



# Datasheet

## RS PRO Piezo Audio Indicator

EN

RS Stock No: 181-2744



### A. SCOPE

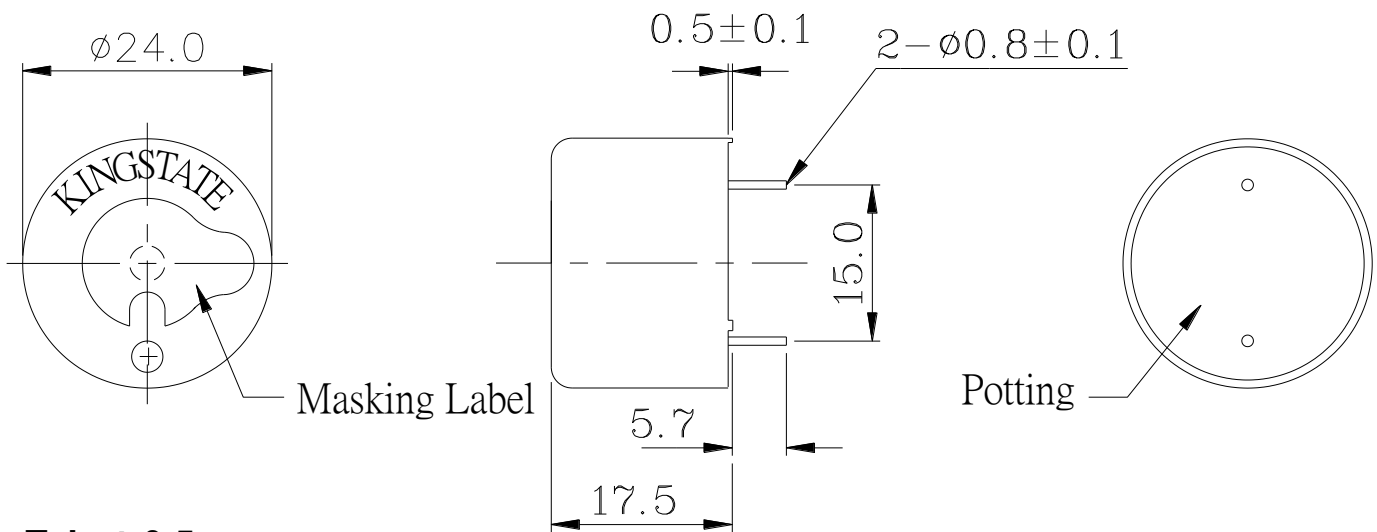
This specification applies piezo audio indicator, 1812665

### B. SPECIFICATION

| No. | Item                                | Unit  | Specification                          | Condition                                                 |
|-----|-------------------------------------|-------|----------------------------------------|-----------------------------------------------------------|
| 1   | Resonant frequency                  | KHz   | 3.5 ± 0.5                              |                                                           |
| 2   | Operating Volt. range               | VDC   | 8~ 18                                  |                                                           |
| 3   | Current consumption                 | mA    | MAX 13                                 | at 12VDC                                                  |
| 4   | Sound pressure level                | dB    | MIN 91                                 | at 30cm/12VDC                                             |
| 5   | Rated Voltage                       | VDC   | 12                                     |                                                           |
| 6   | Tone                                |       | Continuous                             |                                                           |
| 7   | Operating temp.                     | °C    | -30 ~ +85                              |                                                           |
| 8   | Storage temp.                       | °C    | -40 ~ +95                              |                                                           |
| 9   | Dimension                           | mm    | φ 24.0 x H17.5                         | See appearance drawing                                    |
| 10  | Weight (MAX)                        | gram  | 1.2                                    |                                                           |
| 11  | Material                            |       | ABS UL-94 1/16" HB HIGH HEAT ( BLACK ) |                                                           |
| 12  | Terminal                            |       | Pin type (/Plating Sn)                 | See appearance drawing                                    |
| 13  | Environmental Protection Regulation |       | RoHS                                   |                                                           |
| 14  | Storage life                        | month | 6                                      | 6 months preservation at room temp. (25±3°C), Humidity40% |



## C. APPEARANCE DRAWING

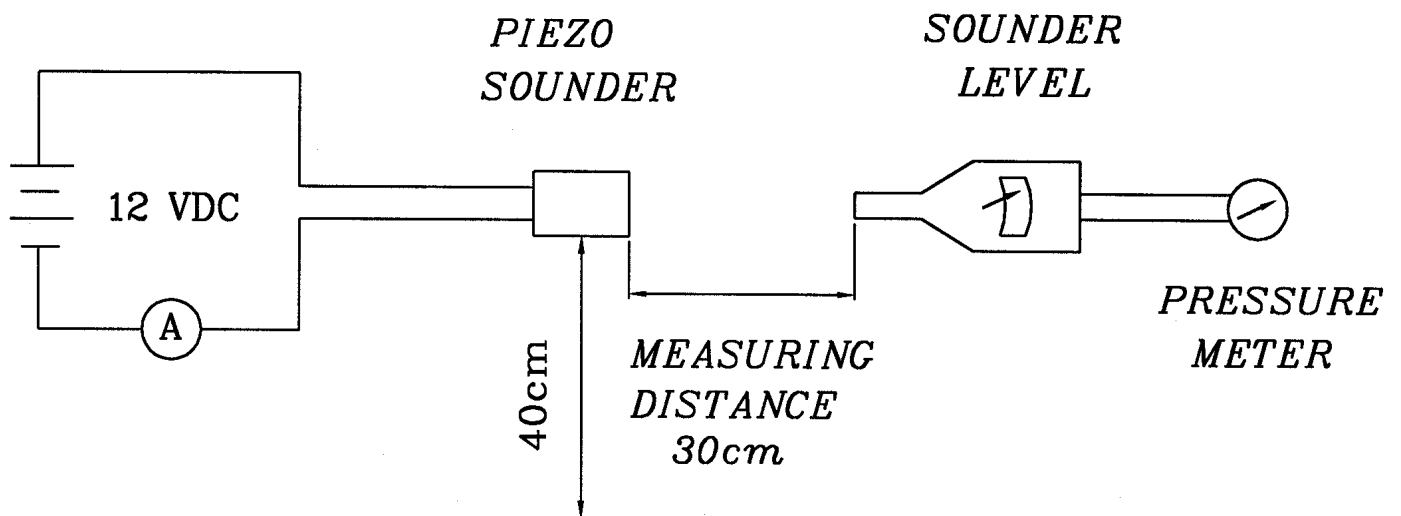


**Tol :  $\pm 0.5$**

**Unit : mm**

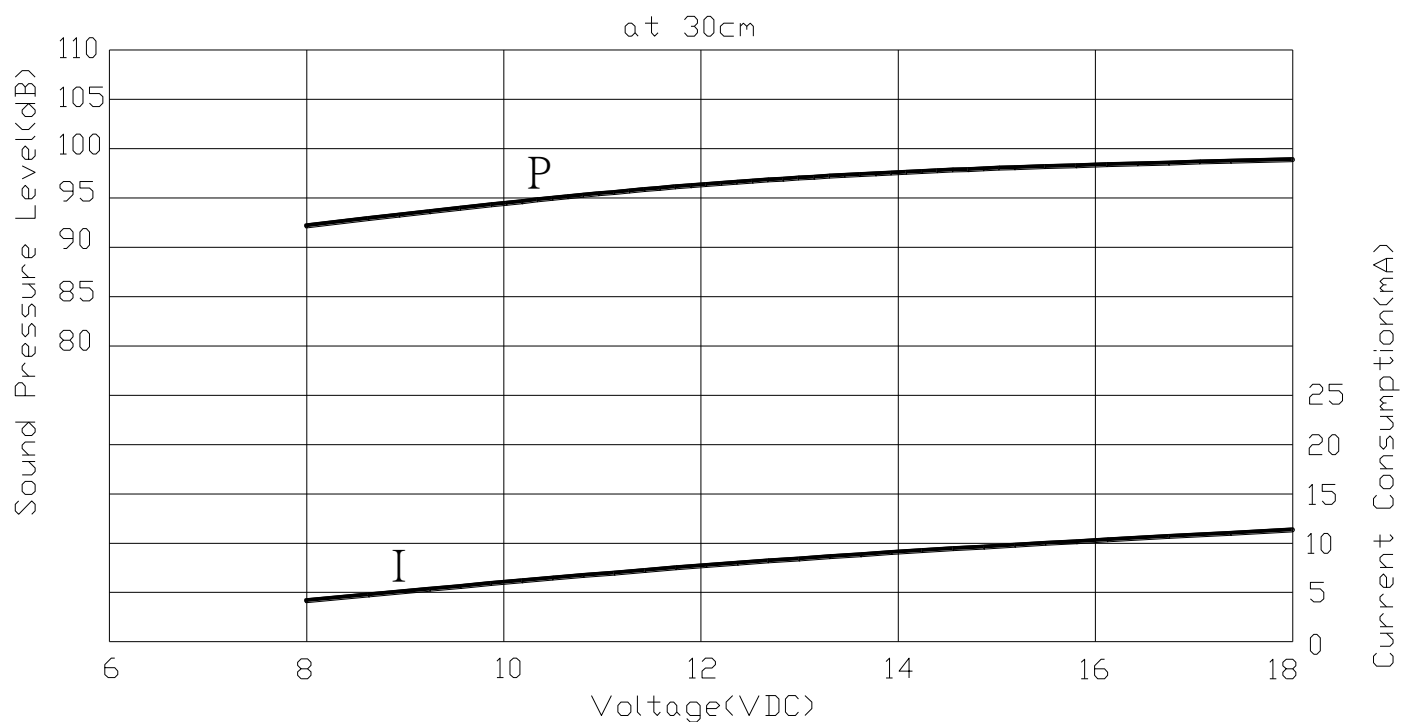
## D. MEASURING METHOD

S.P.L. Measuring Circuit



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

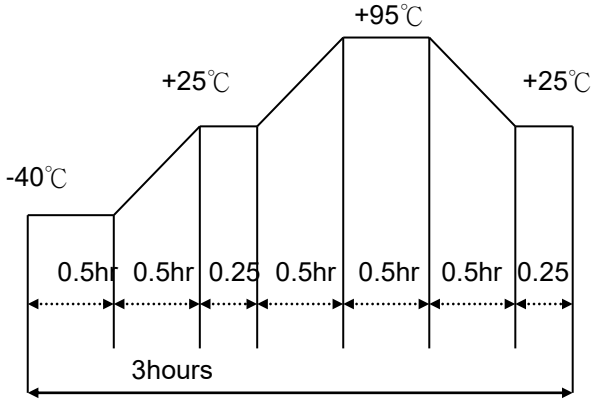
## E. VOLTAGE: SOUND PRESSURE LEVEL / VOLTAGE: CURRENT CONSUMPTION CHARACTERISTICS



## F. MECHANICAL CHARACTERISTICS

| No. | Item                         | Test condition                                                                                                                                                                        | Evaluation standard                                                                                                    |
|-----|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| 1   | Solderability                | Lead terminals are immersed in rosin for 5 seconds and then immersed in solder bath of $+270\pm 5^{\circ}\text{C}$ for $3\pm 1$ seconds.                                              | 90% min. lead terminals shall be wet with solder. (Except the edge of terminal)                                        |
| 2   | Soldering Heat Resistance    | Lead terminal are immersed up to 1.5mm from sounder's body in solder bath of $+300\pm 5^{\circ}\text{C}$ for $3\pm 0.5$ seconds or $+260\pm 5^{\circ}\text{C}$ for $10\pm 1$ seconds. | No interference in operation                                                                                           |
| 3   | Terminal Mechanical Strength | The force 10 seconds of 9.8N (1.0kg) is applied to each terminal in axial direction.                                                                                                  | 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 10% compared with initial ones .The SPL should be |
| 5   | Drop test                    | <b>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).</b>                                           | in $\pm 10\text{dB}$ compared with initial one.                                                                        |

## G. ENVIRONMENT TEST

| No. | Item             | Test Condition                                                                                                                                                     | Evaluation standard                                                                                                                                                                                                                        |
|-----|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | High temp. test  | After being placed in a chamber at +95°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 $\pm 10\%$ compared with initial ones. The SPL should be in $\pm 10\text{dB}$ 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 $\pm$ 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>  |                                                                                                                                                                                                                                            |

## H. RELIABILITY TEST

| No. | Item                | Test condition                                                                                                                                                                                                                                                                                   | Evaluation                                                                                                                                                                                                                                 |
|-----|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Operating life test | <p>1. Continuous life test<br/>48 hours continuous operation at +70°C with maximum rated voltage applied.</p> <p>2. Intermittent life test<br/>A duty cycle of 1 minute on, 1 minutes off, a minimum of 5000 times at room temp.( +25<math>\pm</math>2°C) and maximum rated voltage applied.</p> | Being placed for 4 hours at +25°C, buzzer shall be measured. 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. |

### TEST CONDITION.

Standard Test Condition : a) Temperature : +5 ~ +35°C b) Humidity : 45-85%

Judgement Test Condition : a) Temperature : +25  $\pm$  2°C b) Humidity : 60-70%

c) Pressure : 860-1060mbar

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