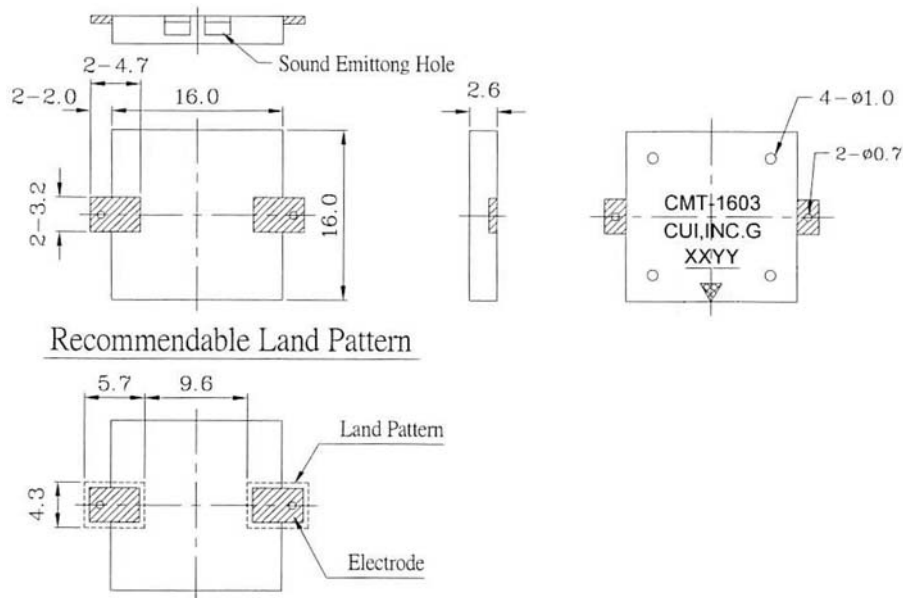


## Specifications

Operating voltage	25 Vp-p max.	
Current consumption	3 mA max.	at 3 Vp-p, square wave, 4.0 KHz
Sound pressure level	70 db min.	at 10 cm / 3 Vp-p, square wave, 4.0 KHz
Electrostatic capacity	14,000 pF $\pm 30\%$	at 1 KHz / 1 V
Operating temperature	-30 ~ +70° C	
Storage temperature	-40 ~ +85° C	
Dimensions	L16.0 x W16.0 x H2.6 mm	
Weight	0.96 g max.	
Material	LCB (White) + PCB (FR4)	
Terminal	Pin type (Sn Plating)	
RoHS	yes	

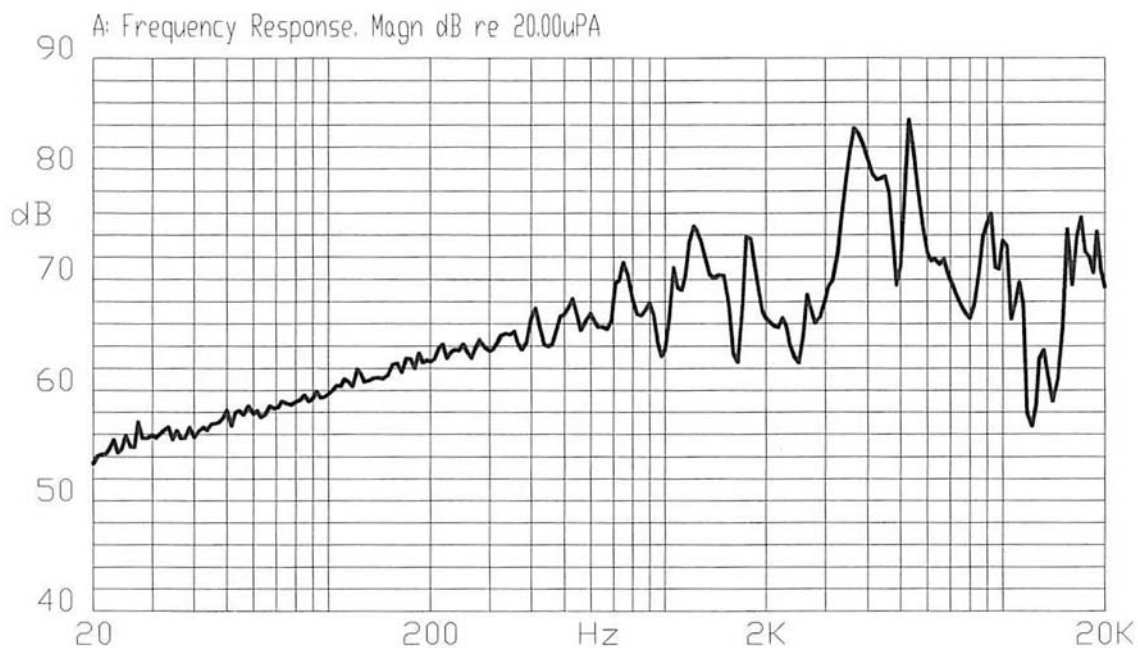
## Appearance Drawing

Tolerance:  $\pm 0.2$

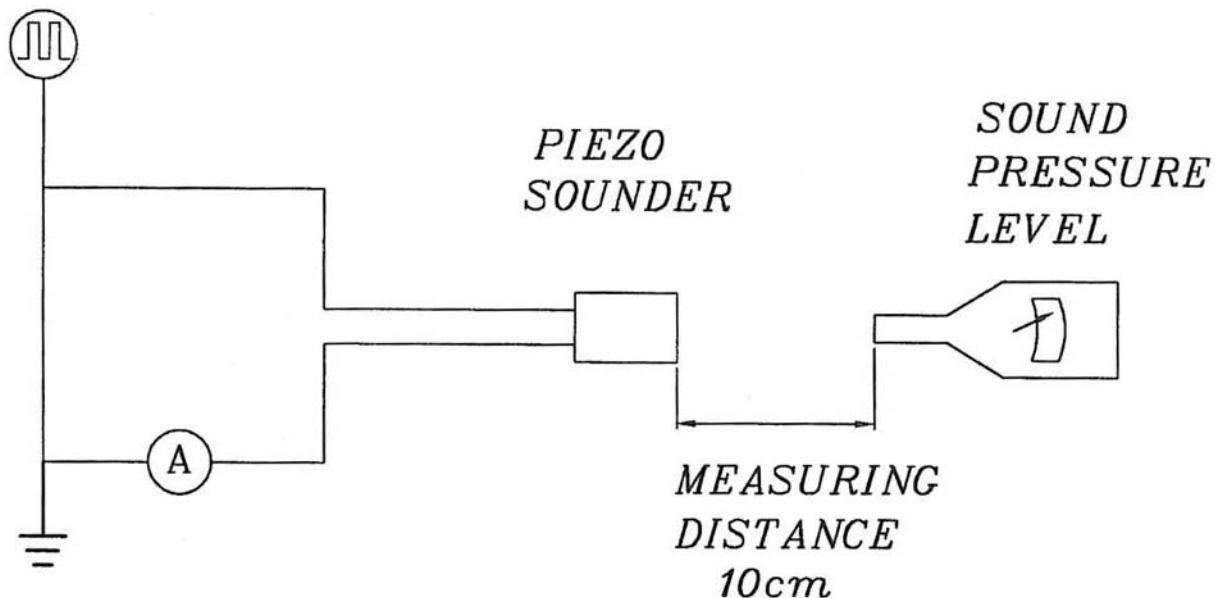


**CUI INC****Part No: CMT-1603****Description: piezo audio transducer****Date: 9/19/2006****Unit: mm****Page No: 2 of 6**

## Typical Frequency Response Curve



## Measurement Method



S.P.L. Measuring Circuit

Input Signal: 3 V p-p, 4.0 KHz, Square Wave

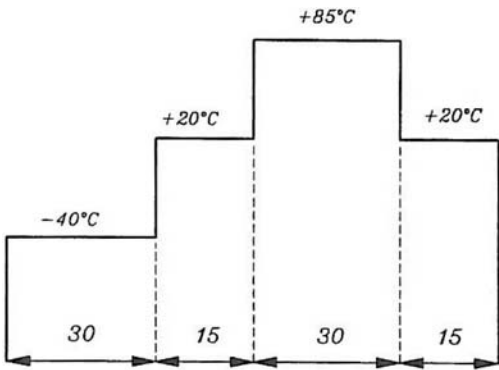
Mic: RION UC 30

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

**Mechanical Characteristics**

<b>Item</b>	<b>Test Condition</b>	<b>Evaluation Standard</b>
Solderability	Lead terminals are immersed in rosin for 5 seconds and then immersed in solder bath of $270 \pm 5^{\circ}\text{C}$ for $2 \pm 0.5$ seconds.	95% of the surface of the lead pads should be covered with solder.
Soldering Heat Resistance	1) IR Reflow Pre-heating conditions should be $150\sim 200^{\circ}\text{C}$ for 60 to 180 seconds. Ascending time up to $245^{\circ}\text{C}$ should be longer than 55 seconds. Heating conditions should be within 20 to 40 seconds at $245^{\circ}\text{C}$ min. Peak temperature should be lower than $255^{\circ}\text{C}$ . The transducer should be measured after 1 hour in normal conditions.  2) Soldering Iron A soldering iron of $270 \pm 5^{\circ}\text{C}$ should be placed 0.5mm away from the electrode of the transducer. Melted solder should be applied to the electrode for $3 \pm 1$ seconds. The transducer should be measured after 4 hours in normal conditions.	No interference in operation.
Terminal Mechanical Strength	For 10 seconds, the force of 9.8N (1.0kg) is applied to each terminal in axial direction.	No damage or cutting off.
Vibration	The transducer should be subjected to a vibration cycle of 10 to 55 Hz band of vibration frequency for a period of 1 minute. Total peak amplitude should be 1.5mm. The vibration test should consist of 2 hours per axis in each axial direction (X, Y, Z) for a total of 6 hours.	After the test, the part should meet specifications without any damage in appearance or performance except for SPL. The SPL should be within $\pm 10\text{dB}$ compared with the initial measurement.

## Environment Test

Item	Test Condition	Evaluation Standard
High temp. test	After being placed in a chamber at +85°C for 240 hours.	<p>The transducer should be measured after being placed at +25°C for 4 hours. The value of the oscillation frequency/current consumption should be <math>\pm 10\%</math> compared to the initial measurements. The SPL should be within <math>\pm 10\text{dB}</math> compared to the initial measurements.</p>
Low temp. test	After being placed in a chamber at -40°C for 240 hours.	
Humidity test	After being placed in a chamber at +40°C and $90\pm 5\%$ relative humidity for 240 hours.	
Temp. cycle test	The part shall be subjected to 5 cycles. One cycle will consist of:	
		

## Reliability Test

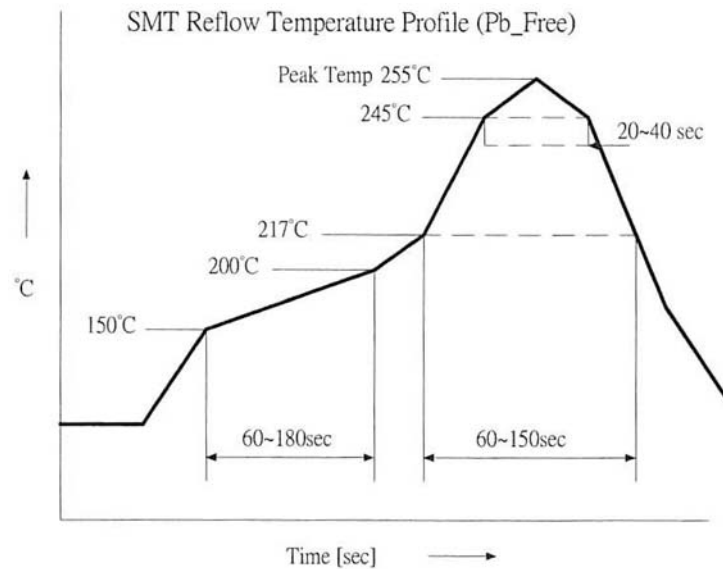
Item	Test Condition	Evaluation Standard
Operating (Life Test)	<p>1. Continuous life test: The part will be subjected to 48 hours of continuous operation at +55°C with rated voltage applied.</p> <p>2. Intermittent life test: A duty cycle of 1 minute on, 1 minute off, a minimum of 5,000 times at room temp (+25 <math>\pm 2^\circ\text{C}</math>) with rated voltage applied.</p>	<p>The transducer will be measured after being placed at +25°C for 4 hours. The value of the oscillation frequency/current consumption should be <math>\pm 10\%</math> compared to the initial measurements. The SPL should be within <math>\pm 10\text{dB}</math> compared to the initial measurements.</p>

## Test Conditions

Standard Test Condition	a) Temperature: +5 ~ +35°C	b) Humidity: 45 - 85%	c) Pressure: 860-1060 mbar
Judgement Test Condition	a) Temperature: +25 $\pm 2^\circ\text{C}$	b) Humidity: 60 - 70%	c) Pressure: 860-1060 mbar



## Recommended Temperature Profile for Reflow Oven



Note: 255°C is less than 20 seconds, but only pass the lead free reflow once



**CUI INC**

Part No: CMT-1603

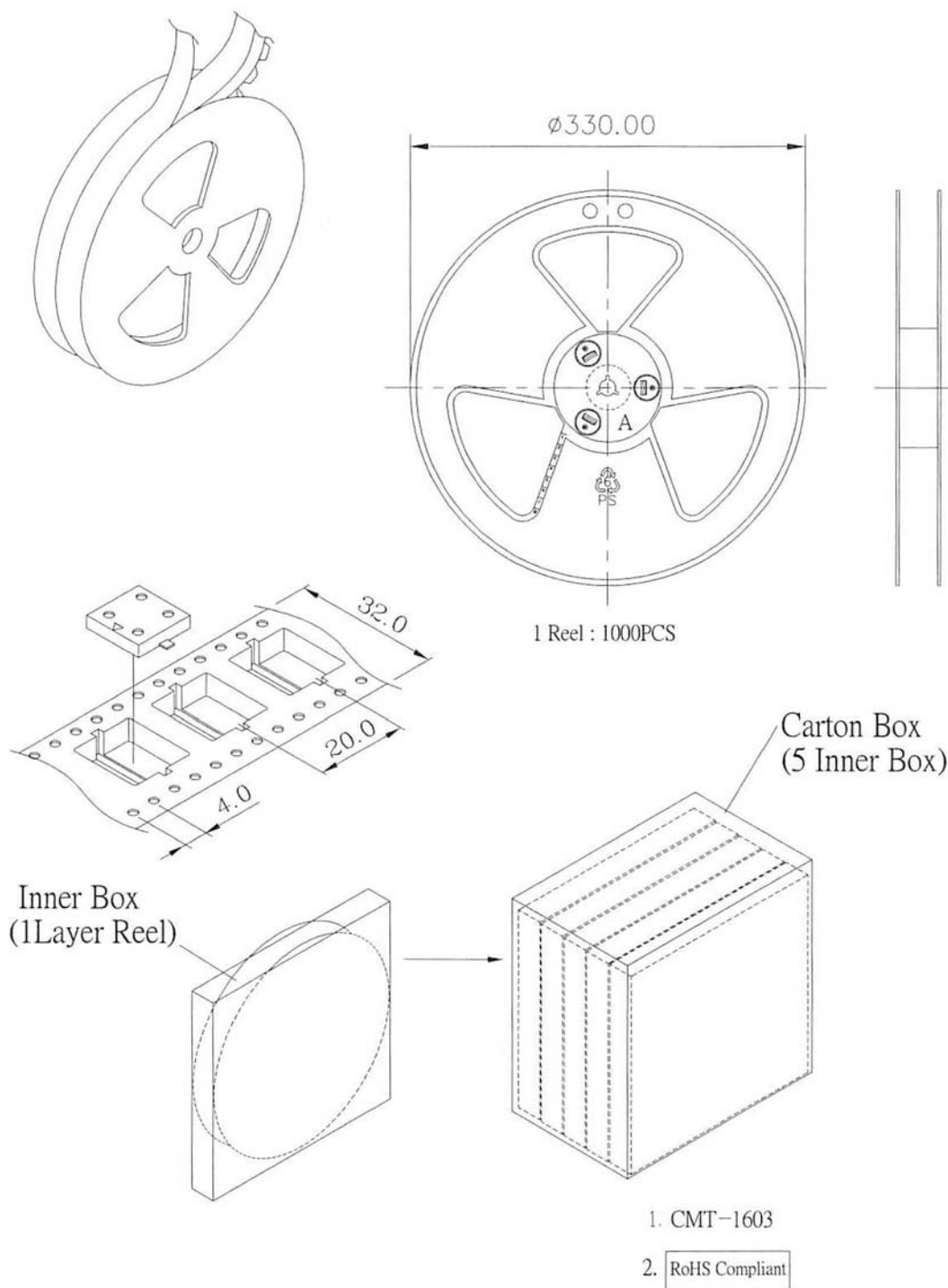
Description: piezo audio transducer

Date: 9/19/2006

Unit: mm

Page No: 6 of 6

## Packaging



Inner Box	340mmx340mmx40mm	1x1000PCS=1000PCS
Carton Box	350mmx175mmx355mm	5x1000PCS=5000PCS