



TAOGLAS®



Datasheet

50 mm Round Speaker 500mW

Part No:
SPKM.50.8.A

Description:

50mm Round 8 Ohm Dynamic Audio Speaker

Features:

8 Ohm Impedance
Peak Power 0.8W
High Sensitivity
Distortion Free
Dimensions: Ø50x8mm
Connector: Wire Lead
RoHS & Reach Compliant

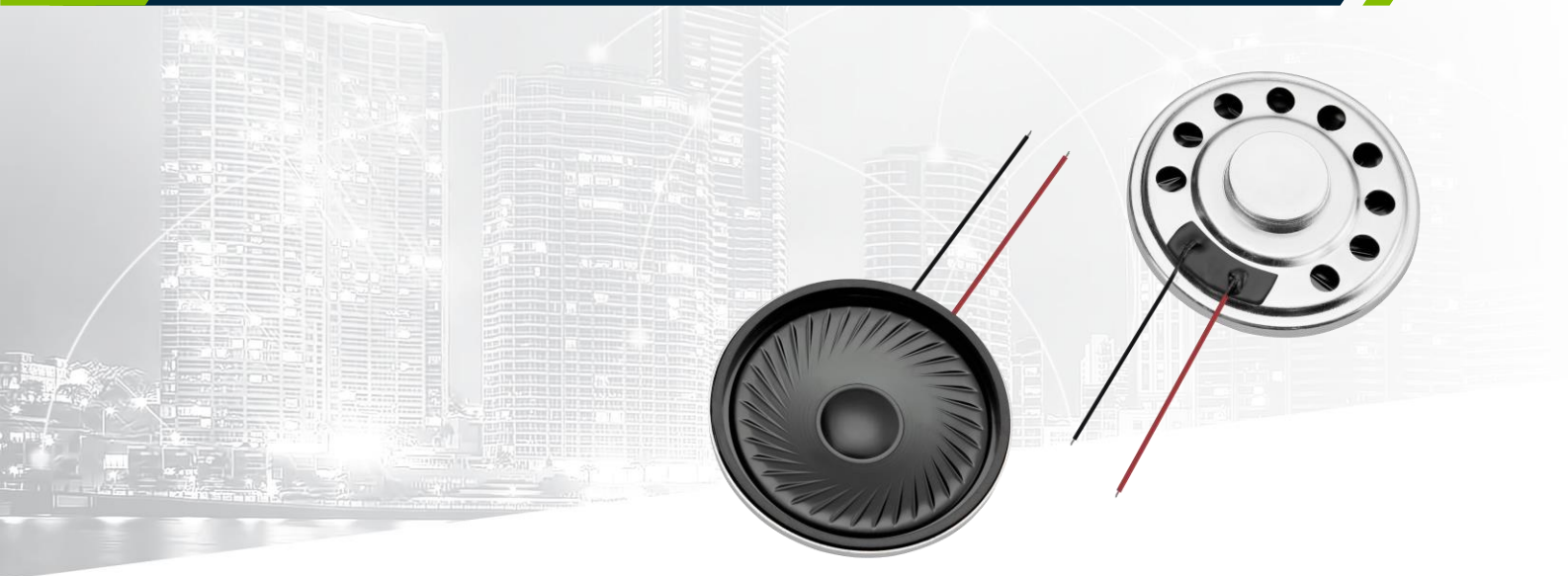
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1. Introduction



Designed for electronic and IoT devices, the Taoglas SPKM range of dynamic audio miniature speakers deliver long-lasting pure and true sound, critical for a product that requires clear audio output.

With an 8 Ohm rating, the SPKM miniature speakers have high sensitivity and deliver distortion free, high fidelity audio. They can handle power burst in excess of 0.8W (over a short period) and are ideal solutions for applications requiring audio such as Smart Home and Security, IoT Devices or Toys.

Manufactured from high quality materials and high performance Neodymium magnets, they are designed for ease of integration and design flexibility. The speakers come in a variety of form factors and sizes and supplied with industry standard 32-AWG paired cables.

Contact your local Taoglas customer service team for more information or to discuss our audio services or for customized solutions to suit your device.

The below table 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	94±3dB SPL @1000Hz (0dB SPL=20μPa) Measuring Condition: 0.5W (Sine wave) 0.1m measured with baffler shown in Fig.1.
Impedance	8±15%Ω (@ 2 KHz 1V) without baffler
Frequency Response	0Hz-10KHz
Resonant Frequency	450±20%Hz Typ @ 1V
Nominal Input Power	0.5 W
Maximum Input Power	0.8 W
Distortion	Less than 10% @1KHz , 0.1W frequency range, input level up to 2 Vrms
Mechanical	
Height	8 mm
Diameter	50 mm
Weight	0.022 Kg
Connector	Wire leads - AWG#32 (UL1571)
Material	PEI diaphragm with Nd-Fe-B Magnet (need case material)
Environmental	
Temperature Range	-40°C to 80°C
Humidity	Non-condensing 65°C 95% RH

Reliability Testing		
High Temperature Test	Temp	+80±2°C
	Duration	96 Hours
Low Temperature Test	Temp	-40±2°C
	Duration	96 Hours
Heat Shock Test	High Temp	+75±2°C
	Low Temp	-40±2°C
	Changeover time	<30 Seconds
	Duration	1 hour
	Cycle	100
Humidity Test	Temp	+40±2°C
	Relative humidity	90~95%
	Duration	96 Hours
Temperature Cycle Test	Temp	-40/+75°C
	Duration	45 minutes
	Temperature gradient	1~3°C/min
	Cycle	25
Drop Test	Mounted with dummy set mass	10g
	Height	1m
	Cycle	6
Load Test	White noise (EIA filter) for 96 hours @0.5W (2V) input power	
	White noise (EIA filter) for 1 minute @0.8W (2.5V) input power.	

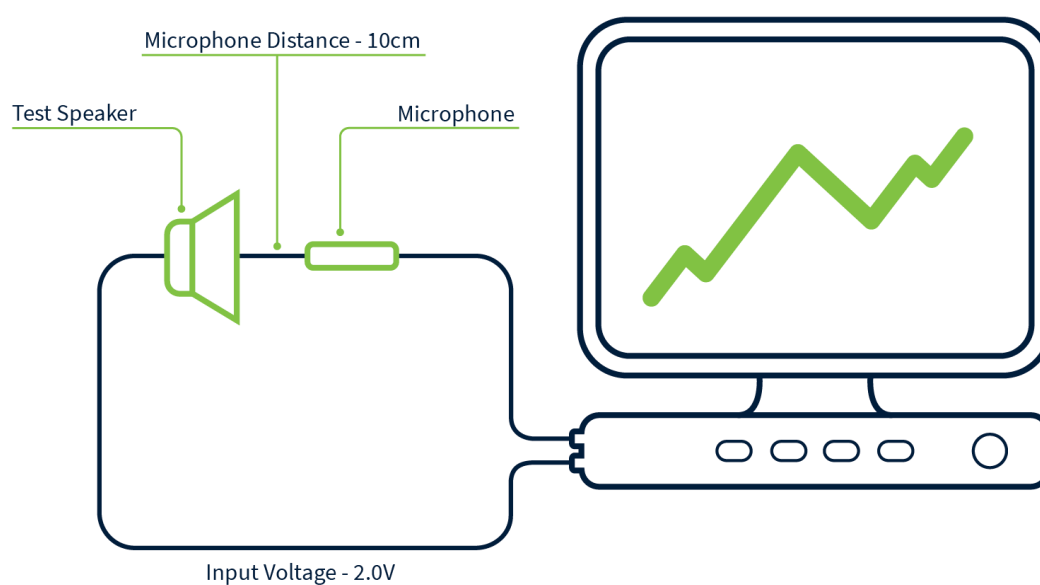
* The sound pressure as specified will neither deviate more than ±3dB from the initial value, nor have any significant damage after any of following testing.

3. Speaker Measurement Conditions

3.1 Conditions

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

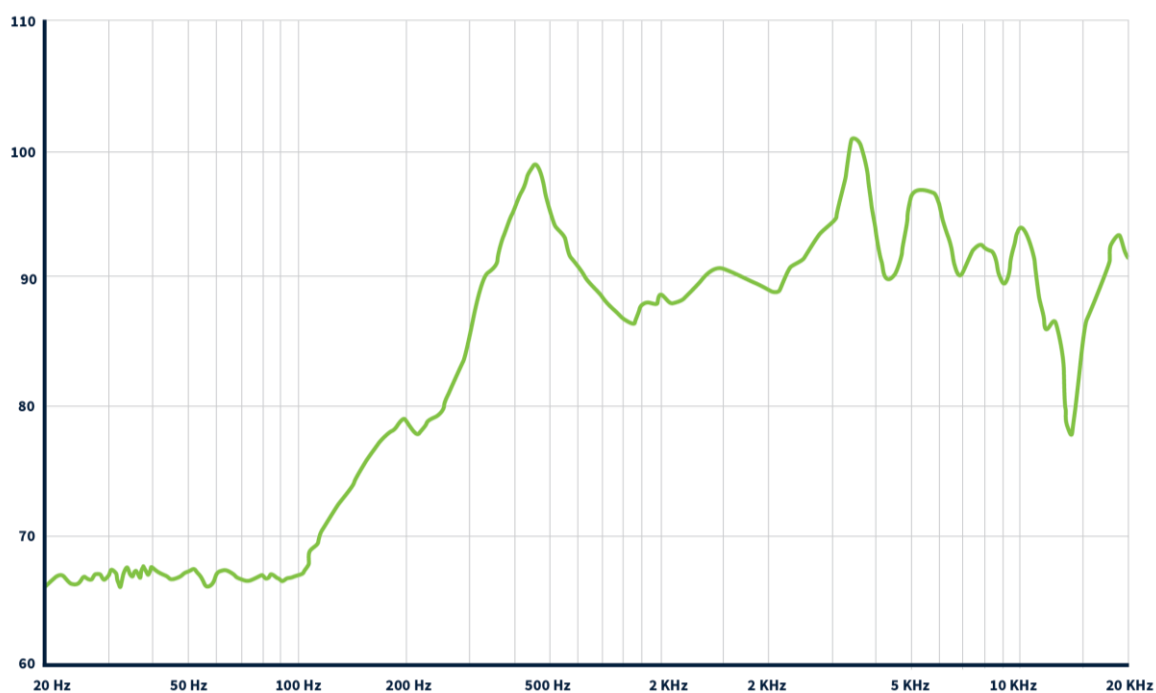
3.2 Measurement Fixture Diagram



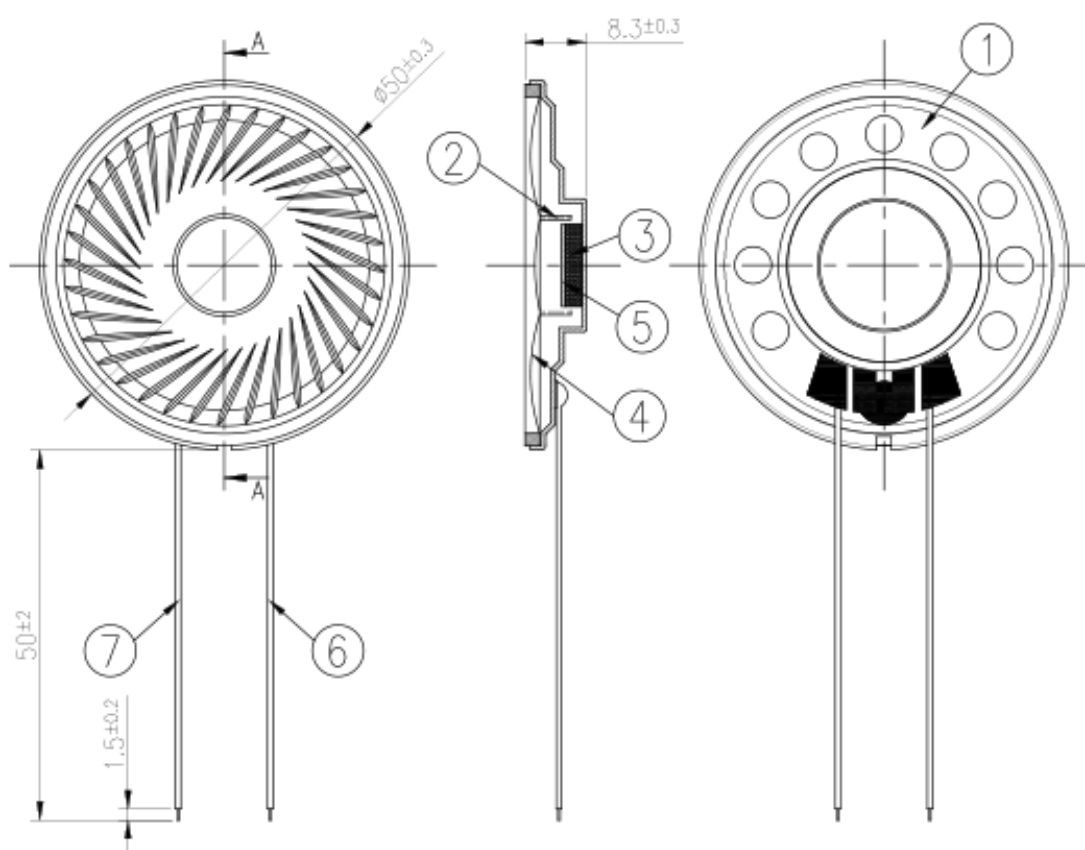
4. Speaker Characteristics

4.1 SPL

dB SPL vs. Frequency



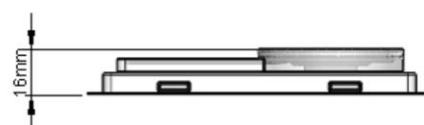
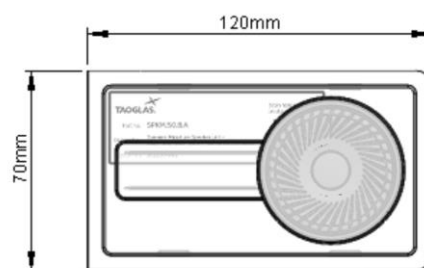
5. Mechanical Drawing (Units: mm)



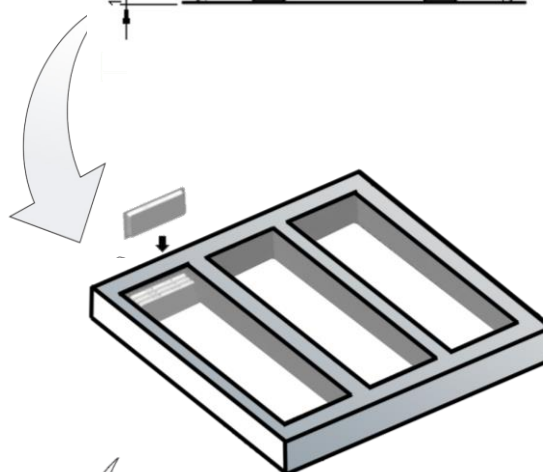
	Name	Material	Finish	QTY
1	Ø50mm Frame	Fe	Zinc Plated-Blue White	1
2	8Ω Voice coil	Cu	Natural	1
3	Ø12.5x1.0mm Magnet	Nd-Fe-B	Zinc Plated	1
4	48.4x75μ Diaphragm	PET	Natural	1
5	Gasket	T=1mm(Fe)	Zinc Plated-Blue White	1
6	UL1571 30AWG Lead wire	PE	Black	1
7	UL1571 30AWG Lead wire	PE	Red	1

6. Packaging

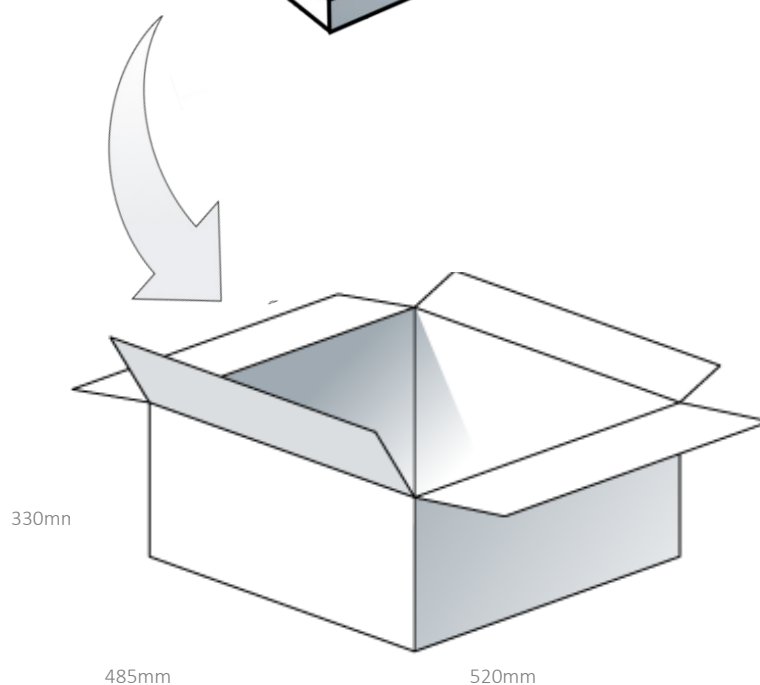
1 pcs SPKM.50.8.A per Blister
Dimensions – 120 x 70 x 16mm



135 pcs SPKM.50.8.A per EPE Tray
4 Trays SPKM.50.8.A per Carton
5 pcs SPKM.50.8.A per Layer Board



540 pcs SPKM.50.8.A per Carton
Dimensions – 520 x 485 x 330mm



Changelog for the datasheet

SPE-22-8-001 – SPKM.50.8.A

Revision: A

Date: 28-02-2022

Changes: Initial release.

Changes Made by: Jack Conroy

Previous Revisions



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