



PRODUCT INFORMATION

PART #	CEET090N045-16-205-27MR	Revision: 0-2014
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SMD Electro-Magnetic Sound Transducer

DESCRIPTION

Challenge Electronics Electro-Magnetic Transducer; 9.0 mm Long; 9.0 mm Wide; N type SMD case (Square, Top Sound Port); **4.5 mm** Height; **16 Ohms** coil resistance; Operating Voltage range **2.5 to 4.5 Vo-p**; **2,670 Hz.** Resonant Frequency; with a Typical Sound Pressure output of **90 dB(A)** at,10 cm Rated Voltage; **M** type SMD Termination; **RoHS, Lead Free** compliant

SPECIFICATIONS

Resonant Frequency (Fo)	2,670 Hz.	Coil Impedance	16 ± 3 Ohms			
Operating Voltage	2.5 - 4.5 Vo-p	Rated Voltage	3.6 Vo-p			
Sound Pressure Level	Minimum 85 dB(A) Typical 90 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	-30°C ~ + 70°C	Storage Temperature	-40°C ~ + 85°C			
Material	Case	Plastic, LCP	Sound Port Direction	Top		
	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)	9.0 mm	Width (W)	9.0 mm	Height (H)	4.5 mm
Approximate Weight	1 grams	Removable Washing Label	No	Compliance	RoHS, Lead Free	
Options						

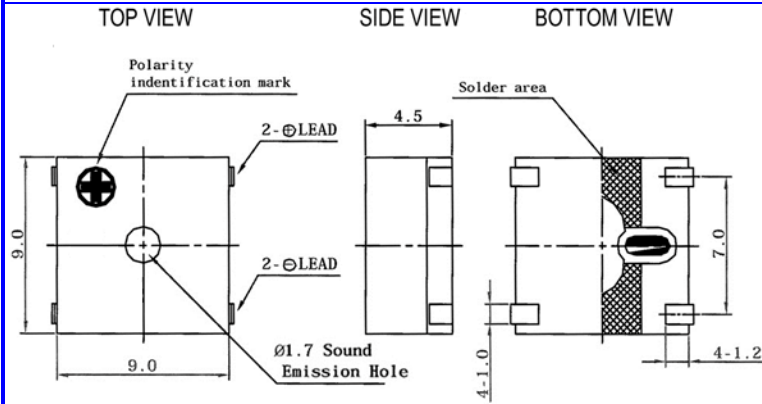
RELIABILITY

Thermal Operating Temperature Test	96 hours continuous operation at Rated Voltage , at Maximum Rated Operating Temperature *
	96 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 Tests	<p>5 cycles of Minimum and Maximum Operating Temperature Each cycle shall be set per diagram and is 3 hours long *</p>
Humidity Test	96 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 2 hours of recovery period
Life Test	1,000 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



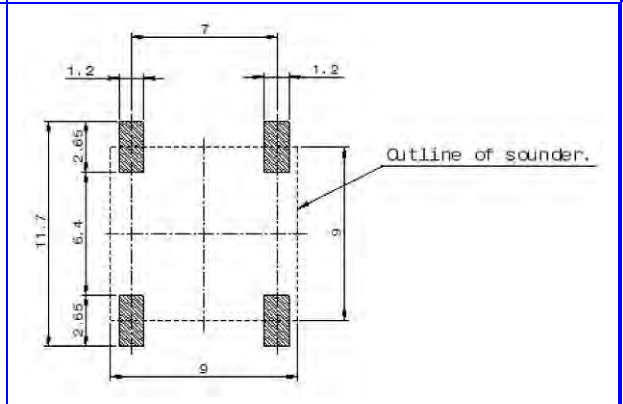
DIMENSIONS

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

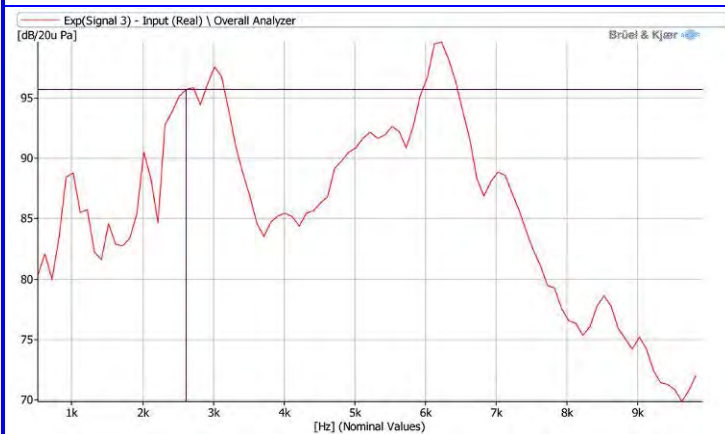


PCB LAYOUT

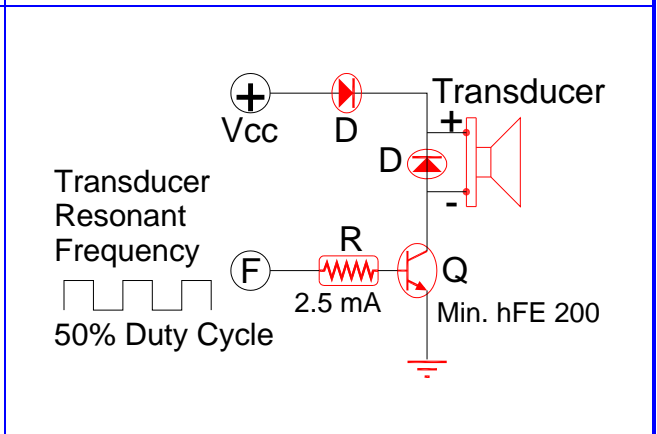
Dimensions are mm. Tolerance ± 0.2



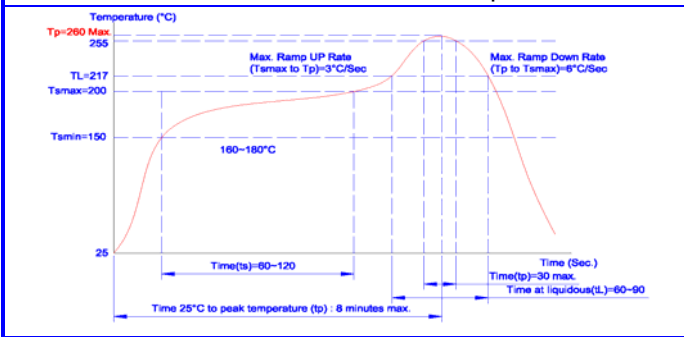
SPL vs. FREQUENCY RESPONSE



RECOMMENDED DRIVE CIRCUITS



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

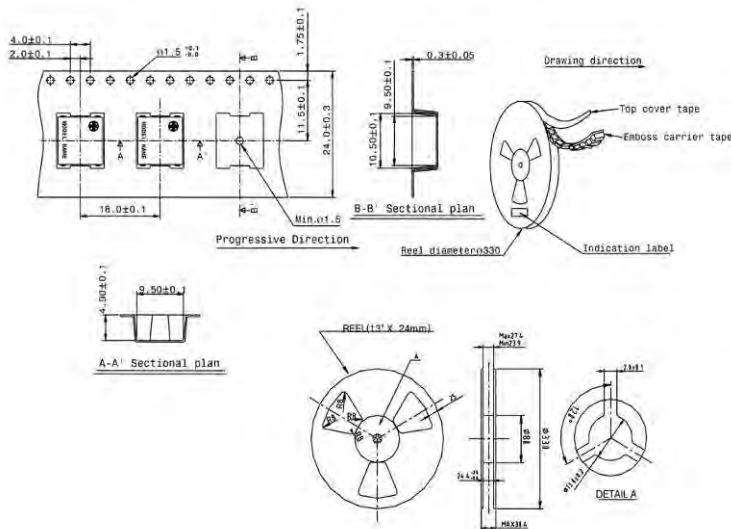


Stage	Temperature Profile	Maximum Time
Pre-heat	150~230°C	120 sec
Solder Melt	Above 230°C	20 sec
Peak	260°C Maximum	5-10 sec
Cool Down		100 sec
Total Duration Period		5 Minutes Maximum

STORAGE

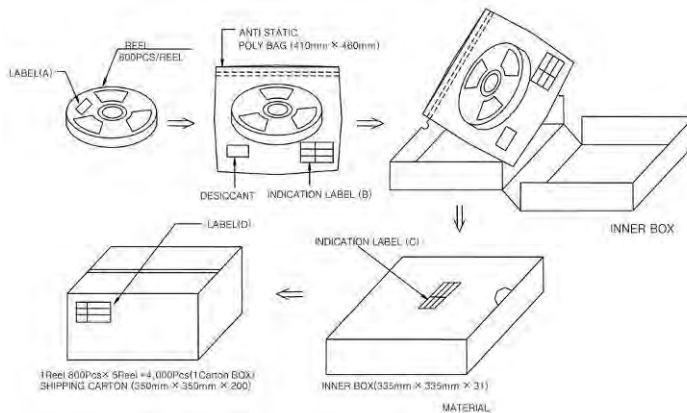
- Shelf life:** Twelve (12) months when devices are to be stored in factory supplied unopened ESD moisture sensitive bag under maximum environmental conditions of 30°C, 70% R.H.
- Exposure:** Devices should not be exposed to high humidity high temperature environment. MSL (moisture sensitivity level)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

TAPE and REEL INFORMATION



- 10 pocket holes pitch cumulative tolerance ± 0.20 mm.
- Carrier camber is 1 mm in 100 mm.
- A0 and B0 measured on a plane on a place 0.30 mm above the bottom of the pocket.
- K0 measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
- All dimensions meet EIA-481-2-A requirements.
- Reel Size 13"
- Parts per Reel 800 parts

PACKAGING



MARKING		Inner Box	
Inner Box		X1	33.5 cm
Part Number	Dimensions	Y1	33.5 cm
Quantity		Z1	31.0 cm
Lot and/or Date Code	Quantity	800	
Shipping Box		Shipping Box	
Part Number	Dimensions	X2	35 cm
Other PN (if required)		Y2	35 cm
Quantity		Z2	20 cm
Lot and/or Date Code	Inner Boxes Number	5	
PO Number	Quantity	4,000	
Net Weight	Approximate Weight		
Gross Weight			
Box Number of Boxes			
Made in China			

Revision	Description	By	Date