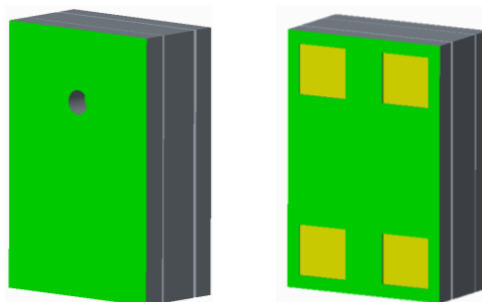


Specification of MEMS Microphone

RoHS Compliance & Halogen Free

LinkMems P/N: LMA2718T381-OY1



Designed by	Checked by	Approved by
Thomas	Fay	Hary

Customer Approval

Approved by:_____



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MEMS Microphone

1. Introduction

The LMA2718T MEMS Microphones are integrated with specialized Pre-amplification ASIC to provide high sensitivity, high SNR output from a capacitive audio sensor. It's packaged for surface mounting and high temperature reflow assembly.

2. Electrical Characteristics

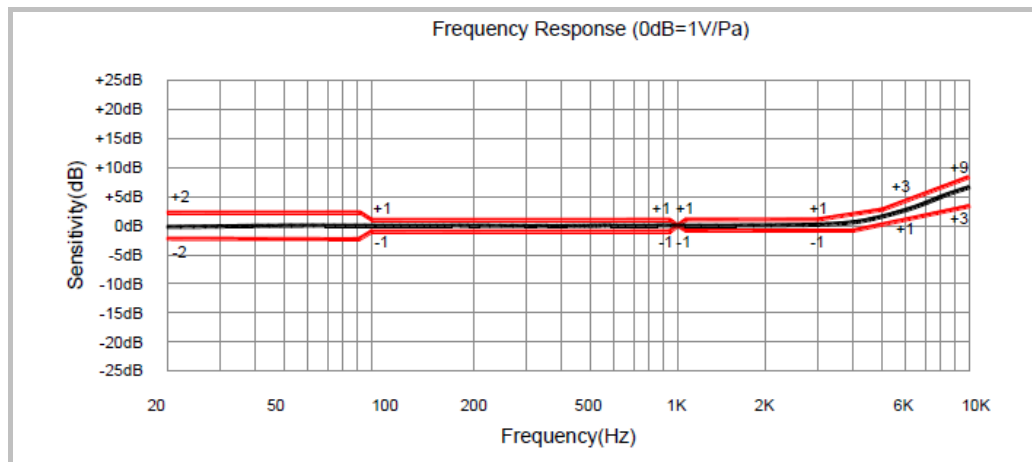
Parameter	Absolute Maximum Rating	Unit
Voltage Range of VDD to Ground	-0.3 to +3.9	V
Voltage Range of OUT to Ground	-0.3 to +3.9	V
Input Current to Any Pin	± 5	mA
Temperature Range	-40 to +100	°C

Test Condition: $V_{DD}=2.0V$, $23\pm 2^{\circ}C$, $55\pm 10\%R.H.$, unless otherwise specified.

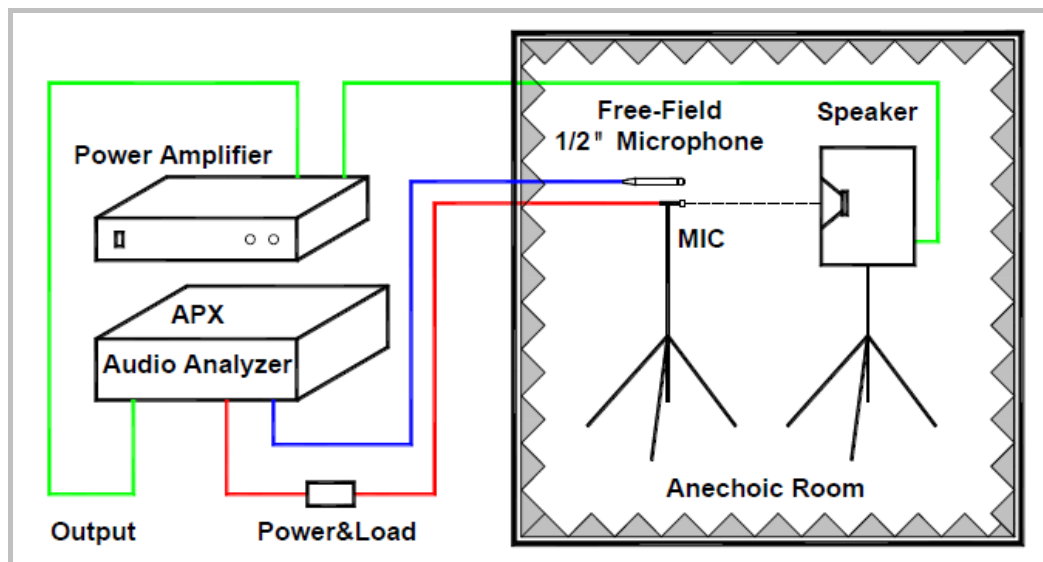
Specification	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Directivity			Omni-directional			
Sensitivity Range	S	94dB SPL @1kHz	-39	-38	-37	dB
Output Impedance	Z_{out}	94dB SPL @1kHz			300	Ω
Current Consumption	I				150	μA
S/N Ratio	SNR	94dB SPL @1kHz A-Weighted(20-5kHz)		65		dB(A)
		94dB SPL @1kHz A-Weighted(20-8kHz)		64		
		94dB SPL @1kHz A-Weighted(20-20kHz)		63		
Operating Voltage	V_{DD}		1.6	2.0	3.6	V
Total Harmonic Distortion	THD	94dB SPL @1kHz		0.15		%
Acoustic Overload Point	AOP	10% THD @1kHz		130		dB SPL
Power Supply Rejection Ratio	PSRR	200mVpp Sine wave@1kHz, $V_{DD}=2V$, A-weighted		60		dB
Power Supply Rejection	PSR	100mVpp Square wave@217Hz, $V_{DD}=2V$, A-weighted		-90		dBV

3. Response Curve

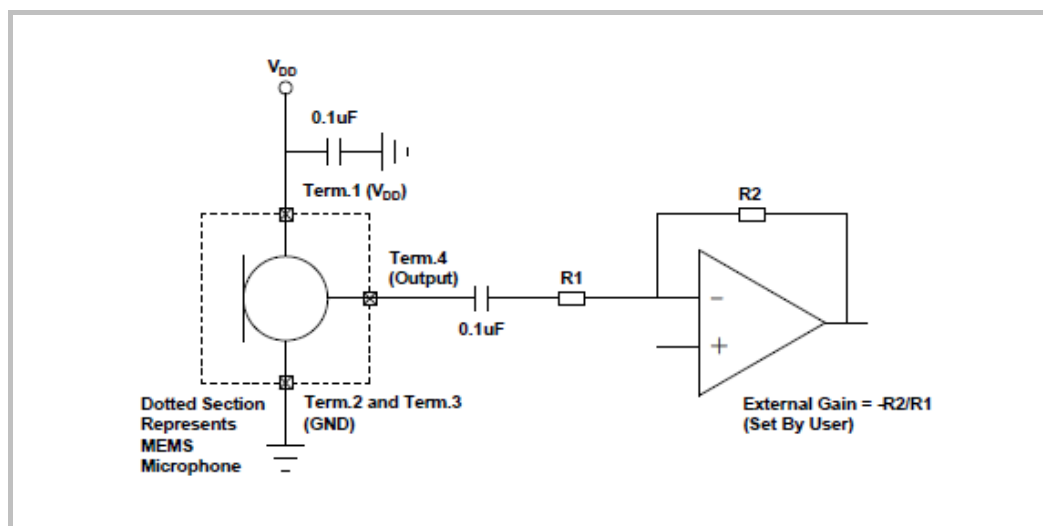
3.1 Frequency Response Curve



4. Test Setup (Sensitivity Test in Anechoic Room)



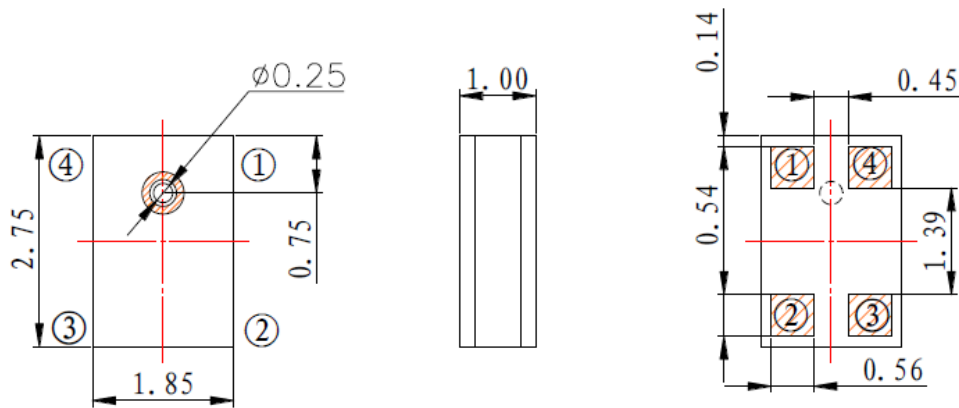
5. Measurement Circuit



6. Mechanical Characteristics

6.1 Weight: Less than 0.03g

6.2 Appearance Drawing(unit: mm)



Item	Dimension	Tolerance(+/-)	Units
Length(L)	2.75	0.10	mm
Width(W)	1.85	0.10	mm
Height(H)	1.00	0.15	mm
Acoustic Port(AP)	Ø0.25	0.10	mm

Pin #	Pin Name	Type	Description
1	VDD	Power	Power Supply
2	GND	Ground	Ground
3	GND	Ground	Ground
4	OUT	Signal	Output Signal

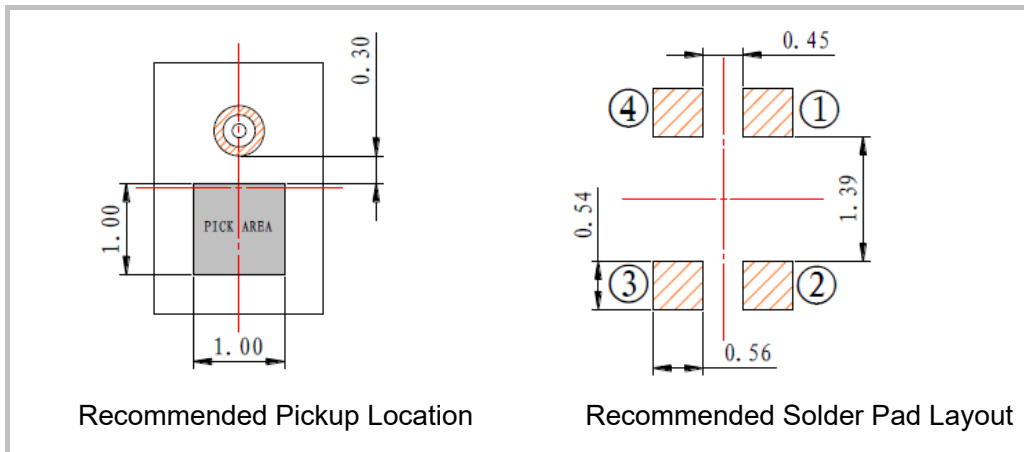
Notes:

All dimensions are in millimeter (mm).

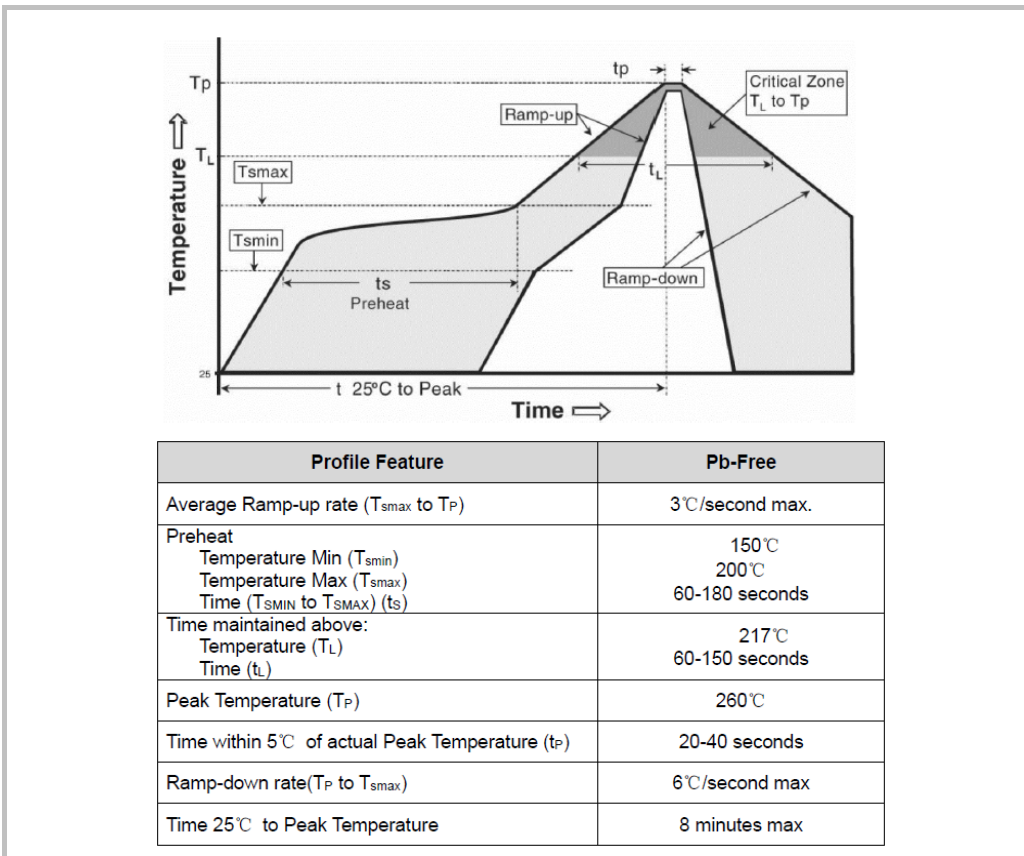
Tolerance±0.1mm unless otherwise specified.

7. Application

7.1 Pickup Tool Pick Location& PCB Solder Pad Layout



7.2 Recommended Reflow Process Condition



Important Notes

In order to minimize device damage:

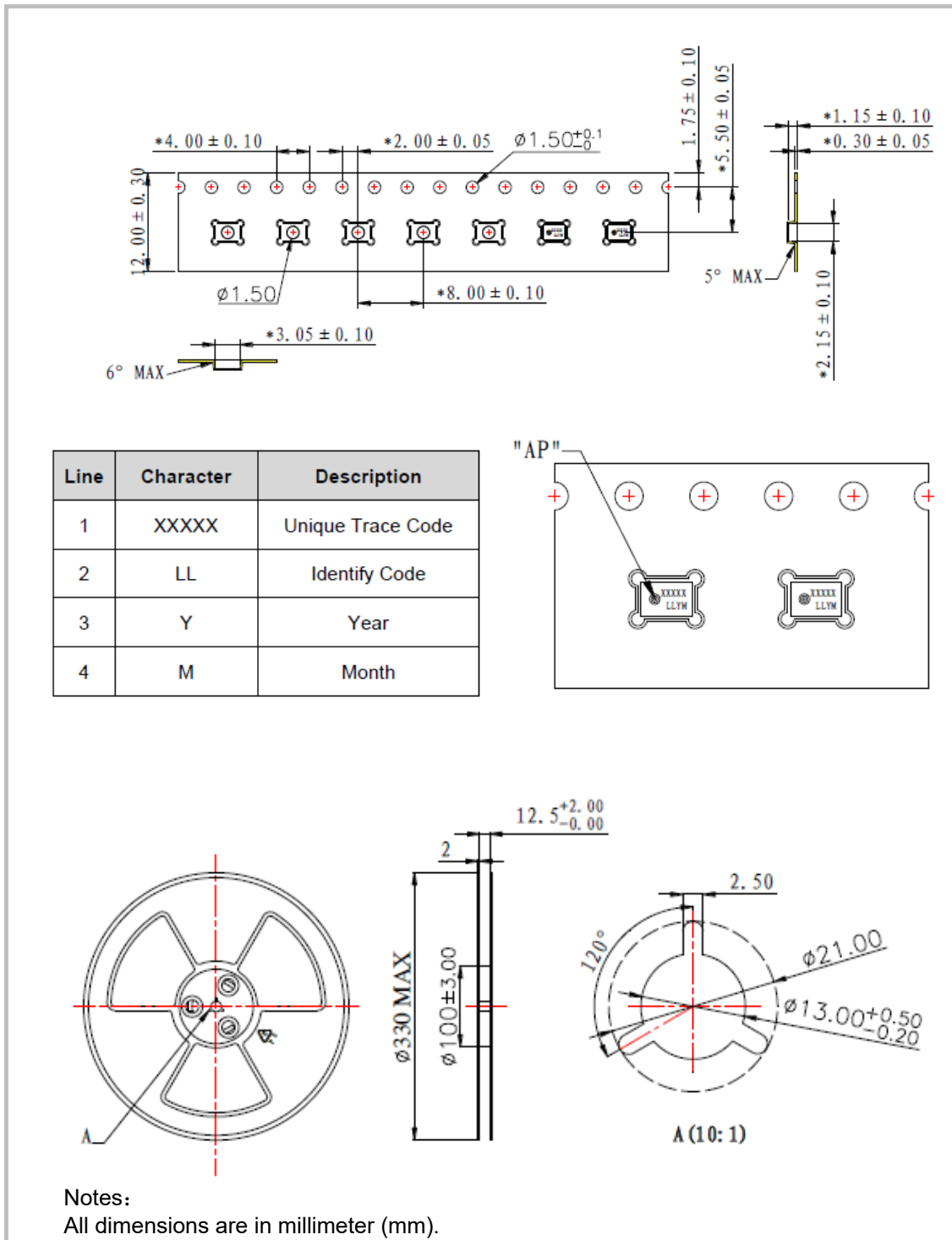
1. Do not wash or clean the boards after the reflow process.
2. Do not apply the airflow which pressure over 0.3MPa blow into the port hole within a distance of less than 5 cm.
3. Do not exposed to ultrasonic processing or cleaning.
4. Do not pull a vacuum over port hole of the microphone.

7.3 Storage Condition

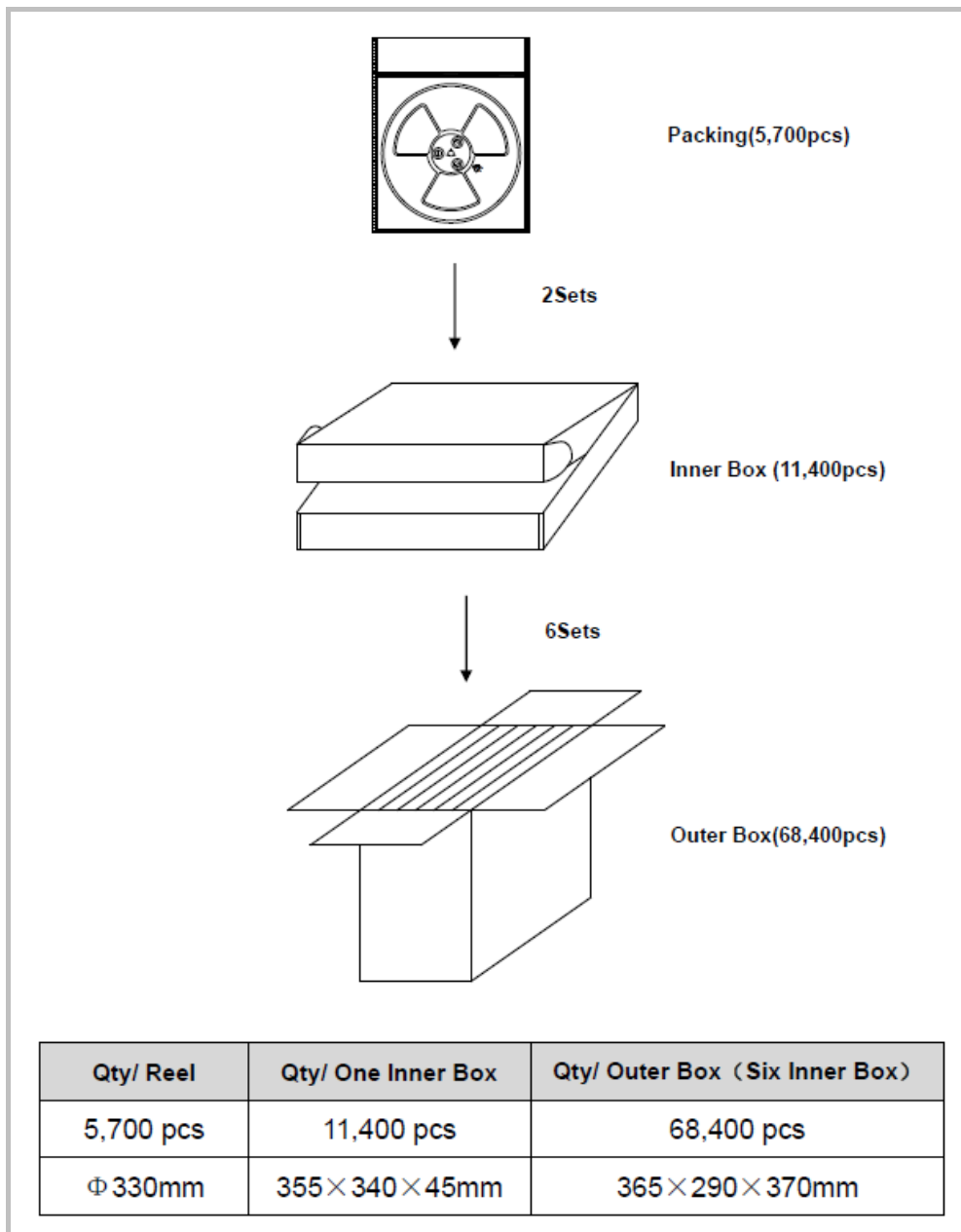
- 7.3.1 Storage temperature range:-40~+100°C, and humidity is less than 75%.
- 7.3.2 Operating temperature range:-40~+100°C.
- 7.3.3 MSL (moisture sensitivity Level) is Class 1.

8. Packaging

8.1 Tape & Reel Specification



8.2 Packaging Information



9. Reliability Test

The samples should be placed in the room with $23\pm 2^{\circ}\text{C}$, $55\pm 10\%\text{R.H.}$ for 2 hours at least before final measurement, unless otherwise specified.

Item	Detail	Standard
Thermal Shock	100 cycles of air-air thermal shock from -40°C to $+105^{\circ}\text{C}$ with 15 minute soaks.	$\pm 3\text{ dB}$
High Temperature Storage	$+105^{\circ}\text{C}$ environment for 240 hours.	$\pm 3\text{ dB}$
Low Temperature Storage	-40°C environment for 240 hours.	$\pm 3\text{ dB}$
High Temperature Test	$+105^{\circ}\text{C}$ environment while under bias for 240 hours.	$\pm 3\text{ dB}$
Low Temperature Test	-40°C environment while under bias for 240 hours.	$\pm 3\text{ dB}$
Humidity Test	$+85^{\circ}\text{C}/85\%\text{ R.H.}$ environment while under bias for 240 hours.	$\pm 3\text{ dB}$
Vibration Test	16 minutes in each X, Y, Z axis from 20 to 2,000 Hz with peak acceleration of 20G.	$\pm 3\text{ dB}$
Drop Test	1.5-meter height onto a concrete surface each time at three directions in state of packaging.	$\pm 3\text{ dB}$
Reflow Test	5 reflow cycles with peak temperature of $+260^{\circ}\text{C}$.	$\pm 3\text{ dB}$

Specification Revisions

Revision	Description	Approved	Date
1.0	New Version Released	Hary	13/04/2023