

RMIC-94-3.6-2718-NX-NS1





Description: The RMIC-94-3.6-2718-NX-NS1 is a high-performance, low power, bottom port MEMS microphone with single-ended analog output.





Top View

Bottom View

ACOUSTIC AND ELECTRICAL SPECIFICATIONS

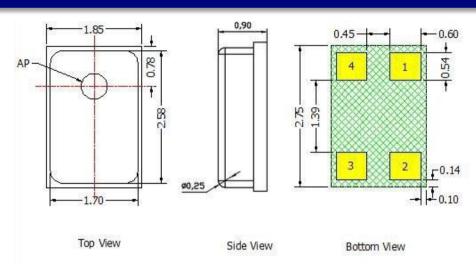
Test Condition: VDD=2.0V, 23±2°C, 55±10%R.H., unless otherwise specified

Specification	Symbol	Test Conditions	Min.	Тур.	Max.	Unit
Directivity			Omni-directional			
Sensitivity Range	S	94dBSPL @1kHz	-43	-42	-41	dB
Output Impedance	Zout	94dBSPL @1kHz			250	Ω
Operating Voltage	VDD		1.6	2	3.6	V
Current Consumption	I	1.6V to 3.6V			200	μΑ
S/N Ratio	SNR	94dBSPL @1kHz, A-Weighted		52		dB(A)
Total Harmonic Distortion	THD	94dBSPL @1kHz			0.5	%
Sensitivity vs Voltage	ΔS	94dBSPL @1kHz, Vdd=3.6V to 1.6V			0.5	dB
Acoustic Overload Point	АОР	THD=10% @1kHz		130		dBSPL
Power Supply Rejection	PSR	0.1Vpp Square wave @217Hz, A-weighted		-90		dB



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DIMENSIONS



Item	Dimension	Tolerance(±)	Units
Length	2.75	0.1	mm
Width	1.85	0.1	mm
Height	0.9	0.1	mm
Acoustic Port	Ø0.5	0.05	mm

Pin#	Definition	Туре	Description
1	Output	Signal	Output Signal
2	GND	Ground	Ground
3	GND	Ground	Ground
4	V_{DD}	Power	Power Supply

Notes: Dimensions are in mm unless otherwise specified.

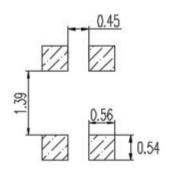
Tolerance is ±0.10mm unless otherwise specified

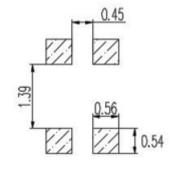
All Ground Pin must be connected to the ground in end application.

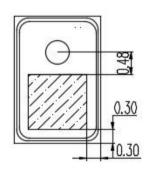
EXAMPLE LAND PATTERN

EXAMPLE SOLDER STENCIL PATTERN

EXAMPLE PICK UP LOCATION



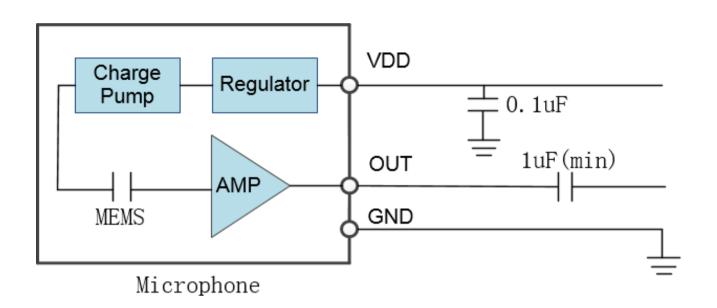




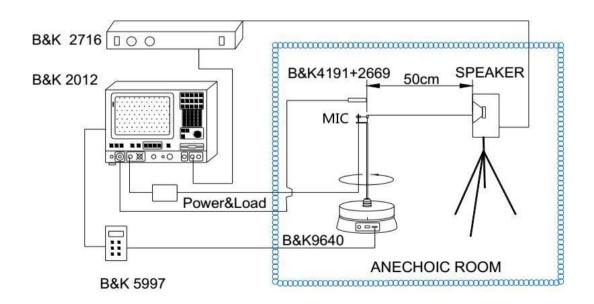
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SCHEMATIC MEASURING DIAGRAM



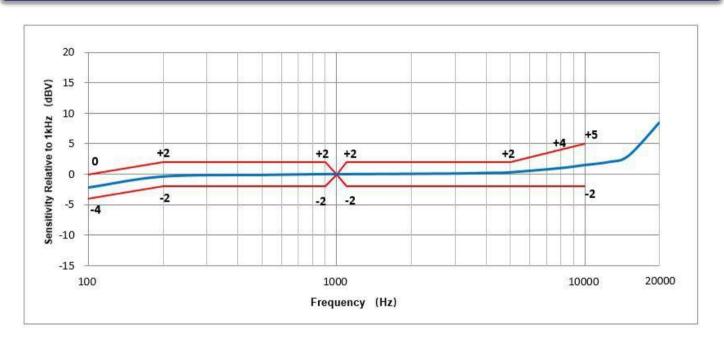
MEASUREMENT SYSTEM SETUP



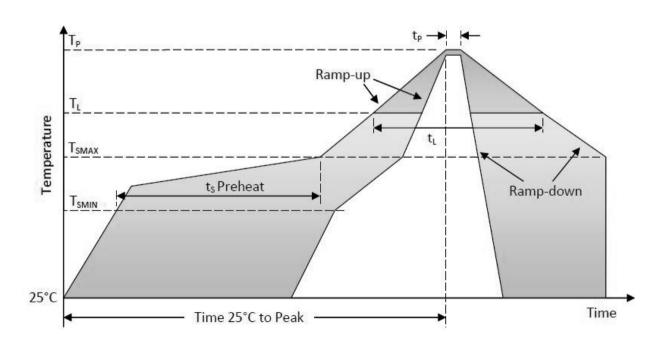


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FREQUENCY CHARACTERISTICS



REFLOW PROFILE





Paramete	Reference	Specification	
Average Ramp-u	TL to TP	3°C/sec max	
	Minimum Temperature	Tsmin	150°C
Preheat	Maximum Temperature	TSMAX	200°C
	Time Tsмın to Tsмax	ts	60 -180 sec
Ramp-up Rate		Tsmax to Tl	1.25°C/sec
Time Maintained Above Liquidous		t∟	60-150 sec
Liquidous Temperature		TL	217°C
Peak Temperature		Тр	260°C
Time Within +5°C of Actual Peak Temperature		t₽	20 -40 sec
Ramp-down Rate		Tp to Tsmax	6°C/sec max
Time 25°C to Peak Temperature			8 min max

STORAGE CONDITION

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

Operating temperature range: $-40 \sim +100$ °C. MSL (moisture sensitivity Level) is Class 1

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RELIABILITY SPECIFICATIONS

The microphone should be placed in the room with 23 ± 2 °C, $55\pm10\%$ 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 ±3 dB from its initial value unless otherwise noted, and shall keep its initial operation and appearance.

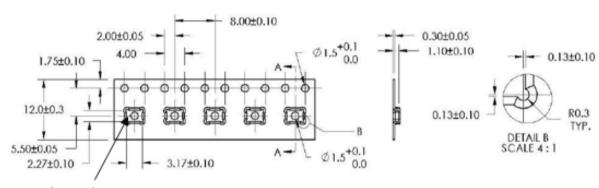
NO.	ltem	Detail
		Samples for qualification testing require 3 Times 260±5 $^{\circ}$ C
1	Reflow	reflow solder profiles. 2 hours of setting time is required between each reflow profile test.
2	Humidity Test	Precondition at +25 $^{\circ}$ C for 1 hour. Then expose to +85 $^{\circ}$ C with 85% relative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



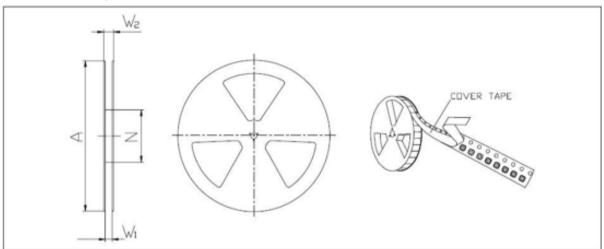


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PACKAGING



Acoustic port



Α	W1	W2	Ν	Quantity per Reel
Ø 330	12.4±1.5	18.4 MAX	Ø 100	5000

Unit: mm

APPROVAL

DRAWN BY	AR, January 13, 2025
APPROVED BY	CP, January 13, 2025
REVISION	A, Initial Release

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