MODEL: CMM-3729AB-38108-TR  |  DESCRIPTION: MEMS MICROPHONE

FEATURES
- analog
- small package
- reflow solder compatible
- omnidirectional

ELECTRICAL

<table>
<thead>
<tr>
<th>parameter</th>
<th>conditions/description</th>
<th>min</th>
<th>typ</th>
<th>max</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>directivity</td>
<td>omnidirectional</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sensitivity (S)</td>
<td>at 94 dB SPL, 1 kHz</td>
<td>-39</td>
<td>-38</td>
<td>-37</td>
<td>dB</td>
</tr>
<tr>
<td>supply voltage (VDD)</td>
<td>VDD = 2.0 V</td>
<td>1.5</td>
<td>2.0</td>
<td>3.6</td>
<td>V</td>
</tr>
<tr>
<td>current consumption (I)</td>
<td>VDD = 2.0 V</td>
<td></td>
<td></td>
<td></td>
<td>µA</td>
</tr>
<tr>
<td>frequency (f)</td>
<td></td>
<td>100</td>
<td>1000</td>
<td>10,000</td>
<td>Hz</td>
</tr>
<tr>
<td>signal to noise ratio</td>
<td>at 94 dB SPL, 1 kHz, [A-weighted]</td>
<td></td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>total harmonic distortion (THD)</td>
<td>at 94 dB SPL, 1 kHz</td>
<td>0.15</td>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>acoustic overload point (ADP)</td>
<td>at 10% THD, 1 kHz</td>
<td>125</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>output impedance (Zout)</td>
<td>at 1 kHz</td>
<td>80</td>
<td></td>
<td>80</td>
<td>µV</td>
</tr>
<tr>
<td>PSRR</td>
<td>200 mV-p sine wave @ 1 kHz, VDD = 2.0 V</td>
<td></td>
<td></td>
<td>80</td>
<td>dB</td>
</tr>
<tr>
<td>PSR</td>
<td>100 mV-p square wave @ 217 Hz, VDD = 2.0 V</td>
<td>-105</td>
<td></td>
<td>-105</td>
<td>dBV(A)</td>
</tr>
</tbody>
</table>

Notes: 1. All specifications measured at 23±2°C, humidity at 55±20%, unless otherwise noted.

ENVIRONMENTAL

<table>
<thead>
<tr>
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<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>operating temperature</td>
<td></td>
<td>-40</td>
<td>100</td>
<td>%</td>
<td>°C</td>
</tr>
<tr>
<td>storage temperature</td>
<td>in packaging</td>
<td>-40</td>
<td>85</td>
<td>%</td>
<td>°C</td>
</tr>
<tr>
<td>RoHS</td>
<td>yes</td>
<td></td>
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MECHANICAL

<table>
<thead>
<tr>
<th>parameter</th>
<th>conditions/description</th>
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<th>max</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimensions</td>
<td>3.76 x 2.95 x 1.10 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>acoustic port</td>
<td>bottom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>terminals</td>
<td>surface mount</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>weight</td>
<td>0.024 g</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
MECHANICAL DRAWING

units: mm
tolerance: ±0.1 mm

<table>
<thead>
<tr>
<th>TERMINAL CONNECTIONS</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VDD</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
</tr>
<tr>
<td>3</td>
<td>GND</td>
</tr>
<tr>
<td>4</td>
<td>output</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
</tr>
<tr>
<td>6</td>
<td>GND</td>
</tr>
</tbody>
</table>
FREQUENCY RESPONSE CURVE

APPLICATION CIRCUIT

Dashed Section Represents MEMS Microphone

Term. 2, Term. 3, Term. 5 and Term. 6

External Gain = $-\frac{R2}{R1}$ (Set By User)
**SOLDERABILITY**

<table>
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</thead>
<tbody>
<tr>
<td>reflow soldering</td>
<td>see reflow profile</td>
<td></td>
<td></td>
<td>260</td>
<td>°C</td>
</tr>
</tbody>
</table>

Note: 1. Vacuuming over acoustical hole is not allowed.
2. Not suitable for wash process.
3. Not recommended to exceed 5 reflow cycles.

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**PACKAGING**

<table>
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<th>max</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>reel storage</td>
<td>at relative humidity &lt;75%</td>
<td>-40</td>
<td>85</td>
<td>°C</td>
<td></td>
</tr>
</tbody>
</table>

**MSL**
- Class 1

**reel size**
- Ø330 mm max

**reel QTY**
- 5,700 pcs per reel

Note: 4. Recommended storage period no more than 1 year. Floor life (out of bag) no more than 4 weeks.
## REVISION HISTORY

<table>
<thead>
<tr>
<th>rev.</th>
<th>description</th>
<th>date</th>
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<tbody>
<tr>
<td>1.0</td>
<td>initial release</td>
<td>11/09/2018</td>
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<tr>
<td>1.01</td>
<td>brand update</td>
<td>01/16/2020</td>
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<tr>
<td>1.02</td>
<td>logo, datasheet style update</td>
<td>08/05/2022</td>
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<tr>
<td>1.03</td>
<td>changed internal chip</td>
<td>07/11/2023</td>
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The revision history provided is for informational purposes only and is believed to be accurate.