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**audio**™ inc  
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## AT-1224-TWT-R 12mm Transducer

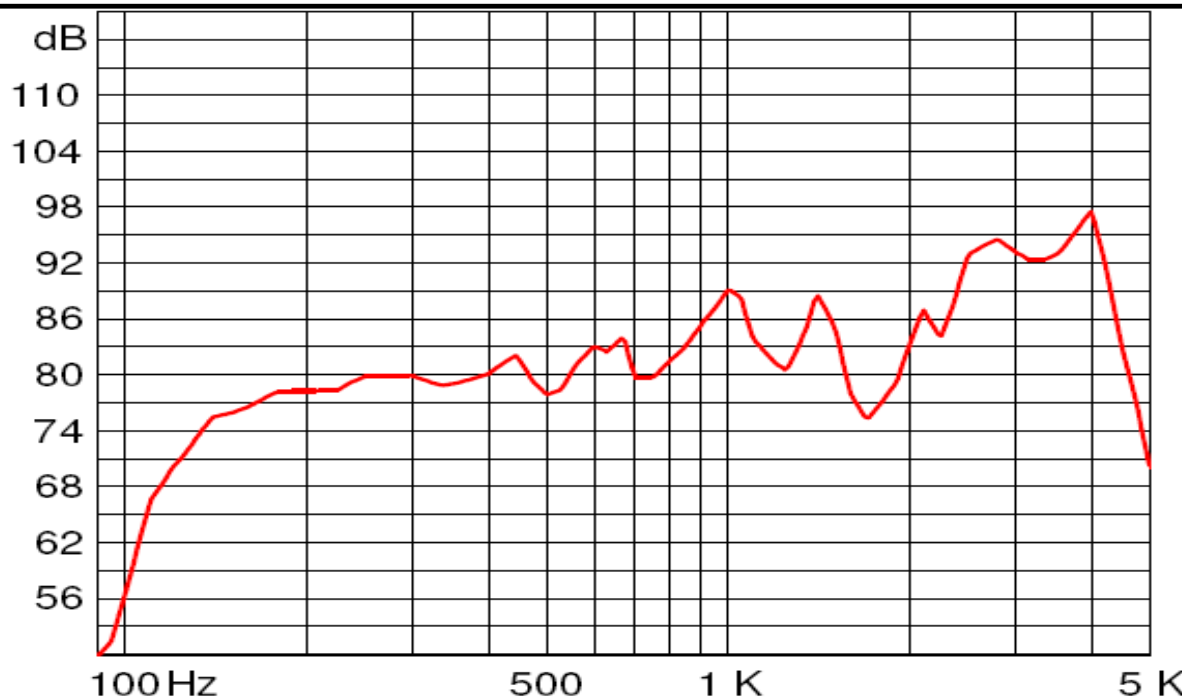
3541 Stop Eight Road • Dayton, Ohio 45414

### Product Overview

- 12mm diameter transducer with 40 mA current draw
- 85 dBA minimum output (5 Vp-p @ 10 cm) and 2.4 kHz resonant frequency
- Noryl™ housing withstands Wave soldering temperatures
- Removable wash tag preserves performance



Frequency Response (5 Vp-p @ 0.1 meters)



RoHS COMPLIANT





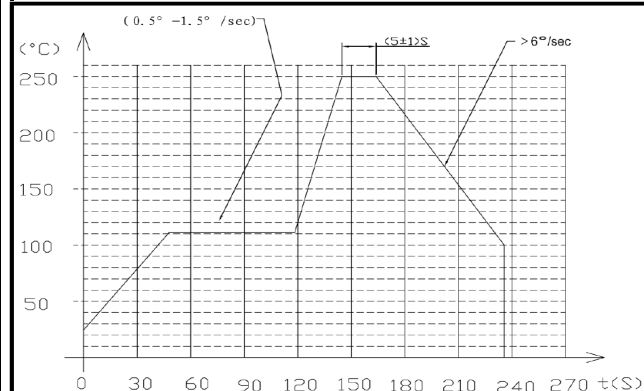
# AT-1224-TWT-R 12mm Transducer

## Mechanical and Environment Testing

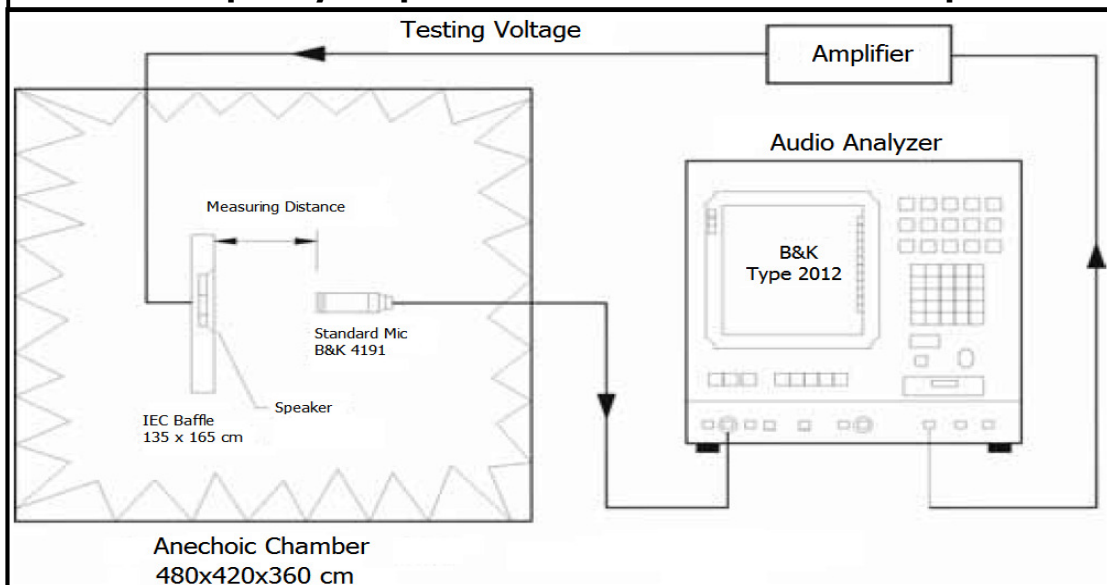
Test Description	Test Condition
High Temperature	80°C ( $\pm 2^\circ\text{C}$ ) with random humidity for 96 hours
Low Temperature	-25°C ( $\pm 2^\circ\text{C}$ ) with random humidity for 96 hours
Humidity	40°C ( $\pm 2^\circ\text{C}$ ) with 90% to 95% relative humidity for 96 hours
Vibration	0.75 mm movement modulated at 10-55 Hz for 3 hours
Drop Test	100 cm free fall onto wood board, 10 cycles
Temperature Cycle Test	-30°C to 80°C, 100 cycles

After tests, part shall rest for 2 hours. Parts are then tested for clean, pure tones.

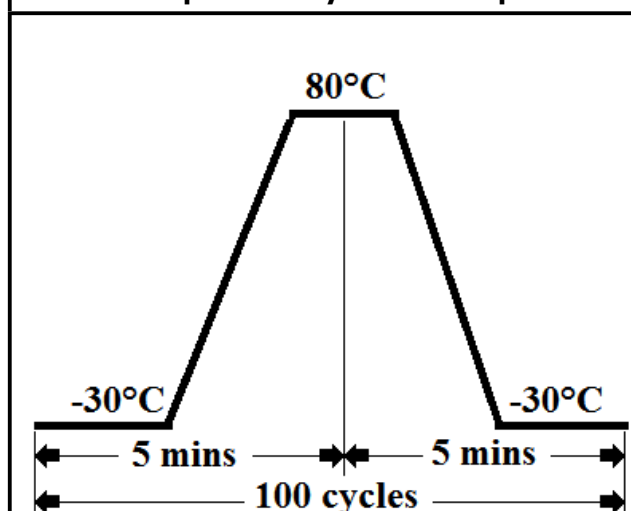
## Wave Solder Profile



## Frequency Response and SPL Measurement Setup



## Temperature Cycle Test Graph



## SPECIFICATIONS

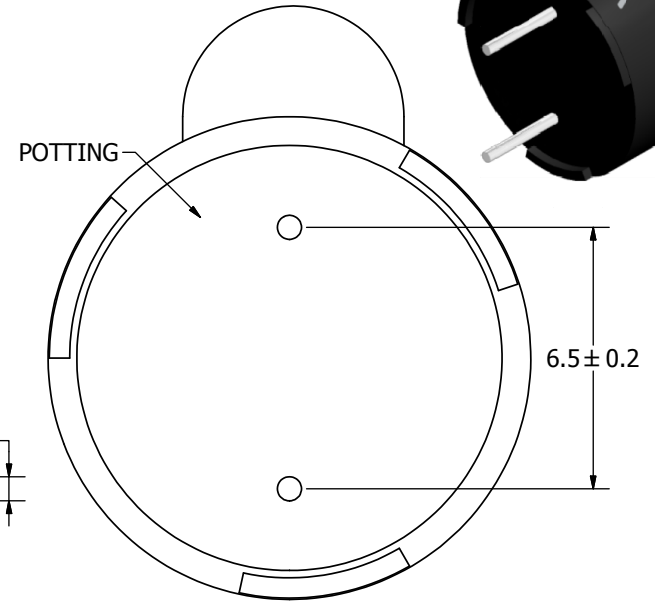
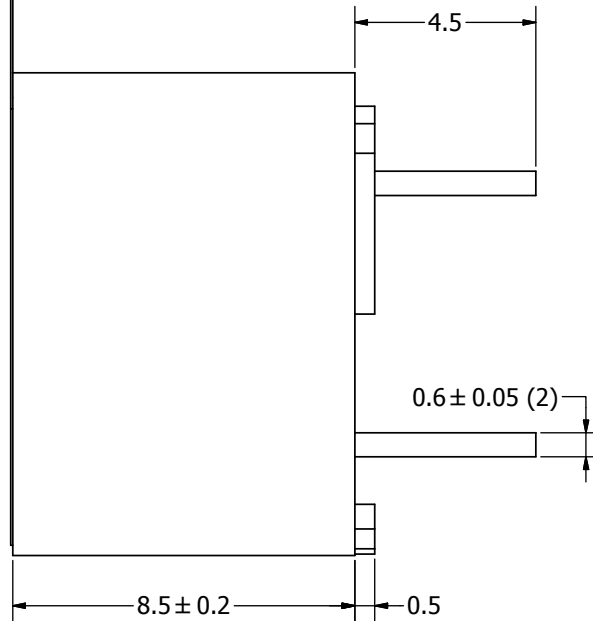
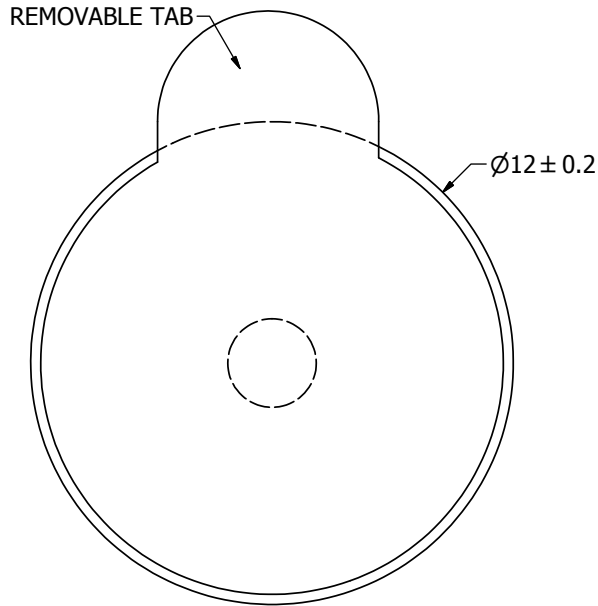
PARAMETERS	VALUES	UNITS
RATED VOLTAGE (SQUARE WAVE)	5	Vp-p
OPERATING VOLTAGE RANGE	3 ~ 8	Vp-p
RATED CURRENT (MAX)	40	mA
COIL RESISTANCE	47 ± 9.4	OHM
MINIMUM SPL @ 10 CM	85	dBA
RESONANT FREQUENCY	2,400 ± 500	Hz
OPERATING TEMPERATURE	-40 ~ +70	°C
STORAGE TEMPERATURE	-40 ~ +80	°C
HOUSING MATERIAL	NORYL	-
TERMINAL MATERIAL	Sn PLATED RED COPPER	-
WEIGHT	2	grams

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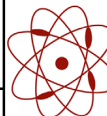
## REVISION HISTORY

LTR	DESCRIPTION	DATE	APPROVED
-	RELEASED FROM ENGINEERING	6/9/2004	
A	ADDED RESONANT FREQUENCY TOLERANCE	9/13/2004	R.W.
B	REMOVED LEAD FREE ADDED RoHS NOTE	8/10/2005	E.P.
C	REVISED HEIGHT DIMENSION	4/11/2006	E.P.
D	ADDED PART NUMBER AND DATE CODE	8/23/2006	B.R.
E	REVISED OPERATING AND STORAGE TEMPERATURE	4/4/2007	D.F.
F	REVISED RoHS NOTE	2/16/2009	B.R.
G	REVISED TO INVENTOR 3-D DRAWING TEMPLATE	10/15/2009	B.R.



### NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. SPECIFICATIONS SUBJECT TO CHANGE OR WITHDRAWAL 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 <b>A3</b>	Designed by	Date	Checked by	Date	Approved by	Date	Drawn Date		
		R.A.C.	6/9/2004			R.W.	6/10/2004	10/15/2009		
AT-1224-TWT-R.idw		 <b>pui audio</b> a projects unlimited company		<b>AT-1224-TWT-R</b>			Transducer (Electro-Mech)		Edition -	Sheet 1 / 1