



# PRODUCT INFORMATION

<b>PART #</b>	<b>CE-50-11T-08F40CL-FER</b>	<b>Revision: 3-2012</b>
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## ROUND SPEAKER

**DESCRIPTION:** Challenge Electronics Speaker, 50.0 mm Diameter, Round shape, 23.5 mm High, DA = 3 W maximum power, 8 Ohm, Plated Steel Frame, Paper with Edge Cloth Surround Cone, NdFeB Ferrite magnet, 320 Hz. (Fo) Resonant Frequency, Wire Leads with Ferrite Bid and Connector Termination, RoHS Lead Free Compliant

### SPECIFICATIONS

<b>Shape</b>	Round	<b>Mounting</b>														
<b>DC Impedance</b>	8 Ω ± 15%, at 1,000 Hz., at 1.0 V		<b>Rated Power:</b>	2.0 W	<b>Maximum Power</b>	3.0 W										
<b>Effective Frequency Band</b>	320 Hz. to 10,000 Hz.		<b>Resonant Frequency (Fo)</b>	320 Hz. ± 20%, at 1.0 V												
<b>Sound Pressure Level</b>	91 ± 3.0 dB (A), at: 0.1 W, 0.1 m, Average 800, 1,000, 1,200, 1,500 (Hz ), 25°C., Baffle board (IEC)															
<b>Operating Temperature</b>	-20°C to + 55°C			<b>Storage Temperature</b>	-30°C to +65°C											
<b>Physical Dimensions</b>	<b>Length or Diameter (L /D)</b>	50.0 mm	<b>Width (W)</b>		<b>Height (H)</b>	23.5 mm										
<b>Distortion</b>	Less than 5% at 1,000 Hz. at 1.0 W.															
<b>Buzz &amp; Rattle</b>	Not be audible at 2.83 V sine wave between 20 Hz and 2,200 Hz.															
<b>Polarity</b>	When a positive DC Current is applied to the voice coil terminal marked +or red, the diaphragm shall move forward.															
<b>Material</b>	<b>Housing</b>	Plated Steel			<b>Cone</b>	Paper with Edge Cloth Surround										
	<b>Magnet</b>	NdFeB Ferrite magnet, 40 mm Ø X 19 mm Ø X 6 mm t				<b>Flux Density</b>	T									
	<b>Termination</b>	Wire Leads, 26 AWG, 85 mm Long, UL 1007														
	<b>Optional Gasket</b>															
<b>Speaker Parameters</b>	<b>Qms</b>		<b>Qes</b>		<b>Qts</b>		<b>Vas</b>		<b>Cms</b>		<b>M</b>		<b>M/N</b>		<b>BL</b>	
<b>Approximate Weight</b>	grams		<b>Shielding</b>	None		<b>Compliance</b>	Lead Free, RoHS									
<b>Options</b>	With Ferrite Bid (JPZ1KRH9.5X19X5) and JST PHR-2 C connector															

### RELIABILITY

<b>Max. Power Test</b>	With program White-Noise source <b>Maximum Power</b> , 1 minute on, 2 minutes off, 10 cycles, per (EIA) *
<b>Thermal Operating Temperature Test</b>	96 hours continuous operation <b>at Rated Power</b> , at Maximum Rated Operating Temperature *
	96 hours continuous operation <b>at Rated Power</b> , at Minimum Rated Operating Temperature *
<b>Thermal Storage Temperature Test</b>	After parts are subjected to 48 hours storage at Maximum Rated Storage Temperatures *
	After parts are subjected to 48 hours storage at Minimum Rated Storage Temperatures *
<b>Thermal Shock Test</b>	<p>After parts are subjected to five (5) cycles of Minimum and Maximum Operating Temperature. Each cycle shall be set per diagram below and is three (3) hours long *</p> <div style="text-align: right;"> </div>
<b>Humidity Test</b>	After parts are subjected to 96 Hours at +40°C±2°C. 90-95% RH *
<b>Operation Life Test</b>	Must perform normal with program White-Noise source <b>at Rated Power</b> for 96 Hours per (EIA) *
<b>Insulation Test</b>	A minimum of 1 MΩ, measured with 100 Vdc Insulation Resistance Meter, between the Electrical Terminals and the Transducer Case
<b>Termination Strength</b>	Maximum of 9.8 N (1.0 Kg) load pull test, applied to each terminal in axial direction for 10 seconds
<b>Vibration Test</b>	Parts in shipping Container are subjected to 15minutes of at 1.5 mm with 10 to 55 Hz. vibration frequency to each of 3 perpendicular directions *
<b>Drop Test</b>	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 (6 times total) *
<b>Reliability Test Performance</b> *	<b>Parts should conform to original performance within ±5 dB tested with Rated Power, after 3 hours of recovery period.</b>
<b>Warranty</b>	For a period of one (1) year from date of shipping under normal operations conditions



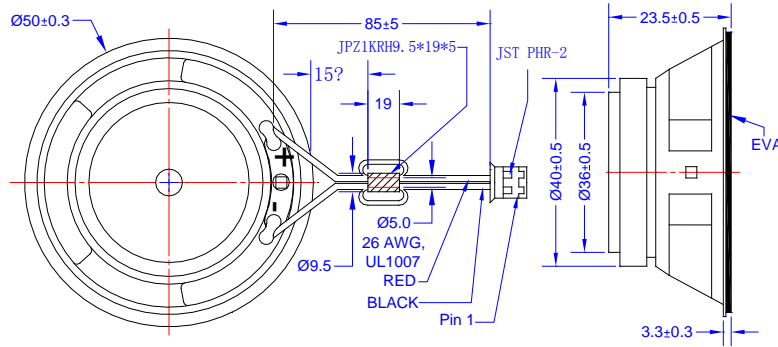
**Challenge Electronics**  
 95 East Jefryn Boulevard  
 Deer Park, NY 11729

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

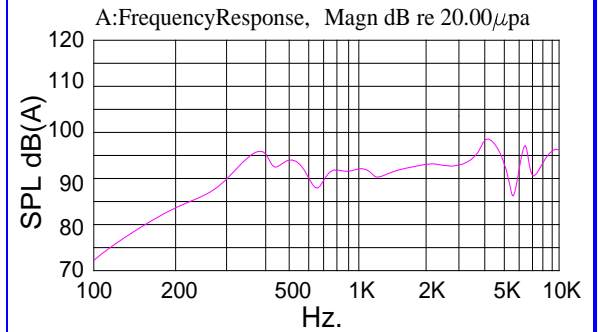
**EMAIL: SALES@CHALLELEC.COM**  
**WEB: WWW.CHALLEEELECTRONICS.COM**

## DIMENSIONS

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

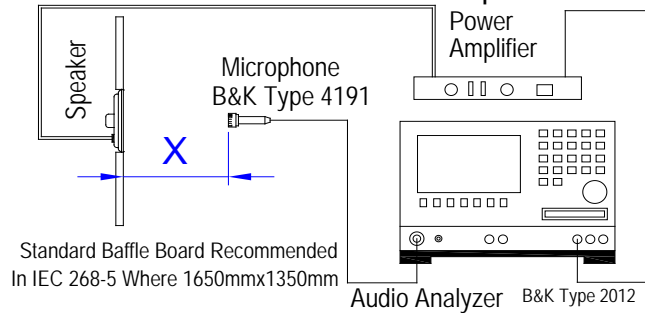


## SPL vs. FREQUENCY RESPONSE



## TEST PROCESS

### Standard test condition of speaker



**Test Condition**

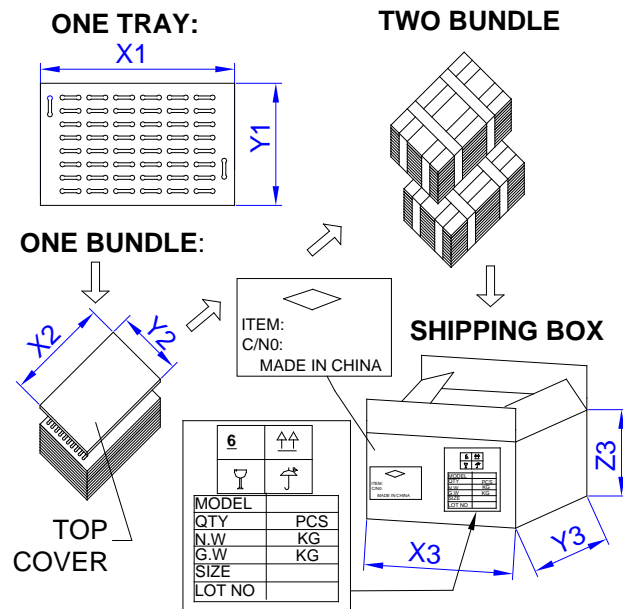
**STANDARD**  
 Temperature: 15 ~ 35°C  
 Relative humidity: 45% ~ 85%  
 Atmospheric pressure: 860 mbar to 1060mbar

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

**Standard Test Fixture**  
 Input Power: 0.1W (0.89V)  
 Zero Level: -dB  
 Mode: TSR  
 potentiometer Range: 50dB  
 Sweep Time: 0.5sec

**Microphone Distance:**  
**X = 50 cm**

## PACKAGING



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