



Datasheet

RS PRO Piezo Audio Indicator

EN



A. SCOPE

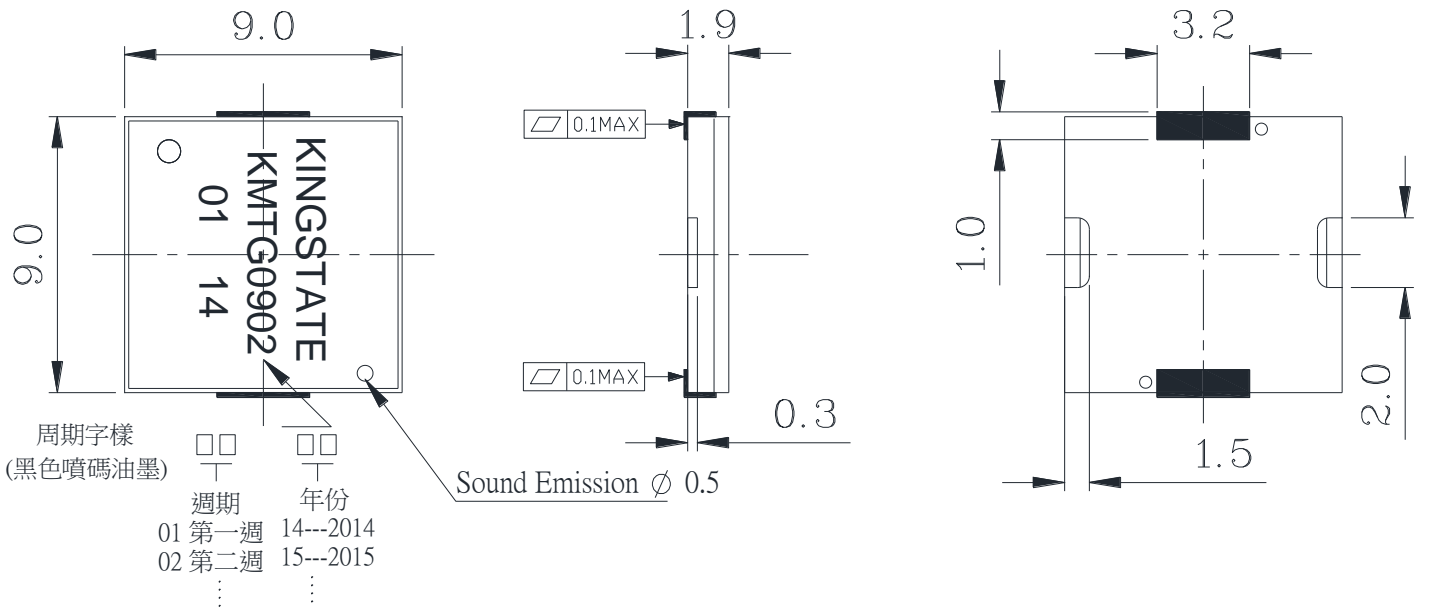
This specification applies piezo audio transducer, 1812640

B. SPECIFICATION

No.	Item	Unit	Specification	Condition
1	Operating Volt. Range	Vp-p	MAX 25	
2	Current consumption	mA	MAX 5	at 3Vp-p,square wave,4.0KHz.
3	Sound pressure level	dB	MIN 65	at 10cm/3Vp-p,square wave,4.0KHz
4	Electrostatic capacity	pF	12,000 ± 30%	at 100Hz/1V
5	Operating temp.	°C	-30 ~ +70	
6	Storage temp.	°C	-40 ~ +85	
7	Dimension	mm	L9.0 x W9.0 x H1.9	See appearance drawing
8	Weight (MAX)	gram	0.2	
9	Material		LCP (Black)	
10	Terminal		SMD type /Plating Sn)	See appearance drawing
11	Environmental Protection Regulation		HSF	
12	Storage life	month	6	6 months preservation at room temp.(25±3°C), Humidity40%

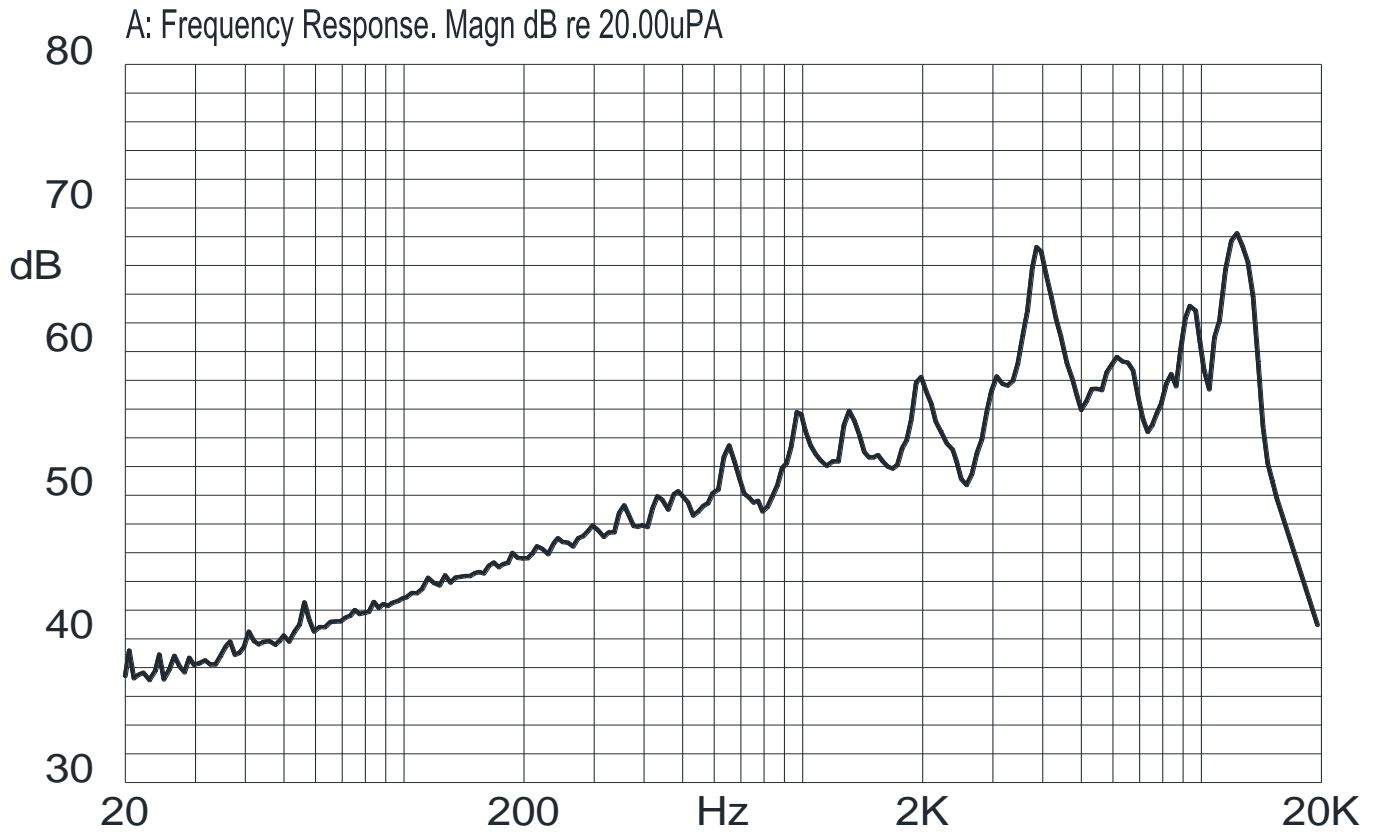


C. APPEARANCE DRAWING



Tol: ± 0.3
Unit: mm

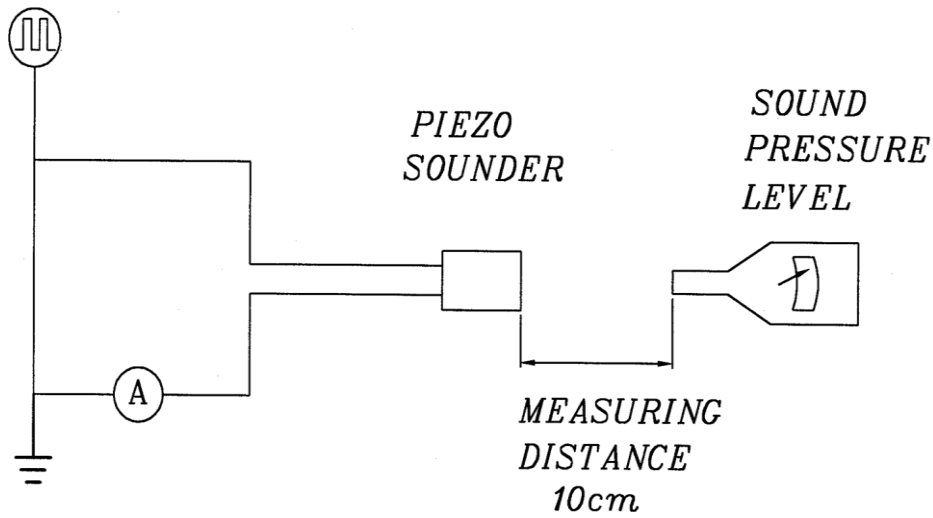
D. TYPICAL FREQUENCY RESPONSE CURVE



E. MEASURING METHOD

S.P.L. Measuring Circuit

Input Signal: 3Vp-p,4.0kHz, Square Wave



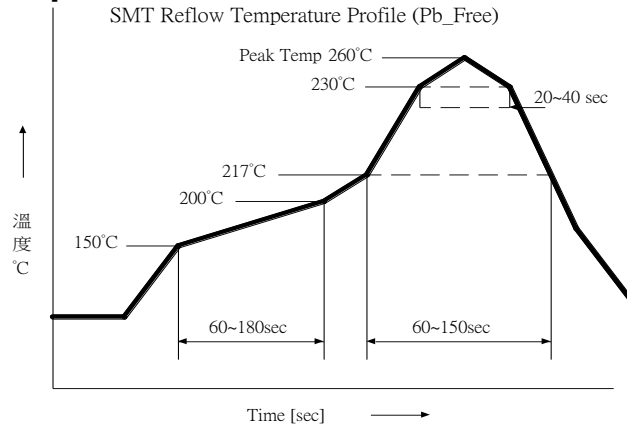
Mic : RION S.P.L meter UC30 or equivalent

S.G : Hewlett Packard 33120A Function Generator or equivalent

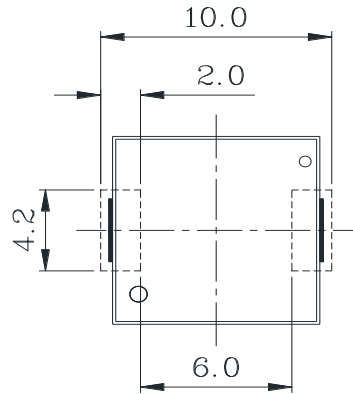
F. MECHANICAL CHARACTERISTICS

No.	Item	Test Condition	Evaluation standard
1	Solderability	Lead terminals are immersed in solder bath of $+350\pm 5^{\circ}\text{C}$ for 3 ± 1 second.	95% surface of lead pads must be covered with fresh solder
2	Soldering Heat Resistance	The product is followed the reflow temperature curve to test its reflow thermo stability.	No interference in operation.
3	Terminal Mechanical Strength	Lead pads shall be soldered on the pc board, and the force 9.8N(1.0kg) shall be applied behind the part for 10 seconds.	No damage and cutting off
4	Vibration	Buzzer shall be measured after being applied vibration of amplitude of 1.5mm with 10 to 55hz band of vibration frequency to each of 3 per-pendicular directions for 2 hours.	The value of oscillation frequency/ current consumption should be in $\pm 10\%$ compared with initial ones .The SPL should be in $\pm 10\text{dB}$ compared with initial one.
5	Drop test	The part only shall be dropped from a height of 75cm onto a 40mm thick wooden board 3 times in 3 axes (X.Y.Z). (a total of 9 times).	
6	Temperature tolerance of Conductive Silver Paste	Conductive Silver Paste curing at 150°C and then it can bear temperature less than 260°C.	No interference in operation.
7	Survivability of Reflow process	Buzzer cannot through reflow process more than 2 times and please reference Temperature profile as figure 'G. Recommended Temperature Profile For Reflow Oven ' is recommended.	No interference in operation.

G. Recommended Temperature Profile For Reflow Oven



H. Recommended land pattern



Recommendable Land Pattern

I. ENVIRONMENT TEST

No.	Item	Test Condition	Evaluation standard
1	High temp. test	After being placed in a chamber at +85°C for 240 hours	Being placed for 4 hours at +25°C, buzzer shall be measured. The value of oscillation frequency/ current consumption should be in ±10% compared with initial ones. The SPL should be in ±10dB compared with initial one.
2	Low temp. test	After being placed in a chamber at -40°C for 240 hours	
3	Humidity test	After being placed in a chamber at +40°C and 90±5% relative humidity for 240 hours	
4	Temp. cycle test	<p>The part shall be subjected to 5 cycles. One cycle shall be consist of::</p> <p>Temperature cycle test profile: -40°C, +25°C, +85°C, +25°C. Cycle duration: 3 hours. Segments: 0.5hr, 0.25, 0.5hr, 0.5hr, 0.5hr, 0.25.</p>	

J. RELIABILITY TEST

No.	Item	Test condition	Evaluation
1	Operating life test	1.Continuous life test 48 hours continuous operation at +55°C with rated voltage applied. 2.Intermittent life test A duty cycle of 1 minute on, minutes off, a minimum of 5000 times at room temp.(+25 ±2°C)and rated voltage applied.	Being placed for 4 hours at +25°C , buzzer shall be measured. The value of oscillation frequency/ current consumption should be in ±10% compared with initial ones .The SPL should be in ±10dB compared with initial one.

TEST CONDITION.

Standard Test Condition: a) Temperature : +5 ~ +35°C b) Humidity : 45-85% c) Pressure : 860-1060mbar

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Judgement Test Condition: a) Temperature : +25 ± 2°C b) Humidity : 60-70% c) Pressure : 860-1060mbar

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