



SPL (HONG KONG) LIMITED

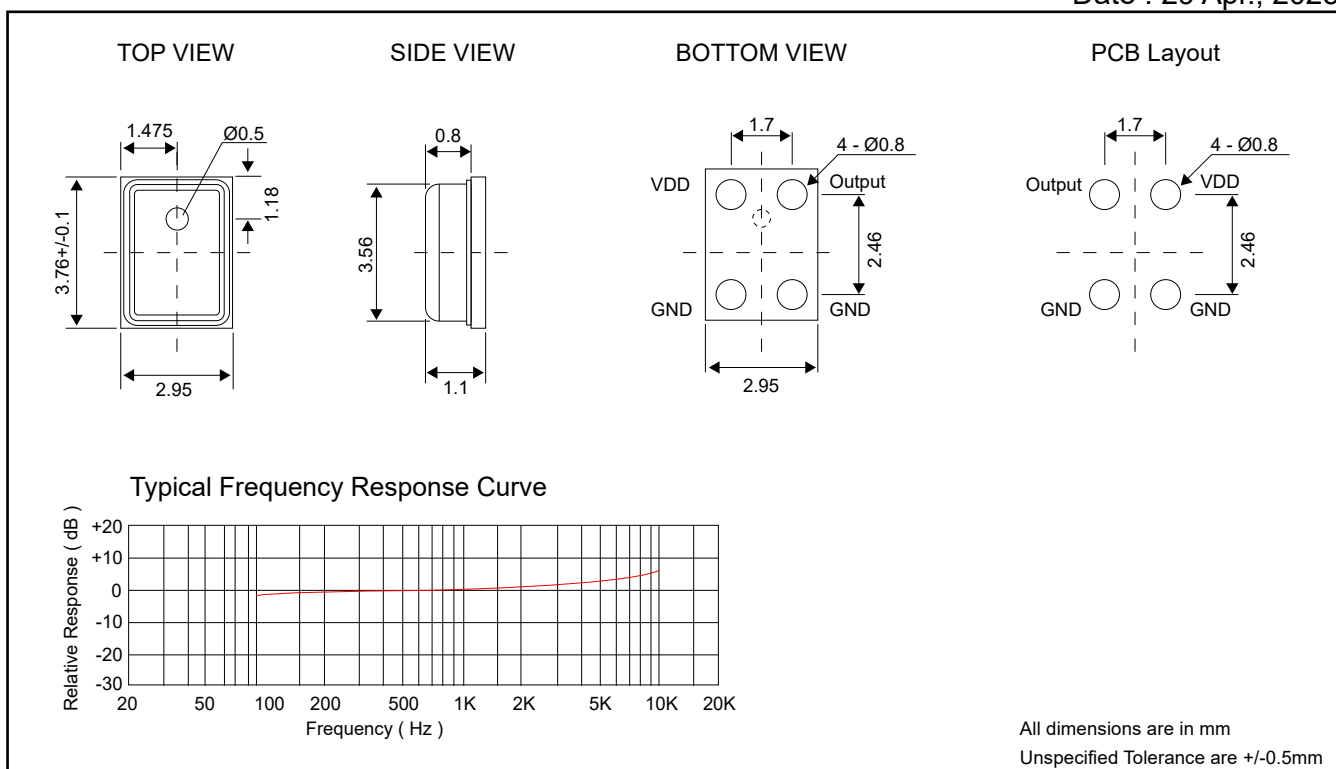
香港九龍觀塘鴻圖道57號南洋廣場17樓1703B室
Room 1703B, 17/F., Nanyang Plaza, No.57 Hung To Road, Kwun Tong, Kowloon, HK.
Tel: 852-2342 6857 / 2342 6867 Fax: 852-2342 6847 Email: sales@spl-hk.com.hk
Website: www.buzzer.com.hk

Silicon Microphone

MAM-3830 series

DIMENSIONS

Date : 29 Apr., 2025



Ref No. : EBED2502B

Remark : Reflow soldering



ELECTRICAL SPECIFICATIONS

Model No.

MAM3830-07R

Sensitivity [94dB SPL@1KHz]

-42 $\pm$ 3 dB

Impedance

Low Impedance

Directivity

Omnidirectional

Output Impedance

300 Ω

Frequency

100 ~ 10KHz

Max. operation voltage

See Acoustic & Electrical Table

Standard operation voltage

See Acoustic & Electrical Table

Current consumption

See Acoustic & Electrical Table

S/N ratio

See Acoustic & Electrical Table

Heat Test

Must Be Normal [105 $\pm$ 3 $^{\circ}$ C, 24 Hours]

Cold Test

Must Be Normal [-40 $\pm$ 3 $^{\circ}$ C, 24 Hours]

Humidity Test

40 $\pm$ 3 $^{\circ}$ C, 92 ~ 95% R.H. 24 Hours

Operating Temperature

-25 ~ +60 $^{\circ}$ C

Storage Temperature

-40 ~ +105 $^{\circ}$ C

Terminal

Gold-plated Copper

Weight

0.022g



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MAM3830-07R Acoustic & Electrical Table

Test Conditions: 23°C, 55+/-20% R.H.

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Supply Voltage	VDD	-	1.6	2	3.6	V
Current Consumption	IDSS	VDD=2.0V	-	-	250	μA
Sensitivity	S	94dB SPL @ 1kHz	-45	-42	-39	dB
S/N Ratio	S/N	94dB SPL @ 1kHz, (A-Weighted)	-	58	-	dB(A)
Total Harmonic Distortion	THD	94dB SPL @ 1kHz	-	0.1	-	%
Acoustic Overload Point	AOP	10% THD @ 1kHz	-	132	-	dB
Power Supply Rejection Ratio	PSRR	200mVpp sinewave @1KHz, VDD=2.0V		75		dB
Power Supply Rejection	PSR	100mVpp Squarewave @217Hz, VDD=2.0V, A-weighted	-	-105	-	dB
Output Impedance	Z _{OUT}	@1kHz	-	-	300	Ω
Directivity	-	-	Omni-directional			



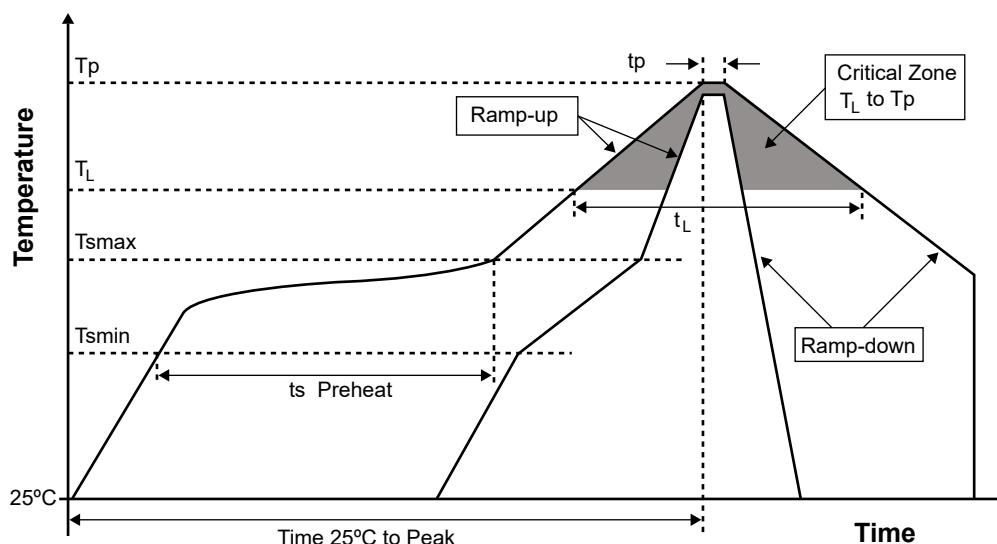
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Recommended reflow profile



Profile Feature	Pb-Free
Average Ramp-up rate (T smax to Tp)	3 °C / second max.
Preheat Temperature Min (T smin) Temperature Max (T smax) Time (T smin to T smax) (ts)	150 °C 200 °C 60-180 seconds
Time maintained above: Temperature(TL) Time (tL)	217 °C 60-150 seconds
Peak Temperature (Tp)	260 °C
Time within 5 °C of actual Peak Temperature (tp)	20-40 seconds
Ramp-down rate (Tp to T smax) Time 25 °C to Peak Temperature	6 °C / second max 8 minutes max

Notes:

1. Pulling vacuum over acoustical hole of the microphone is not allowed, because the device can be damaged by vacuum.
2. Wash the board after reflow process is not allowed, because board washing and cleaning agents can damage the device.
Device should not be exposed to ultrasonic processing or cleaning.
3. Recommended number of reflow is no more than 3 times.