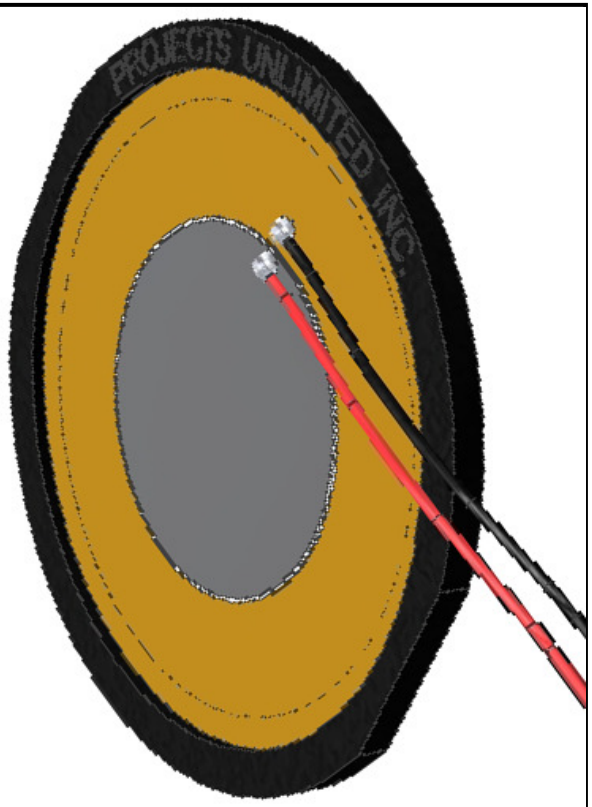
pui audio™ inc
a projects unlimited company
3541 Stop Eight Road • Dayton, Ohio 45414

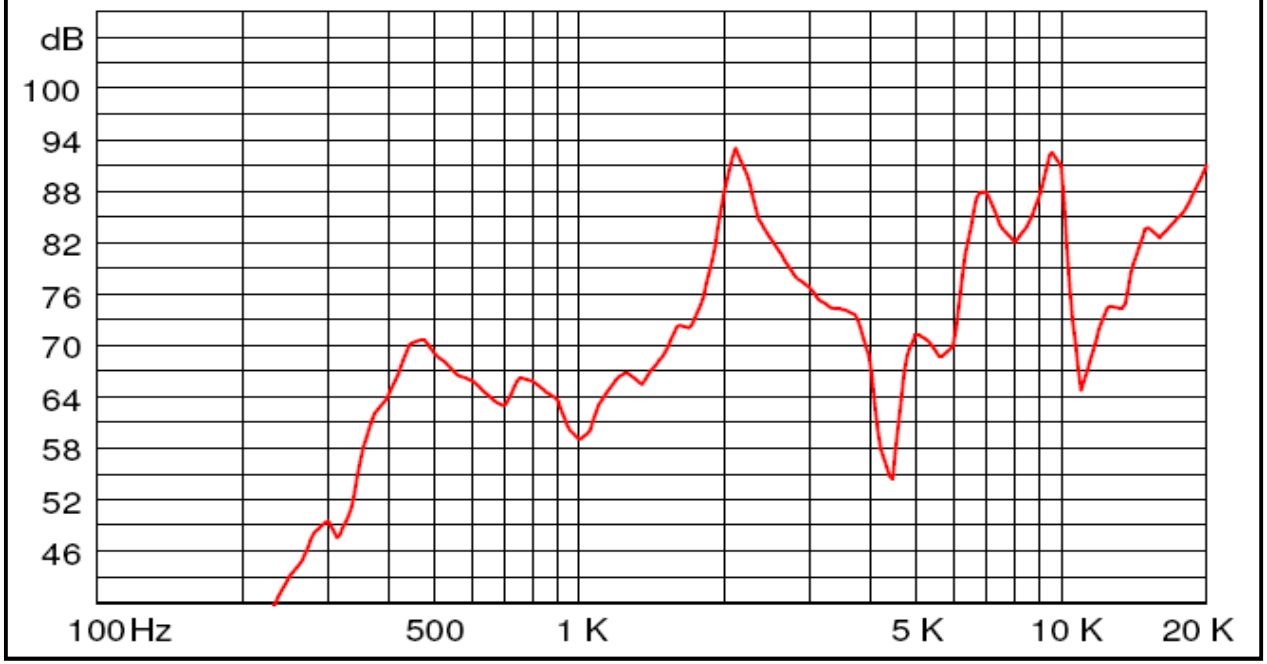
APS4812B-LW100-R
48mm Piezo Speaker



Product Overview

- 48mm diameter speaker built using a piezo ceramic for minimum current draw
- Designed to work with TTL or CMOS signals as high as 30Vp-p
- Only 2.2 mm thick for slim devices that need high output
- Convenient 100mm leads for quick connection

Frequency Response (5Vp-p @ 10 cm)



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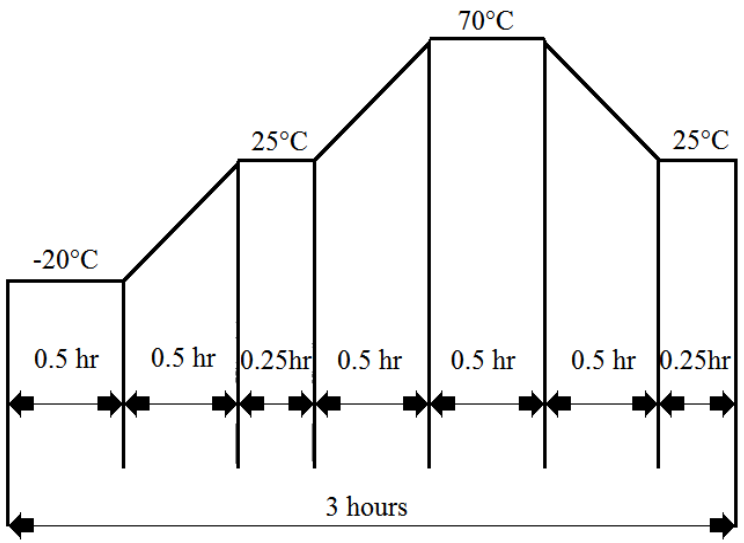
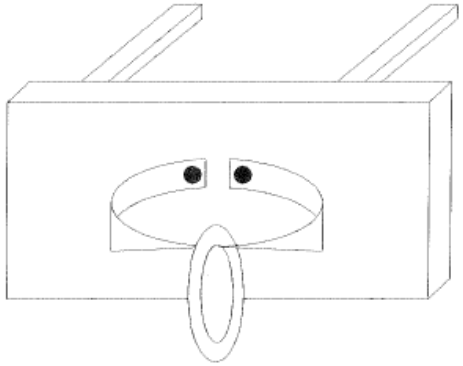
Mechanical and Environment Testing	
Test Description	**Test Condition**
High Temperature	70°C with random humidity for 240 hours
Low Temperature	-20°C with random humidity for 240 hours
Humidity	40°C with 90% to 95% relative humidity for 240 hours
Vibration	1.5 mm movement modulated at 10 to 55 Hz for 2 hours
Drop Test	75 cm free fall onto 40 mm thick board, 10 cycles
Temperature Cycle Test	-20°C to 70°C, 5 cycles (refer to Temperature Cycle Test Graph)
After 4 hours at rest, resonant frequency shall be ±10% of original value with capacitance ±20% of original value.	

Temperature Cycle Test Graph





The piezo ceramic diaphragm shall be clamped at a nodal point as shown in the figure above and be free from any mechanical stress. The resonant frequency and resonant impedance is measured using sine sweep analysis. The resonant frequency is defined where the impedance shows minimum value; this shall also be the resonant impedance.

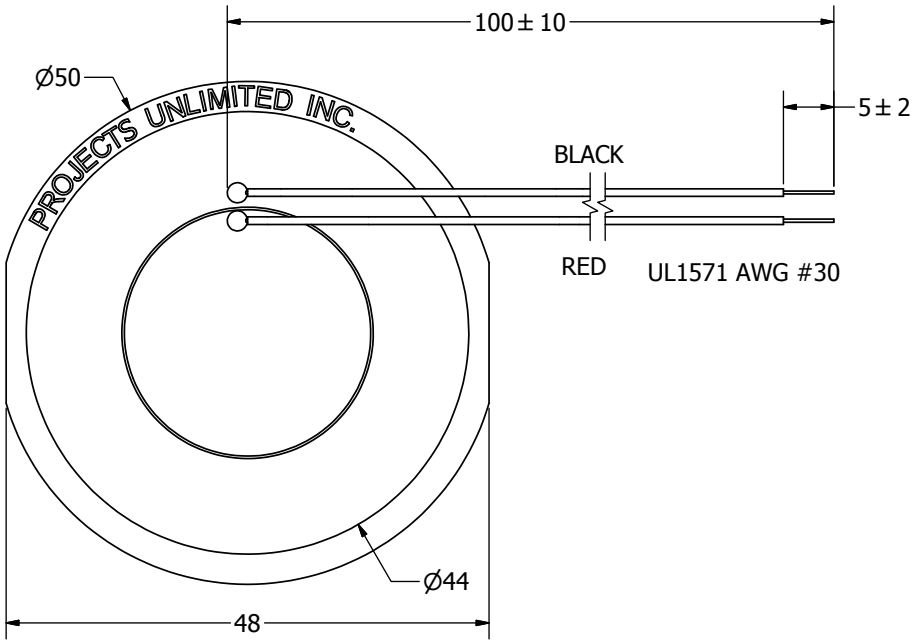
Capacitance is measured at 120 Hz using an LCR meter such as a Hewlett Packard HP49194A.

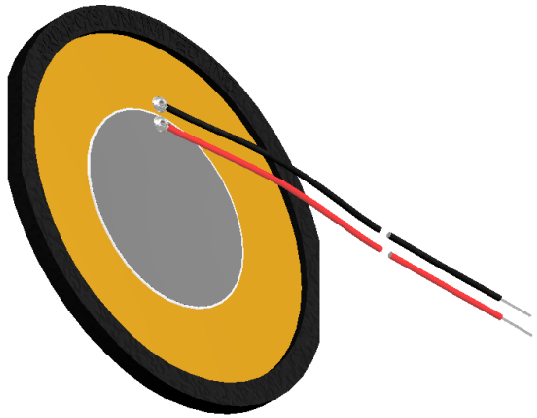
SPECIFICATIONS

PARAMETERS	VALUES	UNIT
OPERATING VOLTAGE (MAX)	30	Vp-p
CAPACITANCE @ 1kHZ	65,000 ± 30%	pF
RESONANT FREQUENCY	1,200 ± 200	Hz
RESONANT IMPEDANCE(MAX)@1Khz	3,500 ± 10%	Ohm
OPERATING TEMPERATURE	-20 ~ +70	°C
STORAGE TEMPERATURE	-20 ~ +70	°C
PLATE MATERIAL	BRASS	-
HOUSING MATERIAL	ABS	-
TERMINAL MATERIAL	LEAD WIRE	-
WEIGHT	3	grams

REVISION HISTORY

LTR	DESCRIPTION	DATE	APPROVED
-	RELEASED FROM ENGINEERING	9/12/2006	
A	REVISED TO INVENTOR 3-D DRAWING TEMPLATE	8/20/2007	B.R.





NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. SPECIFICATIONS SUBJECT TO CHANGE OR WITHDRAWL WITHOUT NOTICE.
3. THIS PART IS RoHS 2002/95/EC COMPLIANT.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS, TOLERANCES ARE ±0.5 AND ANGLES ARE ±3°.	SIZE	Designed by	Date	Checked by	Date	Approved by	Date	Drawn Date
		J.D.	9/6/2006	B.R.	9/6/2006	R.W.	9/6/2006	8/20/2007

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Mouser Electronics

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