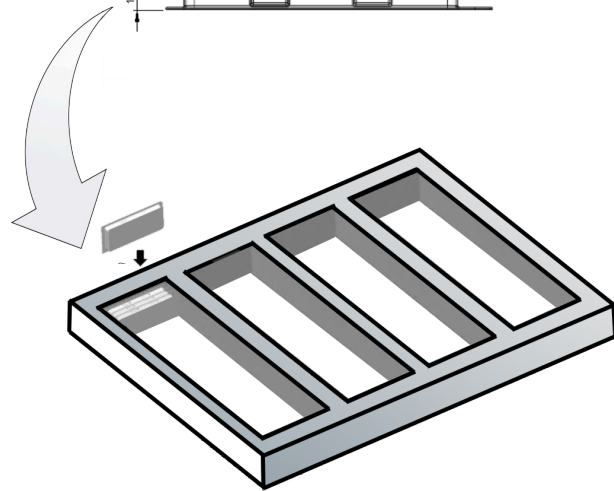
	Name	Material	Finish	QTY
1	$\phi 20$ mm Frame	PBT+Fe	Black+Zinc Plated-Blue White	1
2	8 $\Omega$ Voice coil	Cu	Natural	1
3	$\phi 9.6 \times 0.9$ mm Magnet	Nd-Fe-B	Zinc Plated	1
4	19.25x38 $\mu$ Diaphragm	PEN	Natural	1
5	Gasket	T=1mm(Fe)	Zinc Plated-Blue White	1
6	UL1571 32AWG Lead wire	PVC	Black	1
7	UL1571 32AWG Lead wire	PVC	Red	1

## 6. Packaging

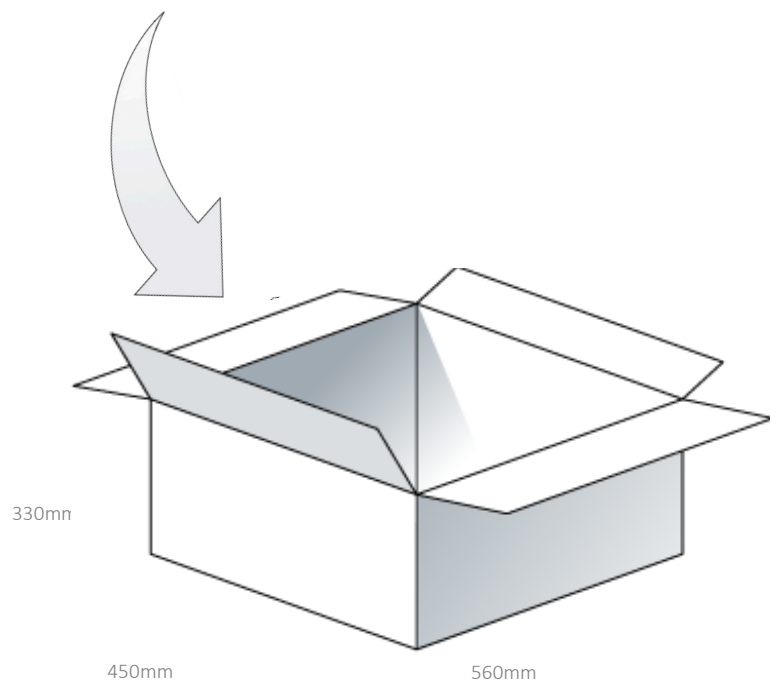
1 pcs SPKM.20.8.A per Blister  
 Dimensions – 95 x 42 x 12mm



200 pcs SPKM.20.8.A per EPE Tray  
 6 Trays SPKM.20.8.A per Carton  
 7 pcs SPKM.20.8.A per Layer Board



1200 pcs SPKM.20.8.A per Carton  
 Dimensions – 560 x 450 x 330mm



Changelog for the datasheet

**SPE-22-8-005 – SPKM.20.8.A**

<b>Revision: D</b>	
Date:	18-11-2022
Changes:	Mechanical Drawings Updated to Rev D02
Changes Made by:	Carlos Gomes

**Previous Revisions**

<b>Revision: A</b>	
Date:	18-02-2022
Changes:	Changes: Initial revision and template.
Changes Made by:	Jack Conroy

<b>Revision: B</b>	
Date:	17-05-2022
Changes:	Sound Pressure Level Spec Updated
Changes Made by:	Paul Doyle

<b>Revision: C</b>	
Date:	12-08-2022
Changes:	Cover updated Introduction updated Specifications updated Reliability test updated <del>Speaker measurement conditions updated</del>
Changes Made by:	Carlos Gomes





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