



PRODUCT INFORMATION

PART #

PT-40B

Revision: 1-2013



PIEZOELECTRIC ROUND SPEAKER

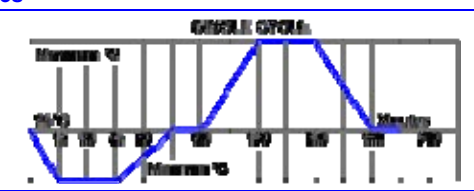
DESCRIPTION: Challenge Electronics Piezoelectric Speaker, **96.0** mm Diameter, Round shape, **19.0** mm High, **RA** = 80 W maximum power, **Plastic** Frame, Frequency Range (F) **2,500 to 22,000** Hz., **Blades** Terminals connection Termination, **GRILL** Screen, **RoHS** Compliant



SPECIFICATIONS

Shape	Round	Impedance	Not Applicable			DC Resistance				
Rated Power	Sine Wave 40 W	Square Wave	W	Maximum Power	Sine Wave	80 W	Square Wave			
Effective Frequency Band	2,500 Hz. to 22,000 Hz. within 10 dB Average SPL			Resonant Frequency (Fo)						
Sound Pressure Level	89 ± 3.0 dB(A), at 1 W, 1 m,			Average 3,000, 4,000, 5,000, 6,000 (Hz), at 25°C, Baffle board (IEC)						
Operating Temperature	-20°C to + 55°C		Storage Temperature	-20°C to +55°C						
Physical Dimensions	Length or Diameter (L /D)	96.0 mm Ø	Width (W)	mm	Height (H)	19.0 mm				
Baffle Opening	Length or Diameter (L /D)	mm Ø	Width (W)	Minimum Opening Recessed						
Mounting	Length or Diameter (L /D)	86.0 mm Ø	Width (W)	Holes size	4.5 mm Ø	No. of Holes	4			
Distortion	Less than 5% at 0.1 W 1.0 K Hz.									
Buzz & Rattle	Not be audible at 4 V, 2 W sine wave between 330 Hz. and 10,000 Hz.									
Polarity	When a positive DC Current is applied to the voice coil terminal marked + or red, the diaphragm shall move forward.									
Material	Magnet	Not Applicable, Piezoelectric Drive				Leakage Flux	Gauss			
	Frame	Plastic			Cone Material					
	Termination	Blade Terminals, Copper Tinned, 5.2 mm Wide for Quick Disconnect or Wire Lead Soldering. (Caution, overheating the terminal may damage connections of voice coil leads)								
	Optional Gasket									
Speaker Parameters	Qms	Qes	Qts	Vas	Cms	M	M/N	BL		
Approximate Weight	280 grams		Shielding	No	Compliance	RoHS				
Options	With a Front Grille									

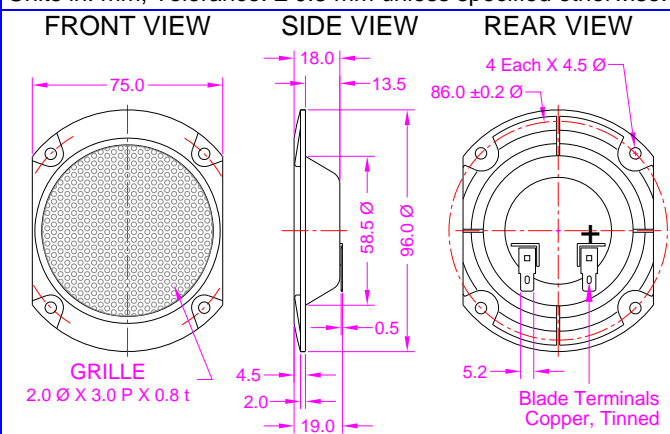
RELIABILITY

Maximum Power Test	10 Cycles, with program White-Noise source Maximum Power , 1 minute on, 2 minutes off, per (EIA) *
Thermal Operating Temperature Test	96 hours continuous operation at Rated Power , at Maximum Rated Operating Temperature *
	96 hours continuous operation at Rated Power , at Minimum Rated Operating Temperature *
Thermal Storage Temperature Test	96 hours storage at Maximum Rated Storage Temperatures *
	96 hours storage at Minimum Rated Storage Temperatures *
Thermal Shock Test	5 cycles of Minimum and Maximum Operating Temperature Each cycle shall be set per diagram below and is three (3) hours long *
	
Humidity Test	96 Hours at +40°C±2°C. 90-95% RH *
Insulation Test	A minimum of 1 MΩ, measured with 100 Vdc Insulation Resistance Meter, between the Electrical Terminals and the Transducer Case
Vibration Test	Parts in Shipping Container are subjected to 15 minutes of at 0.75 mm with 10 to 55 Hz. vibration frequency to each of 3 perpendicular directions *
Termination Strength	Maximum of 9.8 N (1.0 Kg) load pull test, applied to each terminal in axial direction for 10 seconds
Drop Test	Parts in Shipping Container are subjected to dropped naturally from 1 meter height onto the surface of 40 mm wooden board, 3 axes (X,Y,Z) directions, 3 times (9 times total) *
* Reliability Test Performance	Parts should conform to original performance within ±5 dB tested with Rated Power , after 3 hours of recovery period.
Life Test	100 hours continuous operation at Rated Power , with White-Noise simulated program signal source (per IEC 268-1) with a Vp to Vrms ratio of 1.8 to 2.2 in rated frequency range, (per IEC 268-5)
Warranty	For a period of one (1) year from date of shipping under normal operations conditions This warranty does not apply to products damaged through misuse, abuse, improper installation, alteration, rework, or attempt to repair

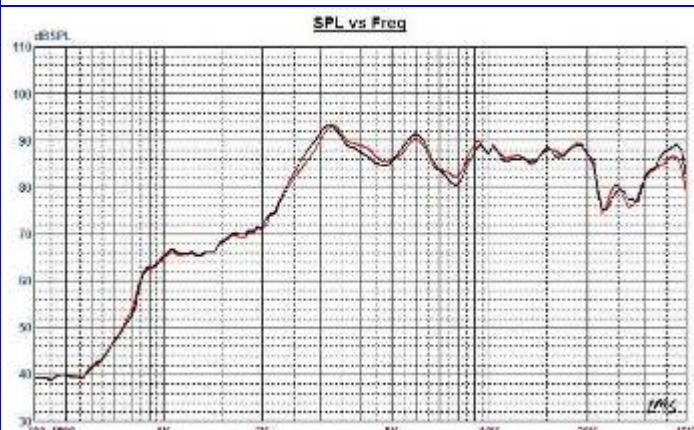


DIMENSIONS

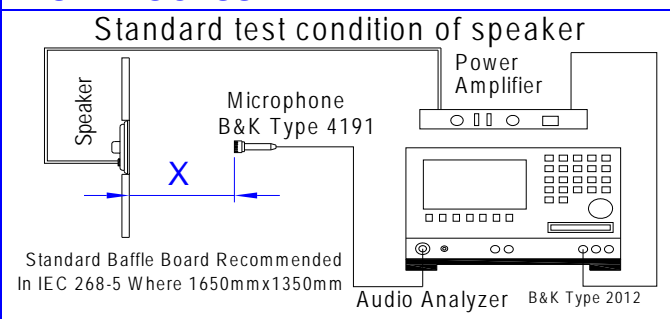
Units in: mm, Tolerance: ± 0.3 mm unless specified otherwise.



SPL vs. FREQUENCY RESPONSE



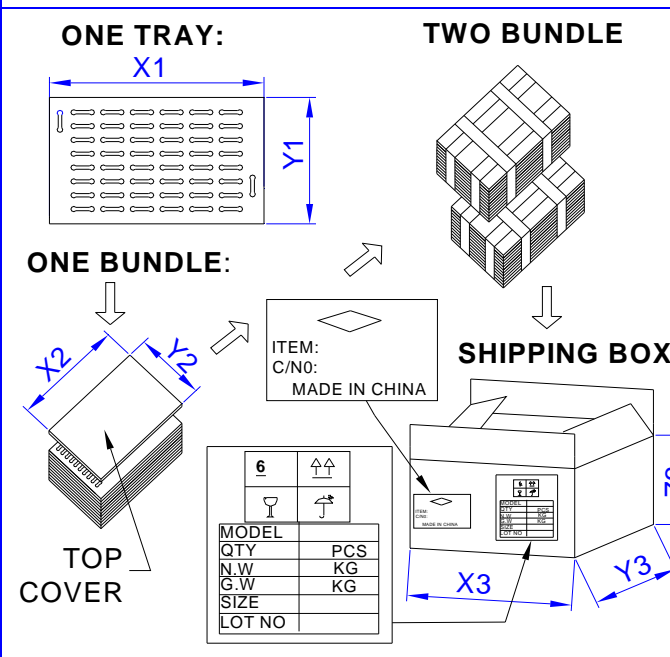
TEST PROCESS



Test Condition	
STANDARD	
Temperature:	15 ~ 35°C
Relative humidity:	45% ~ 85%
Atmospheric pressure:	860 mbar to 1060mbar
JUDGEMENT	
Temperature :	20±3°C
Relative humidity:	60% ~ 70%
Atmospheric pressure:	860mbar to 1060mbar

Standard Test Fixture	
Zero Level:	60 dB
Mode:	TSR
potentiometer Range:	50 dB
Sweep Time:	0.5sec
Input Power:	0.1 W
Microphone Distance:	X = 10 cm

PACKAGING



MARKING		TRAY	
Bundle		X1	cm
Customer PN	Dimensions	Y1	cm
Other PN if required		Z1	cm
Quantity		Quantity	
Lot and/or Date Code	BUNDLE		
Bundle Number	Dimensions	X2	cm
Shipping Box		Y2	cm
Customer Part Number		Z2	cm
Other PN (if required)	Quantity		
Quantity	SHIPPING BOX		
Lot and/or Date Code	Dimensions	X3	cm
PO Number		Y3	cm
Net Weight		Z3	cm
Gross Weight	Number of Bundles		
Box Number	Quantity		
of Number of Boxes	Approximate Weight		
Made in China	Kg.		

Revision	Description	By	Date
1-2013	Updated specifications for RoHS Compliance	ESZ	2/14/2013

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