



PRODUCT INFORMATION

PART #	CEET100L035-18-305-28MR	Revision: 3-2016
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	SMD Electro-Magnetic Sound Transducer
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DESCRIPTION	FEATURES	
<p>Challenge Electronics Electro-Magnetic Transducer, 10.0 mm Long, 10.0 mm Wide, L type SMD case (Square, Side Sound Port), 3.5 mm Height, 18 Ohms coil resistance, 3.0 to 4.6 Vo-p operation 2,830 Hz Resonant Frequency, with a Minimum Sound Pressure output of 93 dB(A) at 10 cm Rated Voltage. M type SMD Termination, RoHS Lead Free and REACH compliant</p>	<ul style="list-style-type: none"> ● RoHS, Lead Free Compliant ● ISO 9001 ● REACH Compliant 	

SPECIFICATIONS							
Resonant Frequency (Fo)	2,830 Hz.	Coil Impedance	18 ± 5 Ohms				
Operating Voltage	3.0 - 4.6 Vo-p	Rated Voltage	3.6 Vo-p				
Sound Pressure Level	Minimum 93 dB(A) Typical 98 dB(A), at rated Voltage, 10 cm, Resonant Frequency, Square wave, 50% Duty Cycle						
Maximum Current	100 mA, at rated Voltage, Resonant Frequency, Square wave, 50% Duty Cycle						
Operating Temperature	-40°C ~ + 85°C	Storage Temperature	-40°C ~ + 85°C				
Material	Case	Plastic, LCP Vectra E130i		Sound Port Direction	Side		
	Diaphragm	Ni Alloy Disc N50 or equal		Termination	SMD, 4 soldering pads, Sn plated Brass		
	Encapsulation	Plastic back					
Physical Dimensions	Length or Diameter (L /D)	10.0 mm	Width (W)	10.0 mm	Height (H)	3.5 mm	
Approximate Weight	0.9 grams	Removable Washing Label	No	Compliance	RoHS, Lead Free and REACH		
Options							

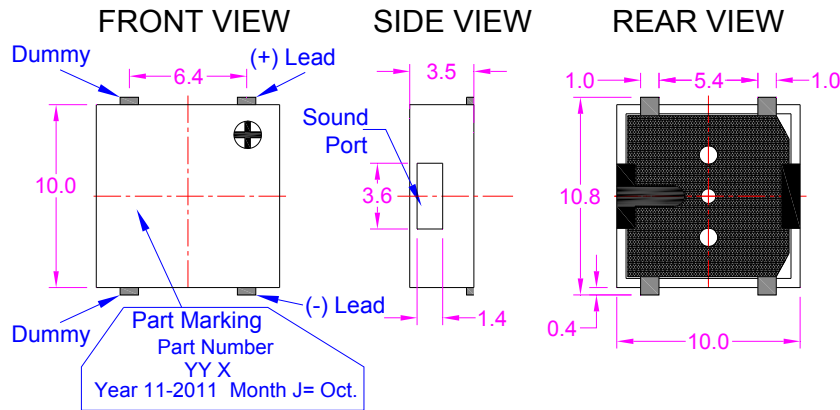
RELIABILITY		
Thermal Operating Temperature Test	<p>240 hours continuous operation at Rated Voltage, at Maximum Rated Operating Temperature *</p> <p>240 hours continuous operation at Rated Voltage, at Minimum Rated Operating Temperature *</p>	
Thermal Storage Temperature Test	<p>96 hours storage at Maximum Rated Storage Temperatures *</p> <p>96 hours storage at Minimum Rated Storage Temperatures *</p>	
Thermal Shock Test	<p>5 cycles of Minimum and Maximum Operating Temperature</p> <p>Each cycle shall be set per diagram and is 3 hours long *</p> <div style="text-align: right;"> </div>	
Humidity Test	240 Hours at +40°C±2°C. 90-95% RH *	
Insulation Test	A minimum of 10 MΩ, measured with 100 Vdc Insulation Resistance Meter, between the Electrical Terminals and the Transducer Case	
Vibration Test	2 Hours of 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 700 mm height onto the surface of 10 mm wooden board, 2 directions *	
Solderability	Terminal leads are immersed in rosin for 5 seconds and then immersed in solder-bath of +270°C for 3±1 seconds	
Soldering Heat Resistance	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	
* Reliability Test Performance	Parts should conform to original performance within ±3dB, after 3 hours of recovery period	
Life Test	Intermittent	1,000 hours of a 1 minute on 4 minutes off cycle at room temperature and maximum Rated Voltage
	Continuous	250 hours continuous operation at maximum Rated Voltage and maximum Operating Temperatures
Warranty	<p>For a period of one (1) year from date of shipping under normal operations conditions</p> <p>This warranty does not apply to products damaged through misuse, abuse, improper installation, alteration, rework, or attempt to repair</p>	

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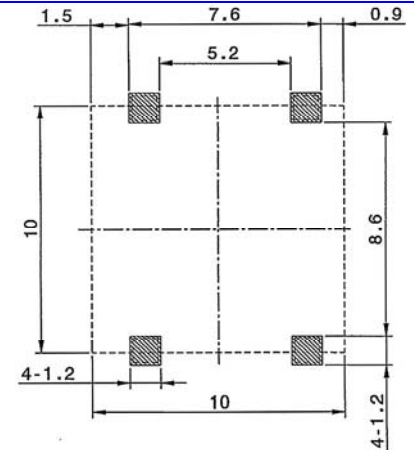


DIMENSIONS

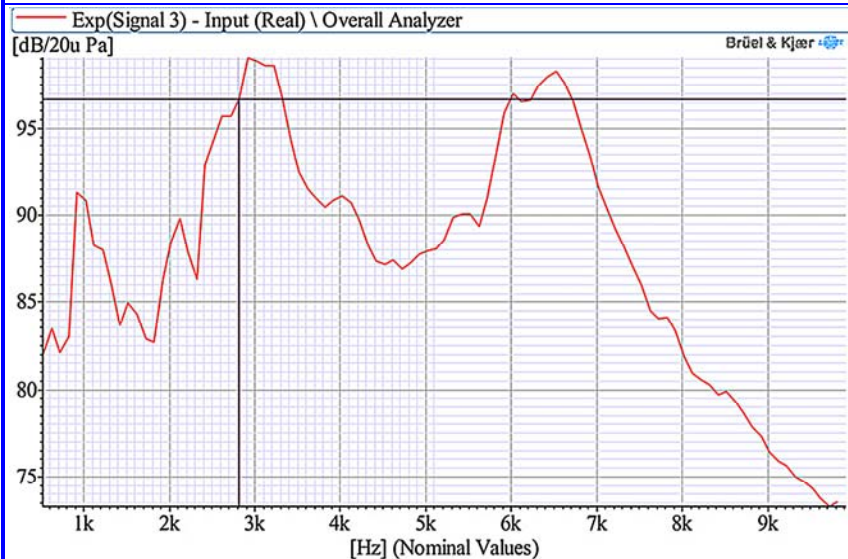
Units in: mm, Tolerance: ± 0.5mm unless specified otherwise.



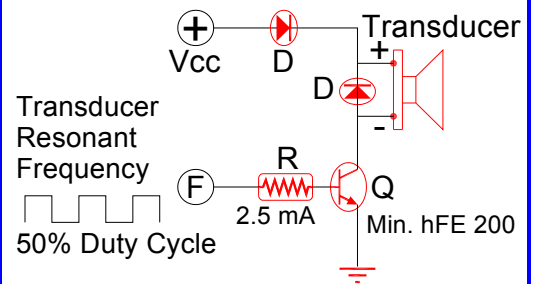
RECOMMENDED LAND PATTERN



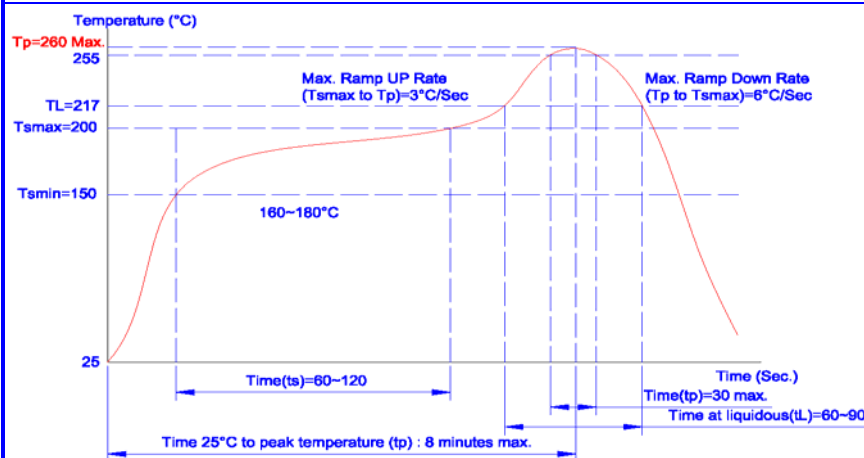
SPL vs. FREQUENCY RESPONSE



RECOMMENDED DRIVE CIRCUIT



SOLDER REFLOW PROFILE as per IPC/JEDEC J-STD-020D



Stage	Temperature Profile	Maximum Time
Pre-heat	170~230°C	120 sec
Solder Melt	Above 230°C	100 sec
Peak	255°C Maximum	
Cool Down		100 sec
Total Duration Period		6 Minutes Maximum

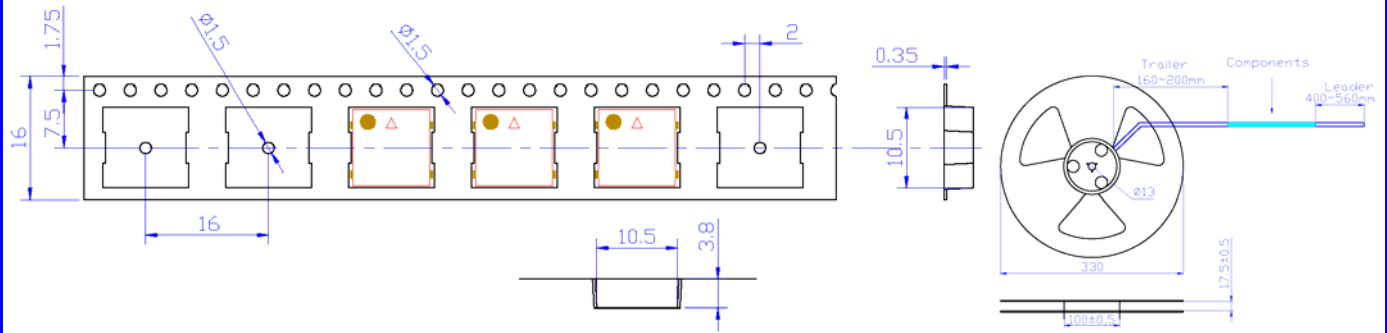
STORAGE

- Shelf life:** Twelve (12) months when devices are to be stored in factory supplied unopened ESD moisture sensitive bag under maximum environmental conditions of 30°C, 70% R.H.
- Exposure:** Devices should not be exposed to high humidity high temperature environment. MSL (moisture sensitivity level) Class 2

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TAPE and REEL INFORMATION

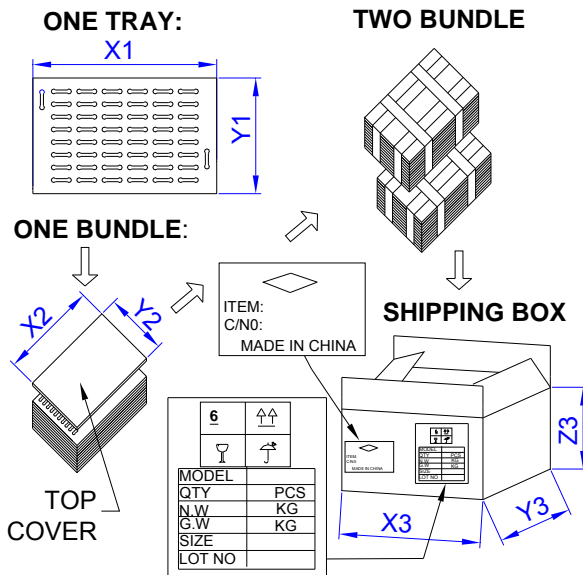


1. 110 sprocket holes pitch cumulative tolerance ± 0.20 mm
2. Carrier camber not to exceed 1 mm in 100 mm
3. Ao & Bo measured on a place 0.3 mm above the bottom of the pocket
4. Ko measured from a plane on the inside bottom of pocket to the top surface of the carrier
5. All dimensions meet EIA-481-2-A requirements
6. Material: Black Conductive Polystyrene Alloy
7. Component loaded per 13" reel: 1,000 parts

SUBSTANCE OF VERY HIGH CONCERN

This product does NOT contain any of the REACH Substances of Very High Concern (SVHC), and is in compliance with European Union REACH Regulation No.1907/2006 regarding chemical substances which must be registered or disclosed.

PACKAGING



MARKING

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

Revision	Description	By	Date
1-2014	Revised Impedance tolerance, weight, operating and storage temperatures, drop test conditions, frequency response chart, PCB layout	WS	1/24/2014
2-2014	Added Product Photo and REACH compliance statements	WS	11/12/2014
3-2016	Changed description (only) from 98dB SPL Typical to 93 dB SPL Minimum	WS	2/29/2016