

Description: piezo electric diaphragm

Date: 7/28/2006 Unit: mm

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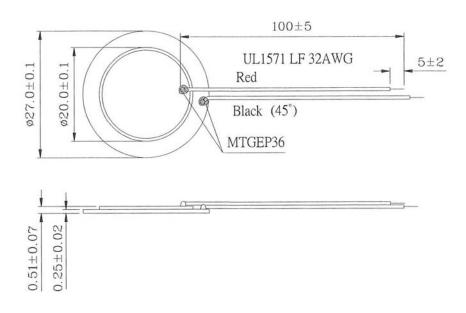


Specifications

Maximum input voltage	20 Vp-p	
Resonant frequency	4.6 ± 0.5 KHz	see Measurement Methods
Resonant impedance	250 Ω max.	see Measurement Methods
Electrostatic capacitance	16,000 ±30% pF	at 1 KHz / 1 V
Operating temperature	-20 ~ +70° C	
Storage temperature	-30 ~ +80° C	
Dimensions	Ø27.0 x H0.51 mm	
Weight	2.0 g max.	
Material	Brass	
Terminal	Wire type	
DC resistance	20 M Ω min.	Fluke 45 rate: Fast
		Measurement time: 1 second
		(only for ≤ 20 mm test)
RoHS	yes	

Appearance Drawing

Tolerance: ±0.5





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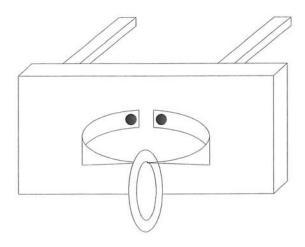
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Measuring Methods

1) Resonant frequency / Resonant impedance

The piezo electric diaphragm should be clamped at a node point (as shown in the following figure) to be free from any mechanical stress. Measure its resonant frequency and resonant impedance by using a vector impedance analyzer or equivalent.

When the input frequency is swept within 100 Hz to 7 KHz, the resonant frequency is defined as the frequency where the impedance shows minimum value. This impedance should be the resonant impedance.



2) Static capacitance

The electrostatic capacitance should be measured at 1 KHz by using an L.C.R. meter (ex. HP4194A(H.P.)) or equivalent. The part should be clamped in the same way as the measurement or resonant frequency / resonant impedance mentioned above.

Mechanical Characteristics

Item	Test Condition	Evaluation Standard
Solderability	Stripped wires of lead wires are immersed in	90% min. of the stripped wires
(Connector excepted)	rosin for 5 seconds and then immersed in	will be wet with solder. (Except
	solder bath of 270 ±5°C for 3 ±0.5 seconds.	the edge of the terminal)
Lead Wire Pull Strength	The horizontal force of 3.0N (0.306kg) should	No damage or cutting off.
_	be applied to the double lead wire for 30 sec.	
Vibration	The diaphragm should be measured after	The value of the resonant
	applying a vibration amplitude of 1.5 mm with	frequency should be ±10% of the
	10 to 55 Hz band of vibration frequency to each	initial measurements.
	of the 3 perpendicular directions for 2 hours.	Electrostatic capacitance should
		be ±20% compared with the initial
		measurement. The SPL should
		be within ±10dB compared
		with the initial measurement.



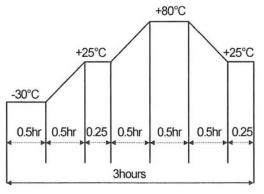
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Environment Test

Item	Test Condition	Evaluation Standard
High temp. test	After being placed in a chamber at +80°C for	
	240 hours.	
Low temp. test	After being placed in a chamber at -30°C for	
•	240 hours.	
Humidity test	After being placed in a chamber at +40°C and	
	90±5% relative humidity for 240 hours.	The diaphragm will be
Temp. cycle test	The part shall be subjected to 5 cycles. One	after being placed at -
	cycle will consist of:	hours. The value of the
	+80°C	resonant frequency sh
		±10%, the value of the



The diaphragm will be measured after being placed at +25°C for 4 hours. The value of the resonant frequency should be $\pm 10\%$, the value of the electro static capacitance should be $\pm 20\%$ compared to the initial measurements. The resonant impedance should be 2,000 Ω max.

Test Conditions

Standard Test Condition Judgement Test Condition a) Tempurature: +5 ~ +35°C

a) Tempurature: +25 ±2°C

b) Humidity: 45 - 85%

c) Pressure: 860-1060 mbar

b) Humidity: 60 - 70% c) Pressure: 860-1060 mbar

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Packaging

