



No. EQM08-4KC-D3BX404E

**PRELIMINALY**

Messrs : \_\_\_\_\_

**APPROVAL SHEET**  
(KYOCERA CORPORATION PIEZO BUZZER SPECIFICATION)  
(RoHS Compliant Product)

APPROVED

(Please sign here and send copy back to us.)

Kindly send us back a copy of this specification sheet with your signature.  
The specifications shall be regarded as "APPROVED" unless we received your disagreement or  
Counterproposal before your placement of initial order for the part number specified.

Part No. KBS-27DA-5C-105

Date Mar. 10. 2008

KYOCERA CORPORATION

Drawn by

Checked by

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 Checked by
 

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 Approved by
 

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**1.SCOPE**

This specification shall cover the characteristics of the Piezoelectric Acoustic Generator for Buzzer, Ringer and etc.

2.KYOCERA PART No. : KBS-27DA-5C-105

**3.ELECTRICAL CHARACTERISTICS**

	ITEM	SPEC
3-1.	Resonant Frequency (Fr)	4.6 +/- 0.5 kHz
3-2.	Resonant Impedance (Ro)	1,500 ohms MAX.
3-3.	Static Capacitance (Cd)	20,000 pF +/- 30%
3-4.	Temperature Characteristics	As shown in Table 1. At - 20deg. C to + 60deg. C
3-5.	Input Voltage	30Vp-p MAX.
3-6.	Operating Temperature	- 20deg. C to + 60deg.C
3-7.	Storage Temperature	- 30deg. C to + 70deg.C
3-8.	DC Voltage	Not to be applied between electrodes.

**4.MEASUREMENT****4-1.Measurement Conditions.**

The reference temperature shall be 25+/-2deg.C. The measurement shall be performed at the temperature range of 5deg.C to 35deg.C unless the result is doubtful.

**4-2.Measurement Instruments.****4-2-1:Resonant Frequency (Fr) and Resonant Impedance (Ro)**

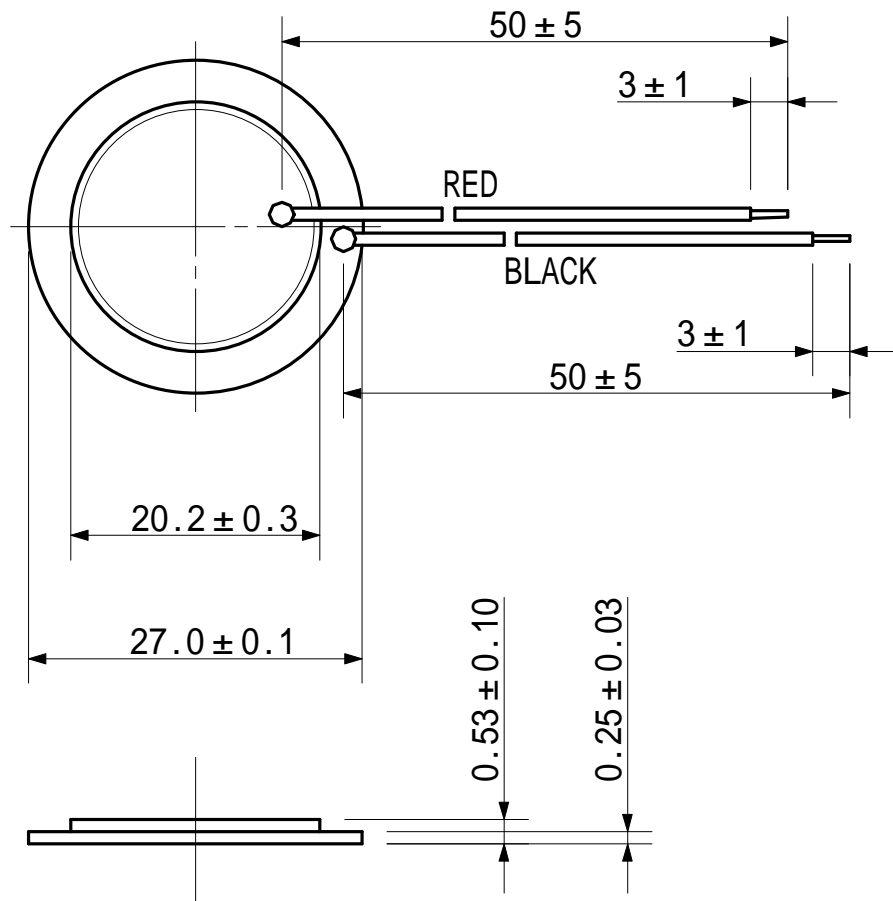
Impedance/Gain-Phase Analyzer H.P.4194A

**4-2-2:Static Capacitance.**

LCR Meter (Y.H.P.4261A) at 1kHz

## 5.Appearance

## 5-1.Drawing



- |              |         |
|--------------|---------|
| 1) Metal     | :Brass  |
| 2) Ceramic   | :KPM-31 |
| 3) Electrode | :Silver |
| 4) Leads     | :AWG-32 |
| 5) Unit      | :mm     |

5-2. The elements shall be free from obvious contamination, deep scratches and metal deformation.

5-3. The tolerance of concentricity between the metal disc and the ceramic shall be within 1.5mm.

5-4. The exudation of bonding glue shall be within 1.5mm.

5-5. The crack of the ceramic disc shall be small.

- 1) To the center from the edge: within 0.5mm.
- 2) To the tangential direction: within 2.0mm.

## 6. ENVIRONMENTAL CHARACTERISTICS

### 6-1. Moisture Storage.

Keep the element at the 40 +/- 2deg.C and 90 to 95%(R.H.) for 96 +/-4 hours.

Then, release the element into the room conditions for 12hours prior to the measurement.

It shall fulfill the specifications in Table 2.

### 6-2. High Temperature Storage.

Subject the element to 70+/-5deg.C for 96+/-4 hours. Then, release the element into the room conditions for 12hours prior to the measurement.

It shall fulfill the specifications in Table 2.

### 6-3. Low Temperature Storage.

Subject the element to -30+/-5deg.C for 96+/-4 hours. Then, release the element into the room conditions for 12hours prior to the measurement.

It shall fulfill the specifications in Table 2.

### 6-4. Temperature Cycles.

Subject the element to a low temperature of – 30deg.C for 30minuts, followed by a high temperature of + 70deg.C for 30minuts. Cycling shall be repeated 5times with a transfer time of 15minuts max. at the room temperature. Then, release the element into the room conditions for 12hours prior to the measurement.

It shall fulfill the specifications in Table 2.

Table 1.

Resonant Frequency	Initial Value +/- 30% MAX.
Static Capacitance	Initial Value +/- 0.8%/deg.C MAX.

Initial Value at 20deg.C

Table 2.

Resonant Frequency	+/- 10% MAX.
Static Capacitance	+/- 10% MAX

## 7. Remark

Not to be applied DC voltage.

## 8. The environment hazardous substance (RoHS Compliant Certificate)

This product is compliant with the European RoHS material requirements.

(Lead in this product is exempted from the RoHS requirement in the ANNEX.)