CM-01B Contact Microphone

The CM-01B contact microphone uses sensitive but robust PVDF piezo film combined with a low-noise electronic preamplifier to provide a unique sound or vibration pick-up with buffered output. The design minimizes external acoustic noise while offering extremely high sensitivity to vibration applied to the central rubber pad. The CM-01B is ideal for detecting body sounds.

**FEATURES**
- Broad bandwidth
- High sensitivity
- Excellent impact resistance
- Lightweight
- Low cost

**APPLICATIONS**
- Electronic stethoscope
- Bone-conducted sound pickup
- General purpose contact microphone
- Vibration/impact sensing

**PERFORMANCE SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>40</td>
<td></td>
<td></td>
<td>V/mm</td>
</tr>
<tr>
<td>Lower Limiting Frequency (-3 dB)</td>
<td>8</td>
<td></td>
<td></td>
<td>Hz</td>
</tr>
<tr>
<td>Upper Limiting Frequency (+3 dB)</td>
<td>2.2</td>
<td></td>
<td></td>
<td>kHz</td>
</tr>
<tr>
<td>Resonance Frequency</td>
<td>5</td>
<td></td>
<td></td>
<td>kHz</td>
</tr>
<tr>
<td>Spring Constant</td>
<td>20</td>
<td></td>
<td></td>
<td>N/m</td>
</tr>
<tr>
<td>Electronic Noise</td>
<td>1</td>
<td></td>
<td></td>
<td>mV_{pk-pk}</td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>4</td>
<td>5</td>
<td>30</td>
<td>V-DC</td>
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<tr>
<td>Supply Current</td>
<td>0.1</td>
<td></td>
<td></td>
<td>mA</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>+5</td>
<td></td>
<td>+60</td>
<td>°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-20</td>
<td></td>
<td>+85</td>
<td>°C</td>
</tr>
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</table>
The above plot shows a typical frequency response curve for a device clamped below and subjected to piston-like displacement to the face of the rubber sensing pad.
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INTERNAL SCHEMATIC

Shield (braid): +GND
Red wire: VCC, +5V
Yellow wire: V_{out}

C1 = C2 = 0.1 \mu F
R1 = R2 = 300 k
R3 = 10 k
R4 = 100 M

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