

Piezoelectric Sound Components

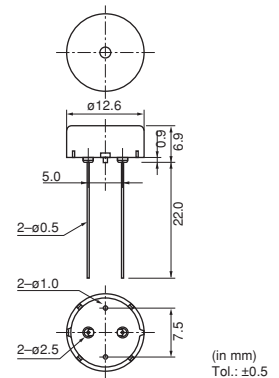
Piezoelectric Sounders External Drive Pin Type Taping

Taking advantage of extensive automatic insertion design technology and materials experience, Murata has developed standard taping type piezoelectric sounders.

This Murata technology supports labor and cost saving measures.

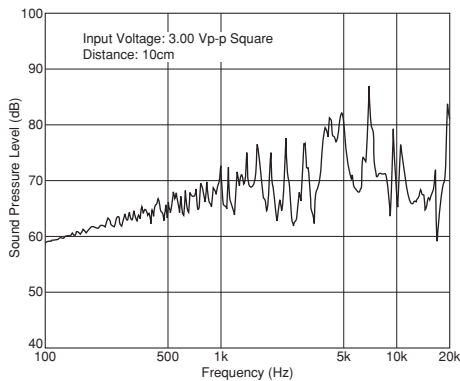
■ Features

1. Lead dimension: Improved mounting reliability (cut & clinch) due to round terminal
2. High, stable mountability
3. Ammo packaging

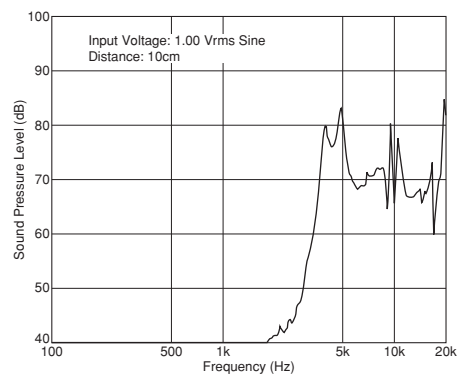


Part Number	Sound Pressure Level (dB)	Sound Pressure Level (Ref. only) (dB)	Operating Voltage Range	Capacitance (nF)	Operating Temp. Range (°C)	Storage Temp. Range (°C)
PKM13EPYH4000-A0	70 min. [3Vp-p,4kHz,square wave,10cm]	70 min. [1Vrms,4kHz,sine wave,10cm]	30.0Vp-p max.	5.5 ±30% [1kHz]	-40 to +85	-40 to +85

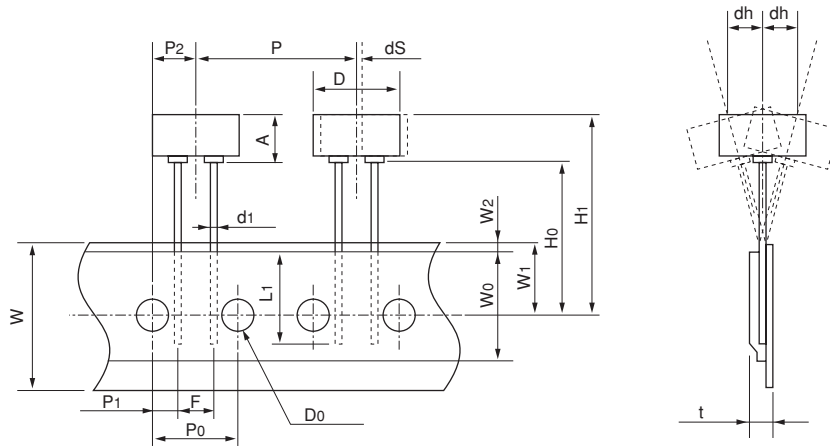
■ Freq. Response (Square Wave 3Vp-p, 10cm)



■ Freq. Response (Sine Wave 1Vrms, 10cm)



■ Taping Dimension



Item	Code	Nominal Value	Tol.	Notes
Width of diameter	D	ø12.6	±0.5	
Height of component	A	6.9	±0.5	
Dimensions of terminal	d1	ø0.5	±0.1	
Lead length under the hold-down tape	L1	8.0 min.	—	
Pitch of component	P	25.4	±0.5	
Pitch of sprocket	P0	12.7	±0.2	Tolerance for Pitches 10×P0=127±2mm
Length from hole center to lead	P1	3.85	±0.7	
Length from hole center to component center	P2	6.35	±0.7	
Lead spacing	F	5.0	±0.5	
Slant forward or backward	dh	0	±1.0	360°: 1mm max.
Width of carrier tape	W	18.0	±0.5	
Width of hold-down tape	W0	12.5 min.	—	Hold-down tape does not exceed the carrier tape.
Position of sprocket hole	W1	9.0	±0.5	
Gap of hold-down tape and carrier tape	W2	2.0 max.	—	
Distance between the center of sprocket hole and lead stopper	H0	18.0	±0.5	
Total height of component	H1	26.0 max.	—	
Diameter of sprocket hole	D0	ø4.0	±0.2	
Total thickness of tape	t	0.6	±0.2	
Body tilt	dS	0	±1.0	

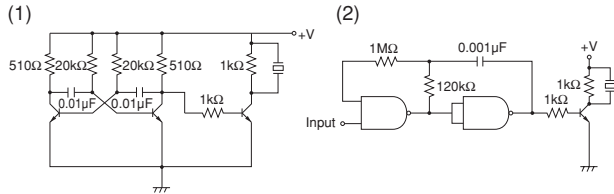
(in mm)

Piezoelectric Sounders (External Drive Pin Type Taping) Circuit/Notice

■ Circuit

The following are examples of externally driven circuits.

- (1) Unstable multi-vibrator using Tr.
- (2) Circuits using inverters or NAND gates.



■ Notice (Soldering and Mounting)

1. Notice (Soldering and Mounting)

(1) Soldering Iron

- (a) Immerse lead terminals up to 1.5mm from component's body in soldering bath of $+260\pm 5^{\circ}\text{C}$ for 10 ± 1.0 seconds, and then leave components in natural conditions for 4 hours.
- (b) Directly contact the lead terminal with the tip of the soldering iron for $+350\pm 5^{\circ}\text{C}$ for 3.0 ± 0.5 seconds, and then leave components in natural conditions for 4 hours.

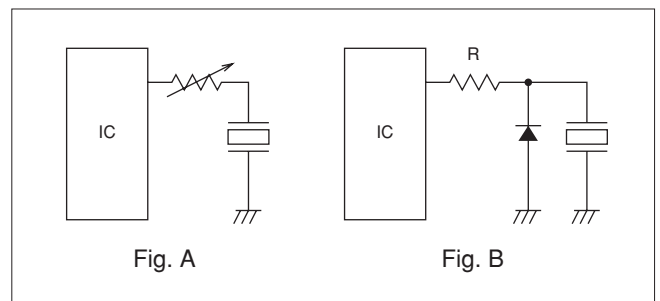
(2) Reflow

The component cannot withstand reflow soldering.

2. Please do not insert the component on double-sided PCB with plated through hole. When melted solder touches the base of lead terminal, a part of the plastic case may melt, causing electrical failure.
3. Washing of the component is not acceptable. Because it is not sealed.

■ Notice (Handling)

1. The component may be damaged if mechanical stress exceeding specifications is applied.
2. Take care to protect the operating circuit from surge voltage resulting from excessive force, falling, shock or temperature change.
3. If DC voltage is applied to the component, silver migration may occur. Please strictly avoid subjecting the component to DC voltage for long periods.
4. The resistor should be used as shown in Fig. A. A suitable resistance value should be chosen, preferably $1\text{k}\Omega$ to $2\text{k}\Omega$. Instead of this measure, a diode may also be applied as shown in Fig. B.



5. Avoid excessive pulling of the lead wire because the wire may break or the soldering point come off.

● Part Numbering

Piezoelectric Sounders/Piezoelectric Buzzers/Piezoelectric Ringers (PIEZORINGER®)

(Part Number)

PK	M	13	E	P	YH	40	00	P	-A0
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

① Product ID

Product ID	
PK	Piezoelectric Sound Components

② Product

Code	Product
M	Sounder, Ringer
B	Buzzer

③ Outer Dimensions

Expressed by two figures in mm.

Ex.)

Code	Outer Dimensions
13	ø12.6mm

④ Drive

Code	Drive
E	External-Drive
S	Self-Drive

⑤ Outer Electrode Style

Code	Outer Electrode Style
P	Pin Type
W	Lead Wire Type

⑥ Structure

Code	Structure
T□	Standing Type
P□	Flat Type Auto-assemble
Y□	Flat Type/Available for Taping
C□	Flat Type/Semi-auto-assemble
□	Exclude above mentioned

□ means specification of outer electrode.

⑦ Oscillating Frequency Type

Code	Oscillating Frequency Type
40	Expressed resonant frequency by two-digit alphanumerics. The unit is in 100 hertz (Hz). In case of 4kHz (4000Hz), expressed as "40".

⑧ Individual Specification Code

Code	Individual Specification Code
00	Two digits express specific specification in characteristics.

⑨ Special Quality Guarantee

Code	Special Quality Guarantee
P	Post Plated Terminal
—	Blank

⑩ Packaging

Code	Packaging
-B0	Bulk
-A0	Radial Taping
-M0	Magazine

Radial taping or magazines are not available for all types.

Please contact us.

Packaging Code is blank in the case of types that radial taping or magazines are not available.