



Challenge Electronics
95 East Jefryn Boulevard
Deer Park, NY 11729

Tel: 1-800-722-8197
1-631-595-2217
Fax: 1-631-667-5484

EMAIL: SALES@CHALLELEC.COM
WEB: WWW.CHALLEGELECTRONICS.COM

PRODUCT INFORMATION

PART #		CE-2808B36				Revision: 2-2013			
<div><div><div><div></div><div>Lead Free</div><div>RoHS</div><div>COMPLIANCE</div></div></div></div>		ROUND MICRO SPEAKER							
DESCRIPTION: Challenge Electronics Speaker, 28.0 mm diameter, Round shape, 5.6 mm High, CA = 2.0 W maximum power, 8 Ohm, Fe Steel Plated Frame, Mylar Cone, NdFeB Ferrite magnet, 580 Hz. (Fo) Resonant Frequency, PCB Solder Points Termination, RoHS, Lead Free Compliant.									
SPECIFICATIONS									
Shape		Round		Mounting					
DC Impedance		8 Ω \pm 15%, at: 1,000 Hz. 1.0 V		Rated Power		1.5 W		Maximum Power 2.0 W	
Effective Frequency Band		550 Hz. to 5,000 Hz.		Resonant Frequency (Fo)		580 Hz. \pm 20%, at 1.0 V			
Sound Pressure Level		92 \pm 3.0 dB(A), at: 0.5 W, 10 cm, Average 800, 1,000, 1,200, and 1,500 (Hz), at 25°C, Baffle board (IEC)							
Operating Temperature		-20°C to + 60°C		Storage Temperature		-20°C to +70°C			
Physical Dimensions		Length or Diameter (L /D)		28.0 mm \varnothing		Width (W)		Height (H) 5.6 mm	
Baffle Opening		Length or Diameter (L /D)		26.0 mm \varnothing		Width (W)		Minimum Opening Recessed 2.0 mm	
Mounting		Length or Diameter (L /D)		Width (W)		Holes size			
Distortion		Less than 5% at 1,000 Hz. at 0.1 W.							
Buzz & Rattle		Not be audible at 3.46 V sine wave between 20 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	Neodymium Iron Boron, NdFeB Ferrite, 12.5 mm \varnothing X 2.0 mm t				Flux Density		1,200 Gauss	
	Frame	Steel, Zinc plated				Cone Material		Mylar	
	Termination	PCB with Solder Points							
	Optional Gasket	With ABS Gasket							
Speaker Parameters		Qms		Qes		Qts		Vas	
Approximate Weight		grams		Shielding		None		Compliance	
Options		Flange Mounting							
RELIABILITY									
Maximum Power Test		With program White-Noise source Maximum Power, 1 minute on, 2 minutes off, 10 cycles, 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 at Maximum Rated Storage Temperatures *							
		96 hours 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 *				<div><div><div><div></div><div>SINGLE CYCLE</div></div></div><div><div><div><div></div><div>Maximum °C</div></div><div><div></div><div>25°C</div></div><div><div></div><div>Minimum °C</div></div></div><div><div></div><div>Minutes</div></div></div></div>			
Humidity Test		96 Hours at +40°C \pm 2°C. 90-95% RH *							
Operation Life Test		Must perform normal with program White-Noise source at Rated Power for 100 Hours per (EIA) *							
Insulation Test		A minimum of 1 M Ω , measured with 100 Vdc Insulation Resistance Meter, between the Electrical Terminals and the Transducer Case							
Vibration Test		15 minutes at 1.5 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		Dropped naturally from 1 meter height onto the surface of 40 mm wooden board, 3 axes (X,Y,Z) directions, 3 times (6 times total) *							
Reliability Test Performance *		Parts should conform to original performance within \pm 5 dB tested with Rated Power, after 3 hours of recovery period.							
Warranty		For a period of one (1) year from date of shipping under normal operations conditions							

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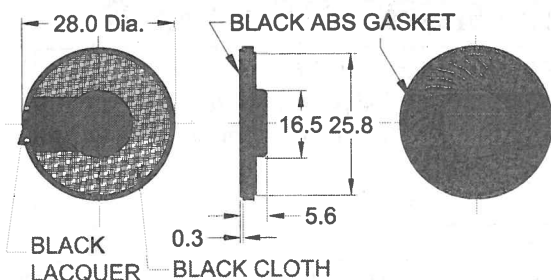
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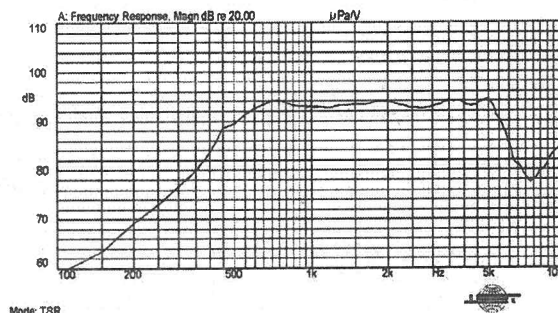
DIMENSIONS

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

BACK VIEW SIDE VIEW FRONT VIEW

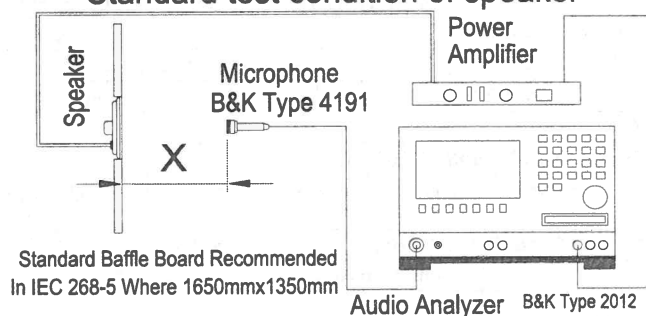


SPL vs. FREQUENCY RESPONSE



TEST PROCESS

Standard test condition of speaker



Test Condition

STANDARD
Temperature: 15 ~ 35°C
Relative humidity: 45% ~ 85%
Atmospheric pressure: 860 mbar to 1060mbar

JUDGEMENT
Temperature: 20 \pm 3°C
Relative humidity: 60% ~ 70%
Atmospheric pressure: 860mbar to 1060mbar

Standard Test Fixture

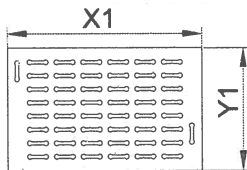
Input Power: 0.1W (3.46)
Zero Level: -dB
Mode: TSR
potentiometer Range: 50dB
Sweep Time: 0.5sec

Microphone Distance:

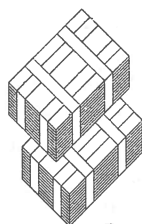
X = 0.1 m

PACKAGING

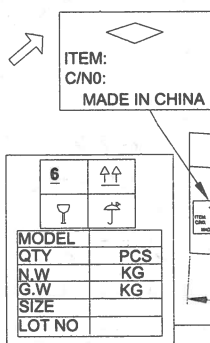
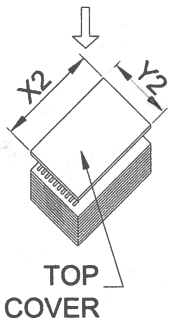
ONE TRAY:



TWO BUNDLE



ONE BUNDLE:



SHIPPING BOX

MARKING

TRAY

Bundle	Dimensions	X1	cm
Customer PN		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			

Revision	Description	By	Date
2-2013	Corrected diameter in Description	W.Sargent	10/28/2013

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