



PRODUCT INFORMATION

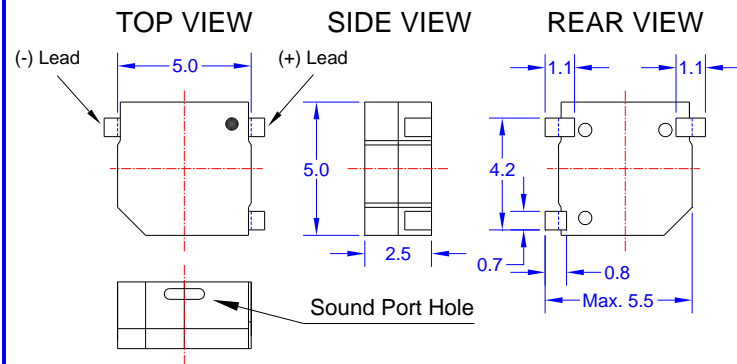
PART #	CET050R025-12-204-40MR				Revision: 0-2011	
	SMD Electro-Magnetic Sound Transducer					
DESCRIPTION				FEATURES		
<p>Challenge Electronics Electro-Magnetic Transducer, 5.0 mm Long, 5.0 mm Wide, R type SMD case (Square, SIDE Sound Port), 2.5 mm Height, 12 Ohms coil resistance, 2 to 4 Vop operation 4,000 Hz Resonant Frequency, with a Typical Sound Pressure output of 78 dB(A) at 10 cm Rated Voltage, M type SMD Termination, RoHS Lead Free compliant</p>				<ul style="list-style-type: none"> ● Flame Retardant Plastic ● RoHS, Lead Free Compliant ● ISO 9001 		
SPECIFICATIONS						
Resonant Frequency	4,000 ± 500 Hz.		Coil Impedance	12 ± 2 Ohms		
Operating Voltage	2.0 - 4.0 Vop		Rated Voltage	3.0 Vop		
Minimum SPL	78 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	-20°C to + 85°C		Storage Temperature	-30°C to + 90°C		
Material	Case	Plastic, LCP Vectra E130i		Sound Port Direction	Side	
	Diaphragm	Ni Alloy Disc N50 or equal		Termination	SMD, 3 soldering pads, Sn plated Brass	
	Encapsulation	Plastic back				
Physical Dimensions	Length or Diameter (L /D)	5.0 mm		Width (W)	5.0 mm	Height (H) 2.5 mm
Approximate Weight	0.5 grams	Removable Washing Label	No	Compliance	RoHS, Lead Free	
Options						
RELIABILITY						
Thermal Operating Temperature Test	240 hours continuous operation at Rated Voltage , at Maximum Rated Operating Temperature *					
	240 hours continuous operation at Rated Voltage , 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 and is 3 hours long *					
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 750 mm height onto the surface of 40 mm wooden board, 3 axes (X,Y,Z) directions, 3 times (6 times total) *					
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	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: ± 0.5mm unless specified otherwise.

SPL vs. FREQUENCY RESPONSE

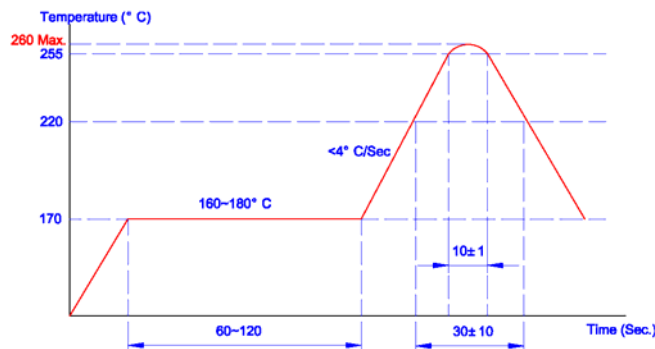


Recommended Land Pattern:

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

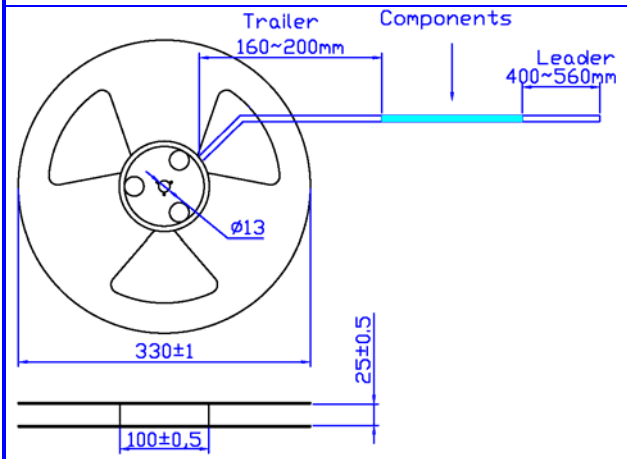
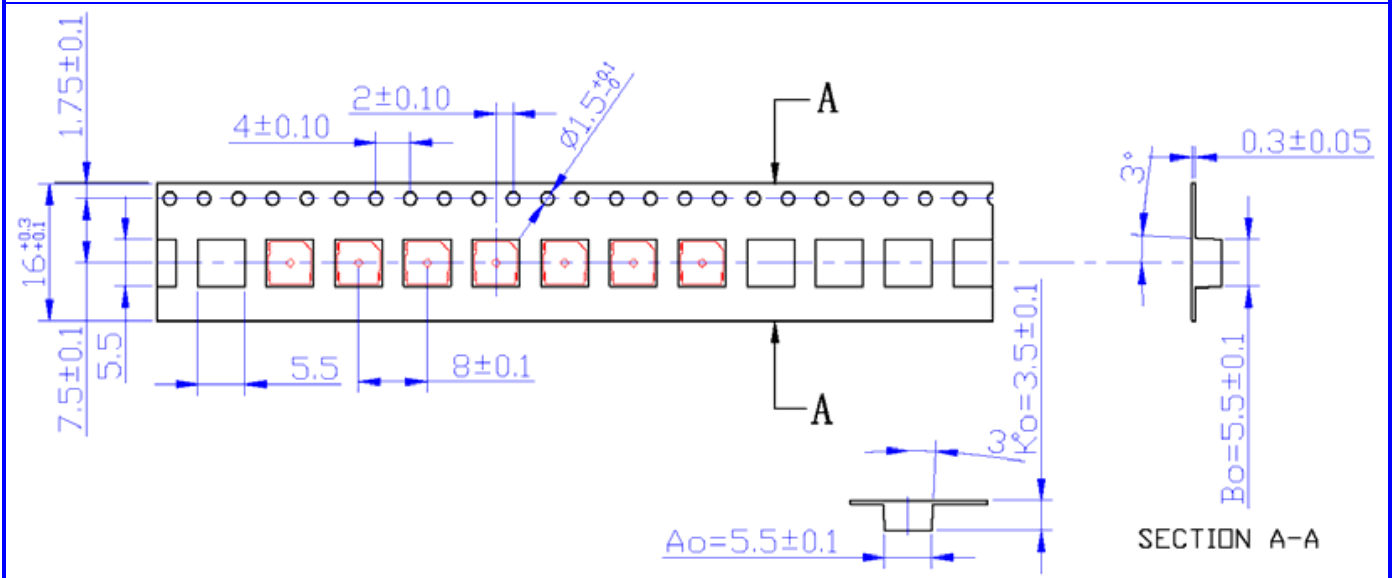
Solder Reflow Profile: as per IPC/JEDEC J-STD-020D



Stage	Temperature Profile	Maximum Time
Pre-heat	170~230°C	120 sec
Solder Melt	Above 230°C	100 sec
Peak	260°C Maximum	
Cool Down		100 sec
Total Duration Period		6 Minutes Maximum

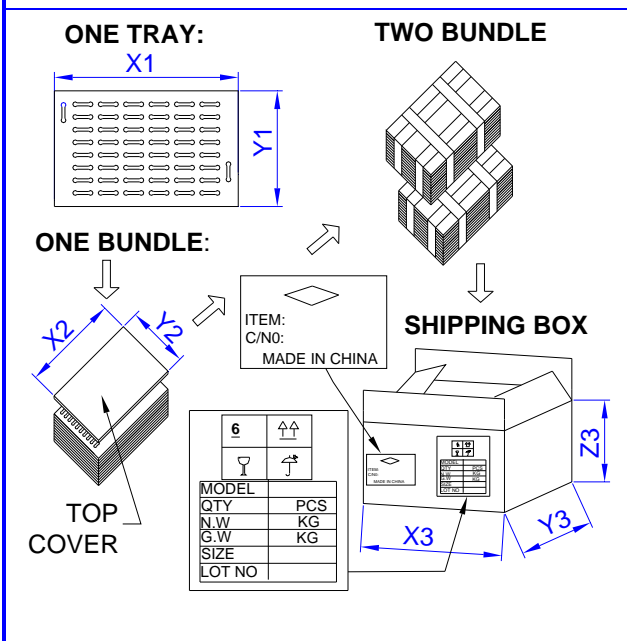


TAPE & REEL DIMENSIONS (Unit: mm)



1. 10 pocket holes pitch cumulative tolerance ± 0.20 mm.
2. Carrier camber is 1 mm in 100 mm.
3. A0 and B0 measured on a plane on a place 0.30 mm above the bottom of the pocket.
4. K0 measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
5. All dimensions meet EIA-481-2-A requirements.
6. Reel Size 13"
7. Parts per Reel 2,000 parts

PACKAGING



MARKING

TRAY

Bundle		Dimensions	
Customer PN		X1	cm
Quantity		Y1	cm
Lot and/or Date Code		Z1	cm
Bundle Number		2,000	
Shipping Box		BUNDLE	
Customer Part Number		X2	cm
Other PN (if required)		Y2	cm
Quantity		Z2	cm
Lot and/or Date Code		SHIPPING BOX	
PO Number		X3	cm
Net Weight		Y3	cm
Gross Weight		Z3	cm
Box Number		Number of Bundles	
of Number of Boxes		Quantity	
Made in China		Approximate Weight	

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