

# PIEZO ALARMS

## ENCASED EXTERNAL DRIVE (no internal circuitry)



The piezo alarms described on this page have no "feedback" tab and are particularly suited for the generation of both single tones and the unusual sound effects that are possible with specifically designed driving circuits. These sounds may include musical melodies, insect sounds, etc.

All mechanical and electrical components are designed to be compatible with most standard PC board assembly and wave soldering techniques.

### FEATURES

- Rugged construction
- Compatible with wave soldering techniques
- Low cost
- High reliability
- Variable tone outputs
- No EMI

### APPLICATIONS

- Musical toys
- Home appliances (microwave ovens, refrigerators, etc.)
- Communications equipment
- Computer peripherals and office equipment
- Instrumentation, etc.

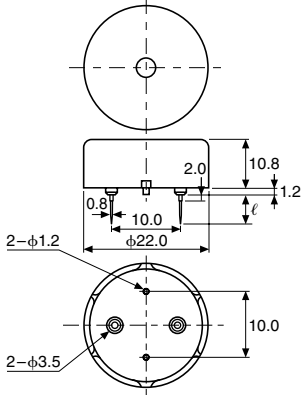
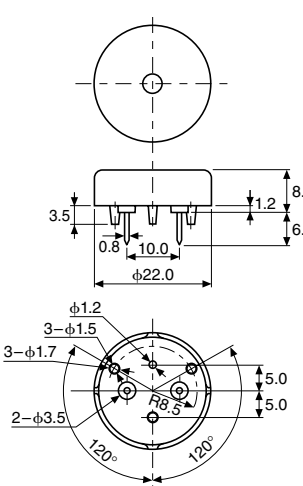
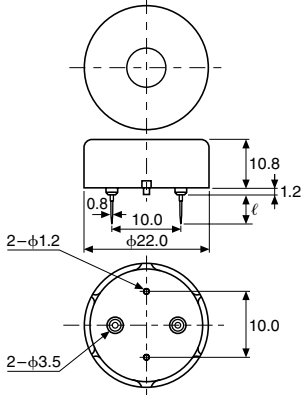
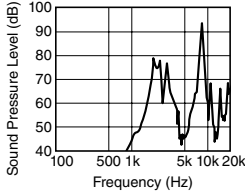
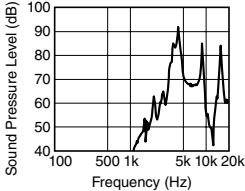
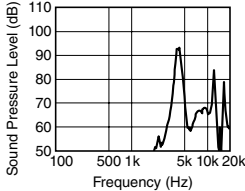
Part Number	★PKM22EPP-4001★	★PKM22EP-2001	★PKM22EP-2001R	★PKM35-4A0	★PKM17EW-2001
Sound Pressure Level	75dB@10cm@3Vp-p	75dB@10cm@3Vp-p	75dB@10cm@3Vp-p	75dB@10cm@3Vp-p	72dB@10cm@3Vp-p
Oscillating Frequency	4kHz	2kHz	2kHz	4kHz	2kHz
Operating Voltage	25Vp-p	25Vp-p	25Vp-p	25Vp-p	7Vp-p max.
Operating Temp. Range	-20°C to +70°C	-20°C to +70°C	-40°C to +125°C	-20°C to +70°C	-20°C to +70°C
Storage Temp. Range	-30°C to +80°C	-40°C to +80°C	-40°C to +125°C	-30°C to +80°C	-30°C to +80°C
Capacitance	12,000pF ± 30% at 1kHz	17,000pF ± 30% at 120Hz	17,000pF ± 30% at 120Hz	9,500pF ± 30% at 1kHz	40,000pF ± 30% at 120Hz
Leads	—	—	—	32AWG (UL-1685)	32AWG (UL-1685)
<b>DIMENSIONS: mm</b>		<p>Tolerance: ± 0.5</p>			
<b>SOUND PRESSURE LEVEL VS. FREQUENCY</b>	<p>Input Voltage: Square wave 3Vp-p Measuring Distance: 10cm</p>	<p>Input Voltage: Square wave 3Vp-p Measuring Distance: 10cm</p>	<p>Input Voltage: Square wave 3Vp-p Measuring Distance: 10cm</p>	<p>Input Voltage: Square wave 3Vp-p Measuring Distance: 10cm</p>	<p>Input Voltage: Square wave 3Vp-p Measuring Distance: 10cm</p>

\*These parts are available as sealed units for washing with tape covering the sound emitting hole. The part number should have an "S" suffix added.

★ Available as standard through authorized Murata Electronics Distributors.

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## ENCASED EXTERNAL DRIVE (no internal circuitry)

Part Number	*PKM22EPP-2001	PKM22EPP-2002R	PKM22EPP-4005	PKM22EPP-4007																	
Sound Pressure Level	70dB@10cm@3Vp-p	70dB@10cm@3Vp-p	75dB@10cm@3Vp-p	85dB@10cm@3Vp-p																	
Oscillating Frequency	2kHz	2kHz	4kHz	4kHz																	
Operating Voltage	25Vp-p	25Vp-p	25Vp-p	25Vp-p																	
Operating Temp. Range	-20°C to +70°C	-40°C to +125°C	-20°C to +70°C	-20°C to +70°C																	
Storage Temp. Range	-30°C to +80°C	-40°C to +125°C	-30°C to +80°C	-30°C to +80°C																	
Capacitance	19nF ± 30% at 120Hz	19nF ± 30% at 120Hz	12nF ± 30% at 1kHz	12nF ± 30% at 1kHz																	
Leads	—	—	—	—																	
<b>DIMENSIONS: mm</b>	 <table border="1" data-bbox="418 1056 743 1140"> <thead> <tr> <th>Part Number</th> <th>ℓ (mm)</th> </tr> </thead> <tbody> <tr> <td>PKM22EPP-2001</td> <td>6.5</td> </tr> <tr> <td>PKM22EPP-2002</td> <td>3.5</td> </tr> </tbody> </table>	Part Number	ℓ (mm)	PKM22EPP-2001	6.5	PKM22EPP-2002	3.5	 <table border="1" data-bbox="1149 1056 1474 1140"> <thead> <tr> <th>Part Number</th> <th>ℓ (mm)</th> </tr> </thead> <tbody> <tr> <td>PKM22EPP-4007</td> <td>6.5</td> </tr> <tr> <td>PKM22EPP-4012</td> <td>3.5</td> </tr> </tbody> </table>	Part Number	ℓ (mm)	PKM22EPP-4007	6.5	PKM22EPP-4012	3.5	 <table border="1" data-bbox="1149 1056 1474 1140"> <thead> <tr> <th>Part Number</th> <th>ℓ (mm)</th> </tr> </thead> <tbody> <tr> <td>PKM22EPP-4007</td> <td>6.5</td> </tr> <tr> <td>PKM22EPP-4012</td> <td>3.5</td> </tr> </tbody> </table>	Part Number	ℓ (mm)	PKM22EPP-4007	6.5	PKM22EPP-4012	3.5
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<b>SOUND PRESSURE LEVEL VS. FREQUENCY</b>																					

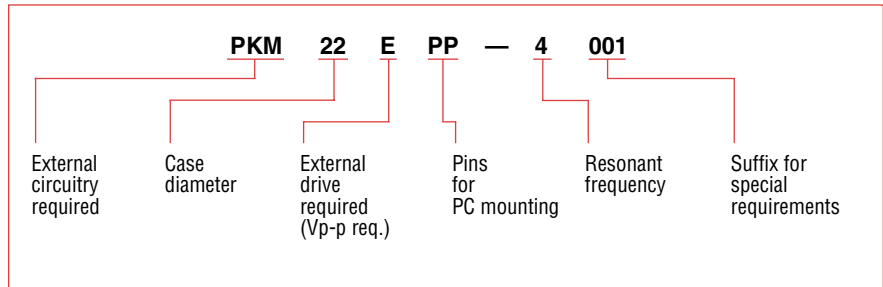
\*Available as standard through authorized Murata Electronics Distributors.

# PIEZO ALARMS

## ENCASED EXTERNAL DRIVE (no internal circuitry)



### TYPICAL PART NUMBERING



Part Number	★PKM13EPY-4002	PKM17EPP-2002	★PKM17EPP-4001*	★PKM11-4A0
Sound Pressure Level	70dB@10cm@3Vp-p	70dB@10cm@3Vp-p	72dB@10cm@3Vp-p	75dB@10cm@3Vp-p
Oscillating Frequency	4.0kHz	2kHz	4kHz	4kHz
Operating Voltage	25Vp-p	25Vp-p	25Vp-p	25Vp-p
Operating Temp. Range	-20°C to +70°C	-20°C to +70°C	-20°C to +70°C	-20°C to +60°C
Storage Temp. Range	-30°C to +80°C	-40°C to +80°C	-30°C to +80°C	-30°C to +70°C
Capacitance	5,500pF ± 30%	3,400pF ± 30%	7,000pF ± 30%	10,000pF ± 30%
Leads	—	—	—	30AWG (UL-1571)
DIMENSIONS: mm				
SOUND PRESSURE LEVEL VS. FREQUENCY				

\*These parts are available as sealed units for washing with tape covering the sound emitting hole. The part number should have an "S" suffix added.

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PIEZO ALARMS

# PIEZO ALARMS

## ENCASED PIEZO ALARMS

### SELF DRIVE (no internal circuitry)



As the use of microprocessors in consumer products has become increasingly popular, so too has the use of piezo alarms as the accepted means of audio alarm generation. Their ability to be driven by IC's, small size, low cost and high reliability, make them ideal for such applications.

The units shown on this page are equipped with a feedback tab for use with self-oscillating circuit designs. By utilizing the feedback, the part's individual resonant frequency is found to optimize sound pressure level.

All mechanical and electrical components are designed to be compatible with most standard PC board assembly and wave soldering techniques.

#### FEATURES

- Small size
- Low cost
- High sound pressure level
- Low input voltage
- Low current consumption

#### APPLICATIONS

- Clocks
- Office equipment, machine tools, toys, games, etc.
- Automatic controlling devices instrumentation, calculators
- Home appliances (microwave ovens, refrigerators, etc.)
- Smoke alarms

Part Number	★PKM25-6A0	★PKM24SP-3805
Sound Pressure Level	90dB@12V@10cm	90dB@12V@10cm
Oscillating Frequency	6.8 ± 0.7kHz	3.8 ± 0.4kHz
Current	10mA	12mA
Operating Voltage	3 to 20V	3 to 20V
Operating Temp. Range	-20°C to +70°C	-20°C to +70°C
Storage Temp. Range	-30°C to +80°C	-30°C to +80°C
DIMENSIONS: mm		
SOUND PRESSURE LEVEL VS. INPUT VOLTAGE		

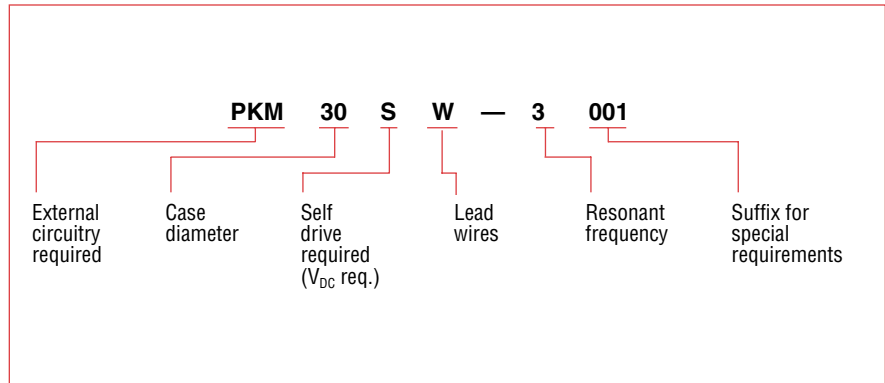
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# PIEZO ALARMS

## ENCASED EXTERNAL DRIVE (no internal circuitry)



### TYPICAL PART NUMBERING



PIEZO ALARMS

Part Number	★PKM11-6AO	★PKM29-3AO
Sound Pressure Level	80dB@12V@10cm	105dB@9V@1M
Oscillating Frequency	6.5 ± 0.7kHz	3.4 ± 0.4kHz
Current	8mA	20mA
Operating Voltage	3 to 15V	4.5 to 18.0V
Operating Temp. Range	-20°C to +60°C	-20°C to +70°C
Storage Temp. Range	-30°C to +70°C	-30°C to +80°C
Leads	30AWG (UL-1571)	—
DIMENSIONS: mm		
SOUND PRESSURE LEVEL VS. INPUT VOLTAGE		

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