



深圳市兴华鑫电子科技有限公司
Shenzhen xinghuaxin Electronic Technology Co., Ltd

承認書

SPECIFICATION FOR APPROVAL

客戶(Customer):

客戶料號(Customer P/N):

興華鑫型號(Supplier P/N):

XHXDZ-2718

產品名稱(Description):

咪头(Microphone)

產品規格(Specification):

2.7 x 1.8 x 0.9mm

客戶承認欄 (Customer Authorization Signature)	深圳市興華鑫電子科技有限公司 承認欄 (Supplier Audit)		
	審核	檢查	制作
	唐国兴	唐玉来	吴银娟
	日期: 2022 年 04 月 19 日 版次: A		

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深圳市兴华鑫电子科技有限公司

产品规格内容

Descriptions

The 2718 is a high-performance, low power, top port MEMS microphone with single-ended analog output.

Acoustic and Electrical Specifications

Test Condition: VDD=2.0V, 23+/-2°C , 55+/-10%R.H., unless otherwise specified

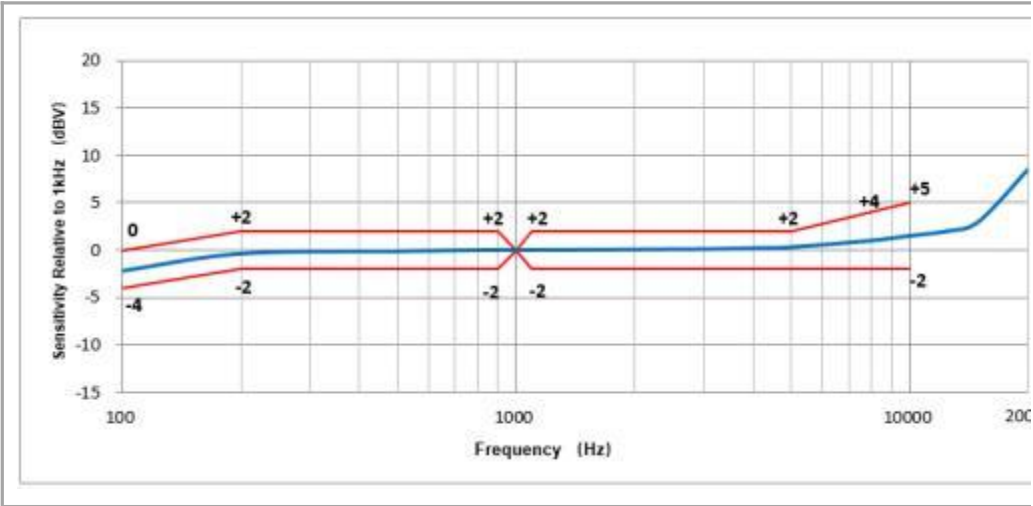
Table 1

Specification	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Directivity			Omni-directional			
Sensitivity Range	S	94dBSPL @1kHz	-43	-42	-41	dB
Output Impedance	Z _{out}	94dBSPL @1kHz			250	Ω
Operating Voltage	V _{DD}		1.6	2	3.6	V
Current Consumption	I	1.6V to 3.6V			200	μA
S/N Ratio	SNR	94dBSPL @1kHz, A-Weighted		52		dB(A)
Total Harmonic Distortion	THD	94dBSPL @1kHz			0.5	%
Sensitivity vs Voltage	Δ S	94dBSPL @1kHz, V _{dd} =3.6V to 1.6V			0.5	dB
Acoustic Overload Point	AOP	THD=10% @1kHz		124		dBSPL
Power Supply Rejection	PSR	0.1Vpp Square wave @217Hz, A-weighted		-90		dB

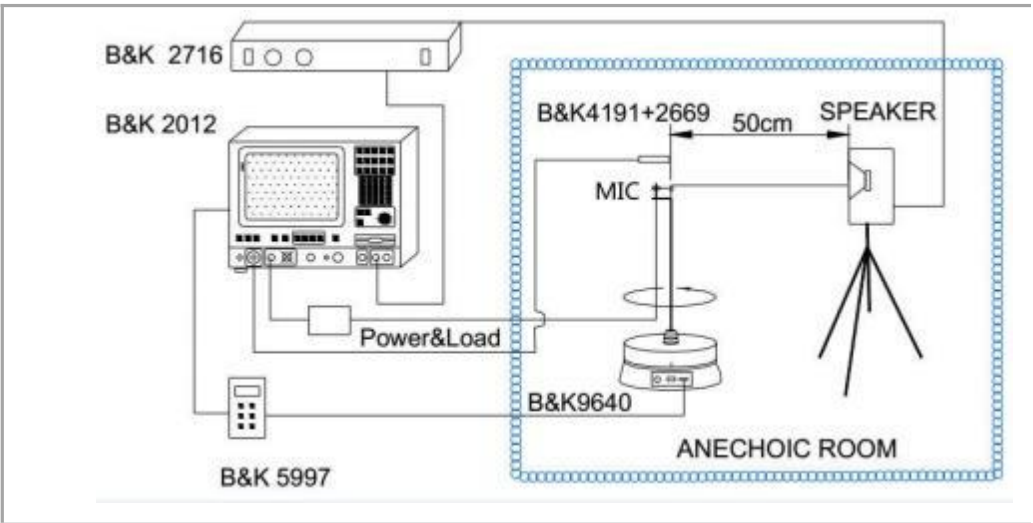
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产品规格内容

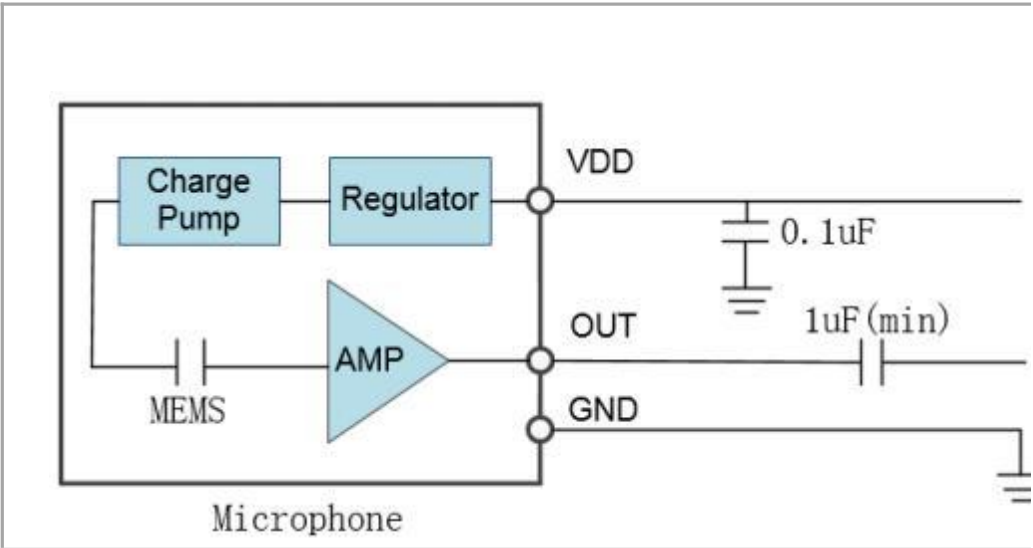
Frequency Response Curve



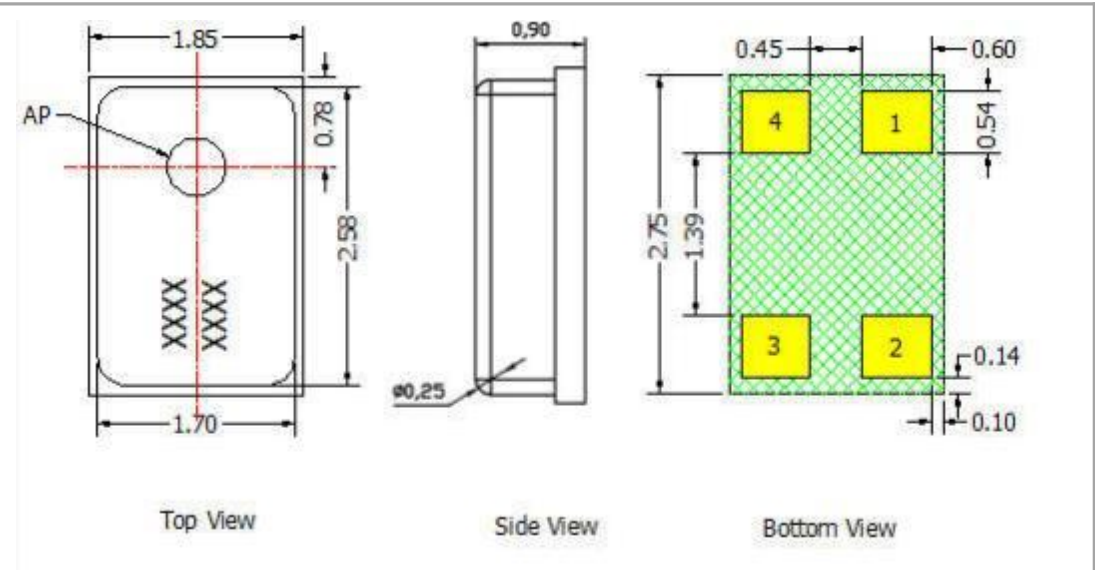
Measurement System Setup



Schematic Measuring Diagram



Mechanical Specifications



Mark	Description
XXXX	Date Code
XXXX	

Item	Dimension	Tolerance($\pm$)	Units
Length	2.75	0.1	mm
Width	1.85	0.1	mm
Height	0.9	0.1	mm
Acoustic Port	$\varnothing 0.5$	0.05	mm

Pin #	Definition	Type	Description
1	Output	Signal	Output Signal
2	GND	Ground	Ground
3	GND	Ground	Ground
4	V _{DD}	Power	Power Supply

Notes:

Dimensions are in millimeters unless otherwise specified.

Tolerance is ± 0.10 mm unless otherwise specified.

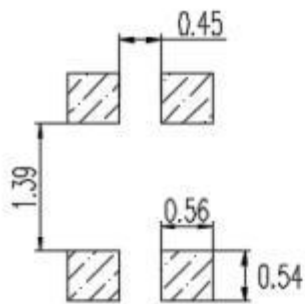
All Ground Pin must be connected to the ground in end application.

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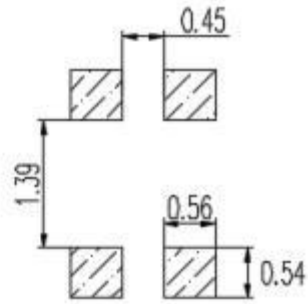
产品规格内容

Application Design Suggestions

1. Recommended PCB and Stencil Design Pattern

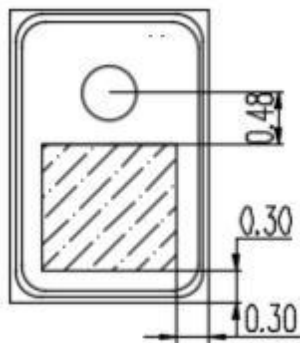


Example Land Pattern



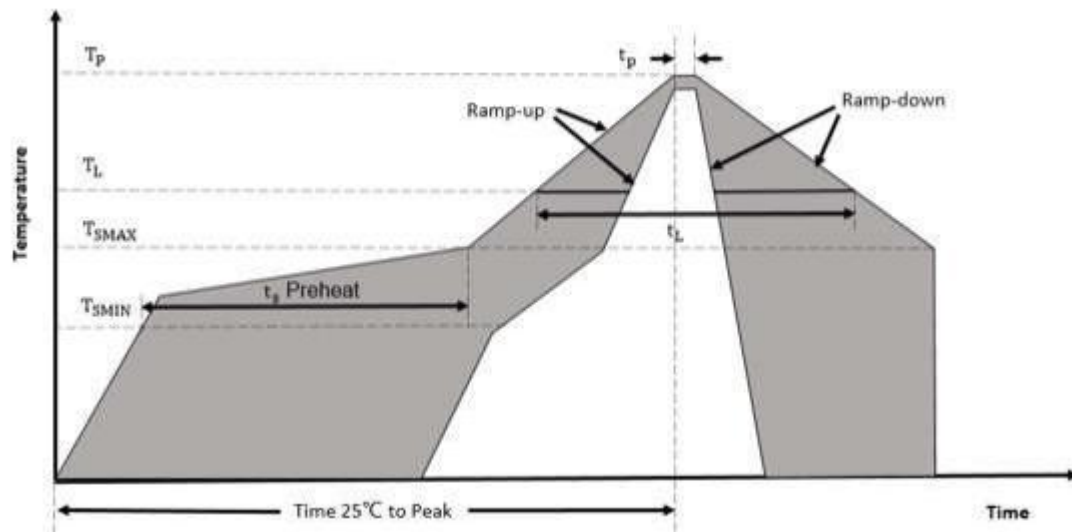
Example Solder Stencil Pattern

2. Pick up Location



Example Pick up Location

3. Recommended Reflow Profile



Parameter		Reference	Specification
Average Ramp-up Rate		T_L to T_P	3°C/sec max
Preheat	Minimum Temperature	T_{SMIN}	150°C
	Maximum Temperature	T_{SMAX}	200°C
	Time T_{SMIN} to T_{SMAX}	t_s	60 -180 sec
Ramp-up Rate		T_{SMAX} to T_L	1.25°C/sec
Time Maintained Above Liquidous		t_L	60-150 sec
Liquidous Temperature		T_L	217°C
Peak Temperature		T_P	260°C
Time Within $\pm 5^\circ\text{C}$ of Actual Peak Temperature		t_P	20 -40 sec
Ramp-down Rate		T_P to T_{SMAX}	6°C/sec max
Time 25°C to Peak Temperature			8 min max

Notes:

Do not wash or clean the boards after thereflow process.

Do not exposed to ultrasonic processing ,cleaning or welding.

Do not pull a vacuum over porthole of the microphone.

Do not insert any object in porthole of device at any time.

Do not apply the airflow which pressure over 0.3MPa blow into the porthole within a distance of less than 5 cm.

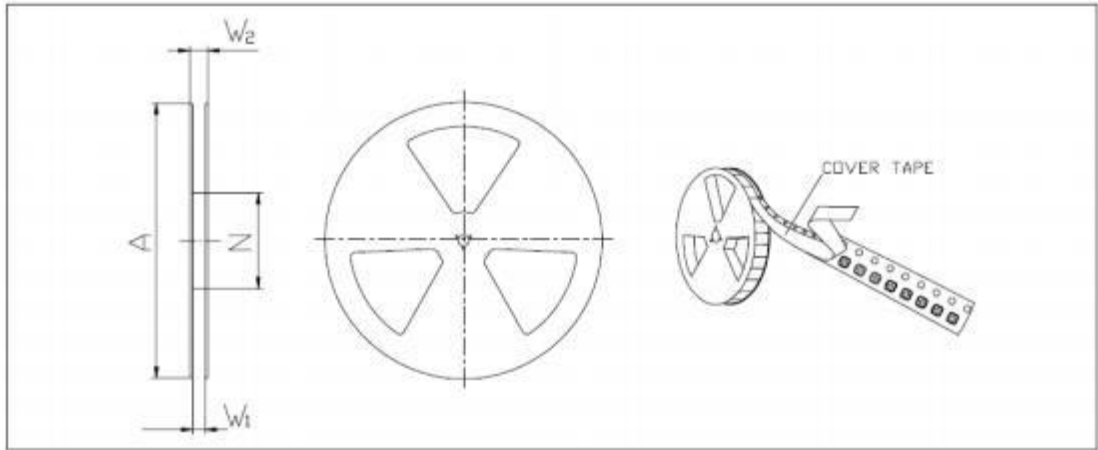
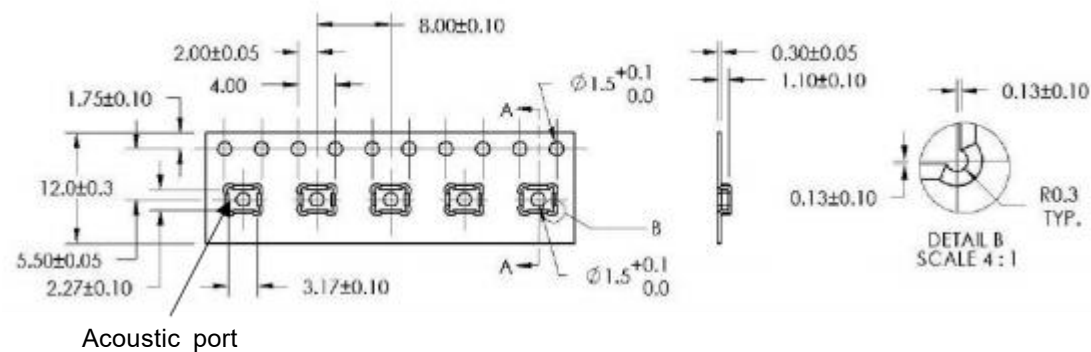
Storage Condition

Storage temperature range:-40 ~ +100°C, and humidity is less than 75%.

Operating temperature range:-40 ~ +100°C.

MSL (moisture sensitivity Level) is Class 1.

Packaging Detail



A	W1	W2	N	Quantity per Reel
$\varnothing 330$	12.4±1.5	18.4 MAX	$\varnothing 100$	5000

Notes :

All dimensions are in millimeter (mm).

Reliability Specifications

The microphone 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. After conducting any of the following tests, the sensitivity change of DUT shall be less than $\pm 3\text{dB}$ from its initial value unless otherwise noted, and shall keep its initial operation and appearance.

NO.	Item	Detail
1	Reflow	Samples for qualification testing require 3 Times $260\pm 5^{\circ}\text{C}$ reflow solder profiles. 2 hours of setting time is required between each reflow profile test.
2	Humidity Test	Precondition at $+25^{\circ}\text{C}$ for 1 hour. Then expose to $+85^{\circ}\text{C}$ with 85% relative humidity for 1000 hours.
3	Thermal Shock	Each cycle shall consist of 30 minutes at -40°C , 30 minutes at $+125^{\circ}\text{C}$ with 5 minutes transition time. Test duration is for 30 cycles, starting from cold to hot temperature.
4	ESD	According to MIL-STD-883G, Method 3015.7 for Human Body Model. Discharge Position: I/O pins Charge Voltage: $\pm 2000\text{V}$ Discharge Network: 100pF & 1500Ω
5	Vibration Test	Vibrate randomly along three perpendicular directions for 30 minutes in each direction, 4cycles from $20\text{Hz}\sim 2000\text{Hz}$ with a peak acceleration 20g .
6	Mechanical Shock	Subject samples to half sine shock pulses ($3000\text{g}\pm 15\%$ for 0.3ms) in each direction, totally 18 shocks.
7	High temperature Storage	Microphone unit must maintain sensitivity after storage at $+105^{\circ}\text{C}$ for 1000 hours.
8	Low temperature Storage	Microphone unit must maintain sensitivity after storage at -40°C for 1000 hours.
9	Drop Test	The test was repeated in six directions for three times, Dropped from 1.5m height on to a steel surface, total 18 times and inspected for mechanical damage.