

Model	189PZ12240LFMP
Series	DB-E1898
Type	External Drive Piezo Transducer
Mechanism	Piezoelectric
Internal Circuitry	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Mounting Type	Surface Mount
Termination	SMD
Assembly Method	<input checked="" type="checkbox"/> Hand Solder <input checked="" type="checkbox"/> Wave Solder <input checked="" type="checkbox"/> Reflow Solder
Housing Material	Plastic (LCP)
Terminal Material	Tinned Copper
Weight	0.3g
Waterproof	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No


1

For more information about the IP rating, please feel free to contact us. If we confirm that the model is waterproof, it indicates that it can meet the IP65 standard under specific assembly conditions.

1. Scope

This product specification sheet pertains to the acoustic model produced by DB Products Limited, designed for use as a sounder in the alarm system. Please review all parameters and specifications outlined in this document. For any other applications of the product, please reach out for further guidance. If you require additional information regarding production uses, contact us for the approval sheet with more details.

2. Appearance

Appearance: No illegible marking. No visible dirt on the top view and the side view of the acoustic component.

Dimension: Please refer to the Mechanical Specification as described in this specification sheet.

3. Measuring Rating

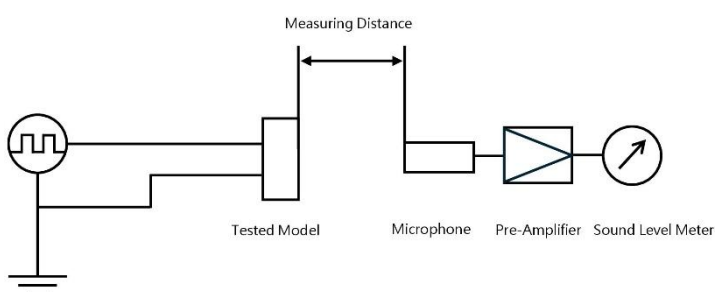
	Item	Specification
3.1	Operating Voltage Range	25 V
3.2	Operation Temperature Range	- 20 ~ + 70 ° C
3.3	Storage Temperature Range	- 30 ~ + 80 ° C

4. Electrical Specification

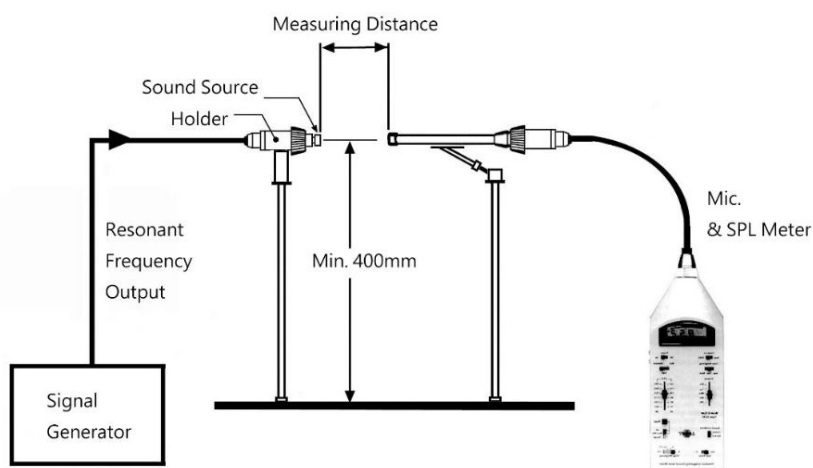
	Item	Specification
4.1	Rated Input Signal	3 V p-p, Square Wave
4.2	Rated Frequency	2400 Hz
4.3	Measuring Distance	10 cm
4.4	Sound Output from 4.1 to 4.3 Condition	Min. 65 dBA
4.5	Rated Current	3mA
4.6	Capacitance	19000 pF \pm 30 % at 120 Hz

2

5. Sound Output Measuring Set Up

	Item	Specification
5.1	Measuring set up diagram	
5.2	Signal Generator	Wavetek 95 or Equivalent
5.3	Microphone	Type 2670 (Brüel & Kjær) or Equivalent
5.4	Pre-Amplifier	Type 4939 (Brüel & Kjær) or Equivalent
5.5	Sound Level Meter	Type 2230 (Brüel & Kjær) or Equivalent

5.6 Actual photo of testing set up



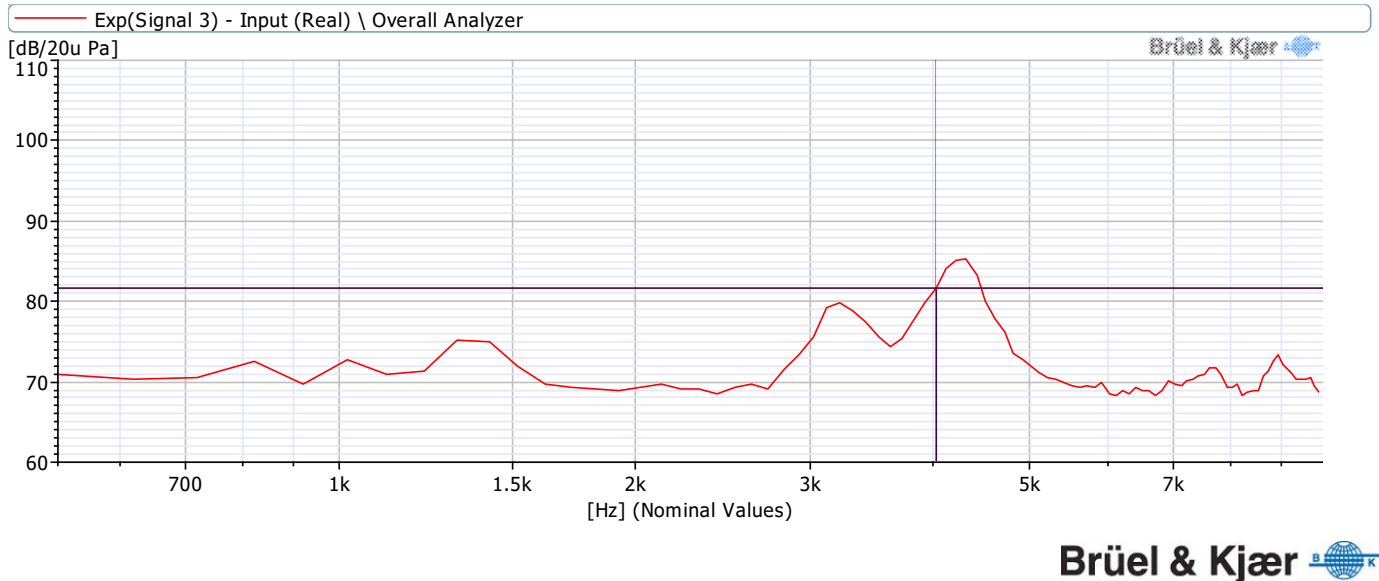


6. Measuring Conditions

Standard conditions for the measurement shall be +25 °C temperature and 60±10% R.H. humidity. The measurement shall be performed at the temperature of +15 °C to +35 °C and the humidity of 45% to 85% R.H. unless the result is doubtful.

3

7. Frequency Characteristics



Y-axis : Sound Pressure Level (dB)

X-axis : Frequency (Hz)

The measuring distance is being mentioned in the point 4 Electrical Specification.

The testing data originates from the Acoustic Laboratory at DB Products Limited. This frequency response curve is for reference only. We cannot use this curve to determine the sound pressure level in different input frequency. The performance would be affected by the speed of sweeping.

8. Soldering Method

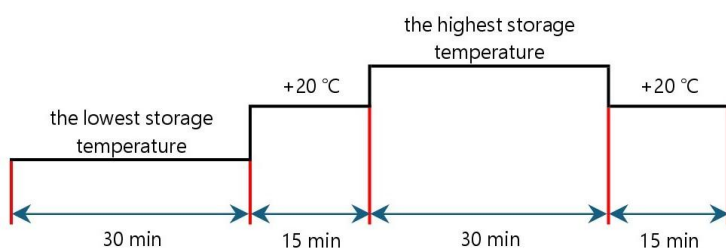
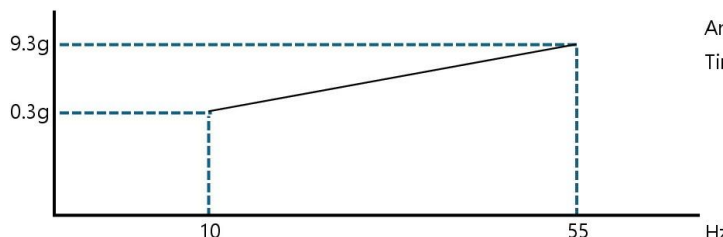
Condition by wave soldering: +260 ± 5 °C for 3 ± 0.5 seconds

Condition by hand soldering: +350 ± 20 °C for 3 ± 0.5 seconds

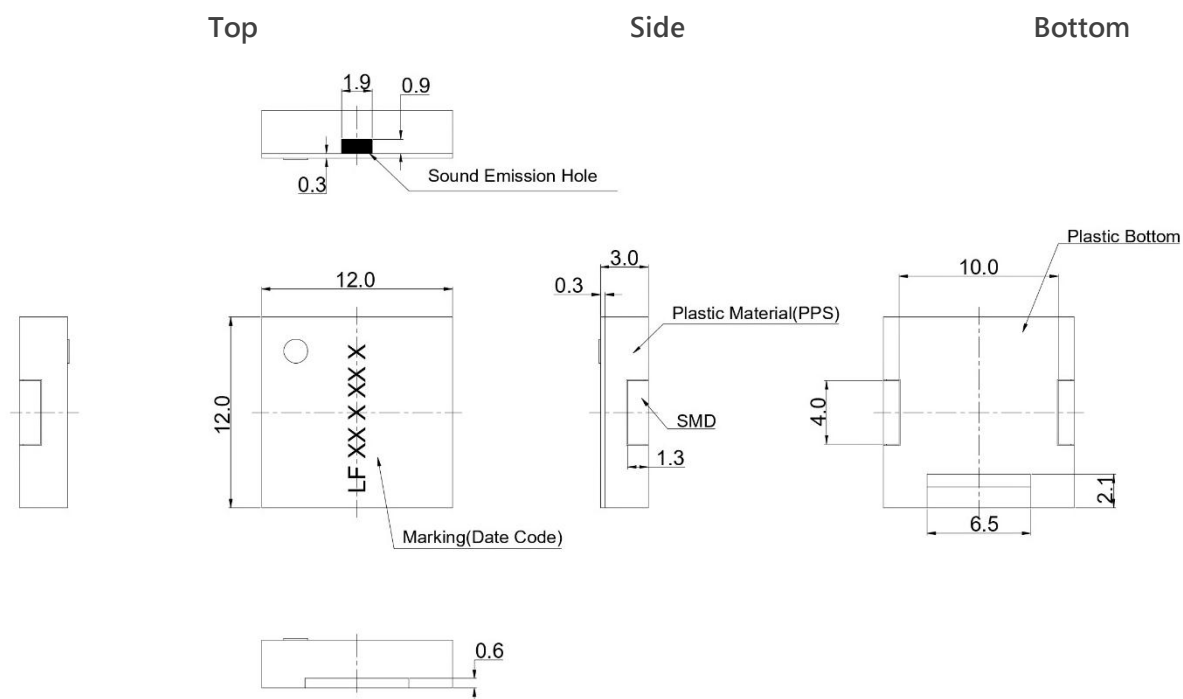
Please refer to the soldering method at the front page of the description.

For more information regarding soldering conditions, please reach out to DB Products Limited to obtain the approval sheet.

9. Reliability Standard

Item	Test Condition and Requirement
High Temperature Test (Storage)	<p>After being placed in a chamber with the mentioned highest storage temperature $\pm 2^{\circ}\text{C}$ for 96 hours and then being placed in normal condition for 2 hours.</p> <p>Allowable variation of SPL after test: ± 5 dB from the original output testing data before the test.</p>
Low Temperature Test (Storage)	<p>After being placed in a chamber with the mentioned lowest storage temperature $\pm 2^{\circ}\text{C}$ for 96 hours and then being placed in normal condition for 2 hours.</p> <p>Allowable variation of SPL after test: ± 5 dB from the original output testing data before the test.</p>
Humidity Test	<p>After being placed in a chamber with 90 ~ 95 % R.H. at $40 \pm 2.0^{\circ}\text{C}$ for 96 hours and then being placed in normal condition for 2 hours.</p> <p>Allowable variation of SPL after test: ± 5 dB.</p>
Temperature Cycle Test	<p>The part shall be subjected to 5 cycles. One cycle shall be consist of :</p>  <p>Allowable variation of SPL after test: ± 5 dB.</p>
Drop Test	<p>Drop on a hard wood board of 10 mm thick, any directions, 6 times, at the height of 70 cm.</p> <p>Allowable variation of SPL after test: ± 5 dB.</p>
Vibration Test	 <p>Amplitude: 1.5mm Time: 1 min/axis</p> <p>After applying vibration of amplitude of 1.5 mm with 10 to 55Hz band of vibration frequency to each of 3 perpendicular directions for 2 hours.</p> <p>Allowable variation of SPL after test: ± 5 dB.</p>
Solderability Test	<p>Lead terminals are immersed in rosin for 5 seconds and then immersed in solder bath of $+260 \pm 5^{\circ}\text{C}$ for 3 ± 0.5 seconds .90 % min. lead terminals shall be wet with solder (Except the edge of terminals).</p>
Terminal Strength Pulling Test	<p>The force of 9.8 N (1 kg) is applied to each terminal in axial direction for 10 seconds.</p> <p>No visible damage and cutting off.</p>

10. Mechanical Specification



1. All dimensions are in mm and tolerance are $\pm 0.5\text{mm}$

2. Subject to change or redrawn without prior notice

3. Provides a half-year limited warranty on our products.

11. Limitation of this Specification Sheet

This specification sheet outlines the preliminary specifications to help you choose the appropriate acoustic components for your product design. For further information, please contact DB Products Limited.

12. Important Note

This document contains date, photos, and drawings that are proprietary to DB Products Limited. Any use or reproduction in any form, without prior written permission from DB Products Limited, is prohibited.

13. Revision History

Form No.	Description	Date
SS-25EDPT-001	Update the format	20 March 2025