

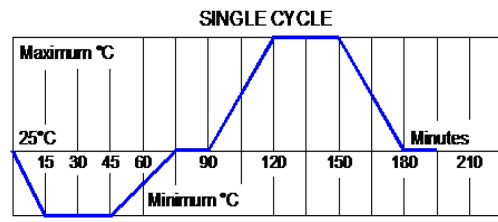




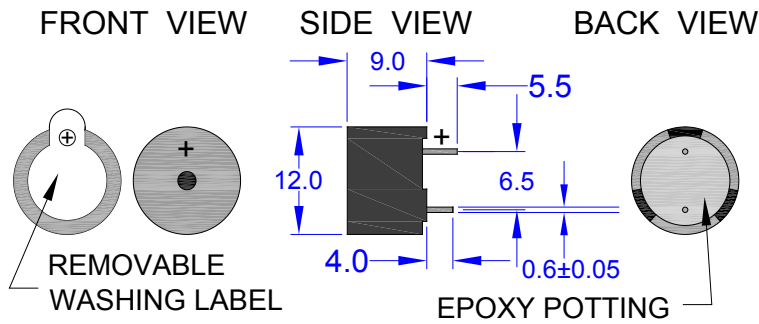
# PRODUCT INFORMATION

<b>PART #</b>	<b>CEET12A090-140-615-24P6.5LR</b>						<b>Revision: 1-2013</b>			
	<b>Electro-Magnetic Sound Transducer</b>									
<b>DESCRIPTION</b>					<b>FEATURES</b>					
<p><b>Challenge Electronics Electro-Magnetic Transducer, 12 mm Diameter, A type case (TOP Sound Port with PCB standoffs), 9 mm High, 140 Ohms Coil Impedance, 6 to 15 Vpp operation, minimum SPL of 85 dB(A) at: Rated Voltage, 10 cm, 2,400 Hz. resonant Frequency, PC Pins 6.5 mm spacing Termination, washing Label, RoHS Lead Free Compliance</b></p>					<ul style="list-style-type: none"> <li>● <b>RoHS, Lead Free Compliant</b></li> <li>● <b>ISO 9001</b></li> </ul>					
<b>SPECIFICATIONS</b>										
<b>Operating Voltage</b>	<b>6.0 – 15.0 Vpp</b>	<b>Rated Voltage</b>	<b>12.0 Vpp</b>	<b>Resonant Frequency</b>	<b>2,400 ± 24 Hz.</b>	<b>Coil Resistance</b>	<b>140 ± 14 Ohms</b>			
<b>Sound Pressure Level</b>	<b>85 dB(A), at: Rated Voltage, Resonant Frequency, Square Wave, 50% Duty Cycle 10 cm</b>									
<b>Operating Current</b>	<b>40 mA, at: Rated Voltage, Resonant Frequency, Square Wave, 50% Duty Cycle</b>									
<b>Operating Temperature</b>	<b>-20°C to + 70°C</b>			<b>Storage Temperature</b>	<b>-30°C to +80°C</b>					
<b>Termination</b>	<b>PC Pins, 0.6 mm Diameter, Brass, Sn plated</b>									
<b>Material</b>	<b>Case</b>	<b>A Style, Plastic, Noryl, Black</b>								
	<b>Encapsulation</b>	<b>PCB</b>								
<b>Physical Dimensions</b>	<b>Length or Diameter (L /D)</b>	<b>12.0 mm ø</b>	<b>Width (W)</b>		<b>Height (H)</b>	<b>9.0 mm</b>	<b>Pins Spacing</b>	<b>6.5 mm</b>		
<b>Approximate Weight</b>	<b>2 grams</b>	<b>Removable Washing Label</b>	<b>Yes</b>	<b>Compliance</b>	<b>Lead Free, RoHS</b>					
<b>RELIABILITY</b>										
<b>Thermal Operating Temperature Test</b>	240 hours continuous operation <b>at Rated Voltage</b> , at Maximum Rated Operating Temperature *									
	240 hours continuous operation <b>at Rated Voltage</b> , at Minimum Rated Operating Temperature *									
<b>Thermal Storage Temperature Test</b>	240 hours storage at Maximum Rated Storage Temperatures *									
	240 hours storage at Minimum Rated Storage Temperatures *									
<b>Thermal Shock Test</b>	5 cycles of Minimum and Maximum Operating Temperature, Each cycle shall be set per diagram below and is three (3) hours long *									
<b>Humidity Test</b>	240 Hours at +40°C±2°C. 90-95% RH *									
<b>Insulation Test</b>	A minimum of 10 MΩ, measured with 100 Vdc Insulation Resistance Meter, between the Electrical Terminals and the Transducer Case									
<b>Vibration Test</b>	2 Hours of at 1.5 mm with 10 to 55 Hz. vibration frequency to each of 3 perpendicular directions *									
<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>Drop Test</b>	Dropped naturally from 750 mm height onto the surface of 40 mm wooden board, 3 axes (X,Y,Z) directions, 3 times (6 times total) *									
<b>Solderability</b>	Terminal leads are immersed in rosin for 5 seconds and then immersed in solder-bath of +270°C for 3±1 seconds									
<b>Soldering Heat Resistance</b>	Terminal leads are immersed, up to 1.5 mm from part case, in rosin for 5 seconds and then immersed in solder-bath of +350±5°C for 3±0.5 seconds or +260±5°C for 10±1 seconds									
<b>Reliability Test Performance</b> *	<b>Parts should conform to original performance within ±3dB, after 3 hours of recovery period</b>									
<b>Operation Life Test</b>	<b>Continuous</b>	240 hours of continuous operation, at Rated Voltage, each at Minimum & Maximum Rated Operating Temperatures								
	<b>Intermittent</b>	One thousand (1,000) hours of: 1 minute <b>ON</b> 4 minutes <b>OFF</b> cycle, at Room Temperature, and Rated Voltage								
<b>Warranty</b>	For a period of one (1) year from date of shipping under normal operations conditions									

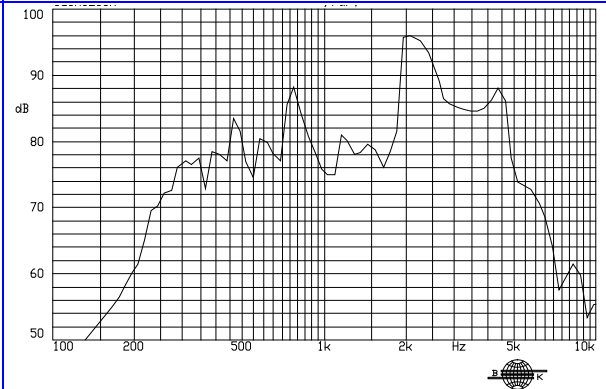


**DIMENSIONS**

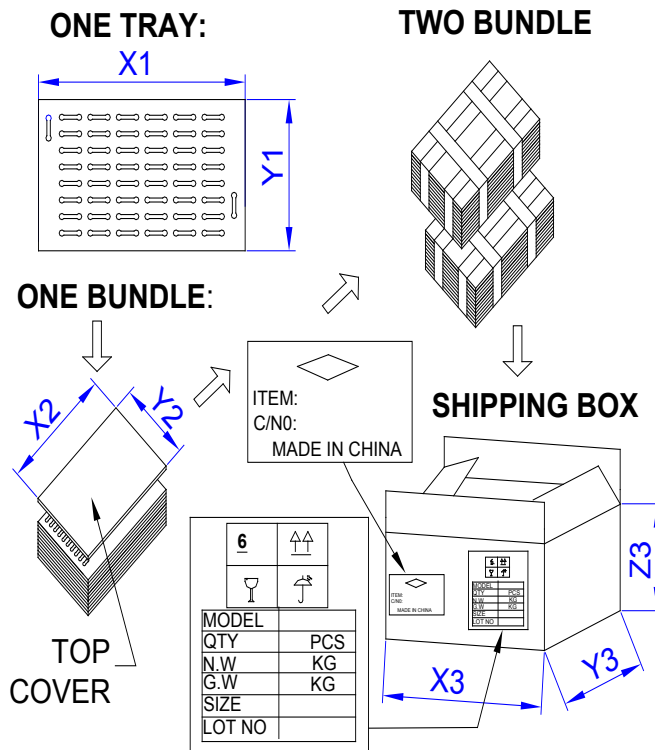
Units in: mm, Tolerance: ± 0.5mm unless specified otherwise.



**SPL vs. FREQUENCY RESPONSE**



**PACKAGING**



MARKING		TRAY	
<b>Bundle</b>	Dimensions	X1	24 cm
Customer PN		Y1	16 cm
Other PN (if required)		Z1	2.25 cm
Quantity	Quantity	<b>100</b>	
Lot and/or Date Code	<b>BUNDLE</b>		
Bundle Number	Dimensions	X2	24 cm
<b>Shipping Box</b>		Y2	16 cm
Customer Part Number		Z2	24 cm
Other PN (if required)	Quantity	<b>1,000</b>	
Quantity	<b>SHIPPING BOX</b>		
Lot and/or Date Code	Dimensions	X3	50.5 cm
PO Number		Y3	28 cm
Net Weight		Z3	42 cm
Gross Weighjt	Number of Bundles	<b>5</b>	
Box Number	Quantity	<b>5,000</b>	
of Number of Boxes	Approximate Weight		
<b>Made in China</b>			

Revision	Description	By:	Date
1-2013	Corrected pin spacing in the description from 7.6 to 6.5	W.Sargent	7/1/2013