



PRODUCT INFORMATION

PART #	CEPT230A111-9-130-40MR	Revision: 3-2016
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SMD Piezoelectric Sound Transducer

DESCRIPTION	FEATURES	
Challenge Electronics Piezoelectric Transducer, 23.0 mm Diameter, B style case (Round, Top Sound Port), 11.1 mm High, 9 Vpp Nominal, 9 Vp-p Rated Voltage, 1 to 30 Vpp Operating Voltage, 4,000 Hz. Resonant Frequency, Minimum Sound Level output 100 dB(A) at 10 cm at Rated Voltage, M Type SMD Termination, RoHS Compliance	<ul style="list-style-type: none"> Flame Retardant Plastic RoHS ISO 9001 	

SPECIFICATIONS

Operating Voltage	1 - 30 Vp-p	Rated Voltage	9.0 Vp-p	Resonant Frequency	4,000 ± 500 Hz.
Sound Pressure Level	Minimum 100 dB(A), at: Rated Voltage, 10 cm, Resonant Frequency, Square Wave, 50% Duty Cycle				
Operating Current	5 mA, at: Rated Voltage, Resonant Frequency, Square Wave, 50% Duty Cycle				
Operating Temperature	-40°C to + 85°C	Storage Temperature	-40°C to +90°C	Capacitance	25,000 pFD ± 30% 100 Hz. 1 Vrms
Material	Case	Plastic, PPS A7-03 or equal		Sound Port Direction	Top
	Diaphragm	Ni Alloy Disc N42 or equal		Encapsulation	PCB
	Termination	SMD, 4 soldering pads, Sn plated Brass			
Physical Dimensions	Diameter (D)	23.0 mm Ø; 23.8 mm with Terminals		Height (H)	11.1 mm with Terminals
Approximate Weight	3.1 grams	Removable Washing Label	No	Compliance	RoHS
Options					

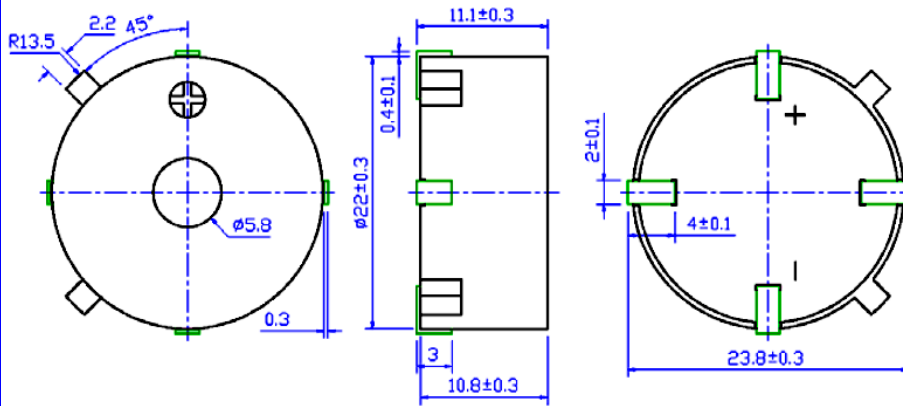
RELIABILITY

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	240 hours storage at Maximum Rated Storage Temperatures *	
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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>	
	<p>SINGLE CYCLE</p> <p>Maximum °C</p> <p>25°C</p> <p>Minutes</p> <p>15 30 45 60 90 120 150 180 210</p> <p>Minimum °C</p>	
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 *	
Drop Test	Dropped naturally from 750 mm height onto the surface of 40 mm wooden board, 3 axes (X,Y,Z) directions, 3 times (9 times total) *	
Termination Strength	Maximum of 9.8 N (1.0 Kg) load pull test, applied to each terminal in axial direction for 10 seconds	
* Reliability Test Performance	Parts should conform to original performance within ±3dB, after 3 hours of recovery period	
Operation Life Test	Continuous	Two hundred fifty (250) hours of continuous operation, at Rated Voltage, each at Minimum & Maximum Rated Operating Temperatures
	Intermittent	One thousand (1,000) hours of: 1 minute ON 4 minutes OFF cycle, at Room Temperature, and Maximum Rated Voltage
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	

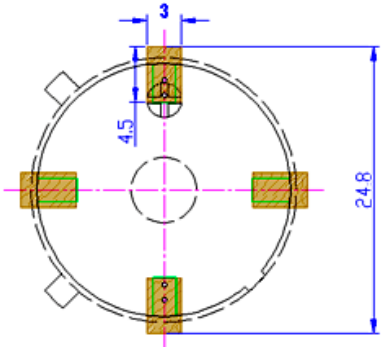


DIMENSIONS

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

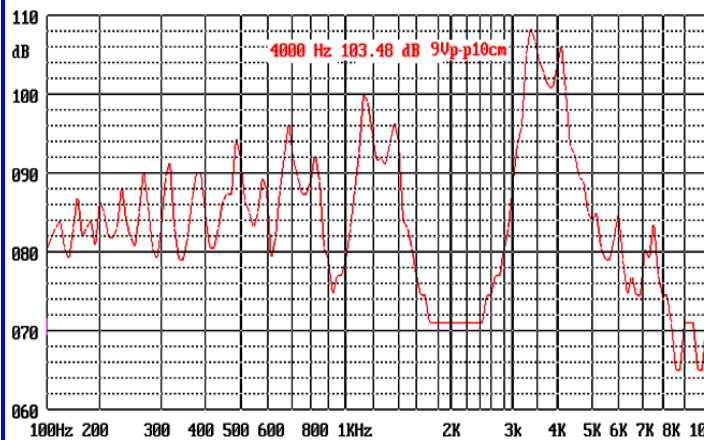


RECOMMENDED LAND PATTERN

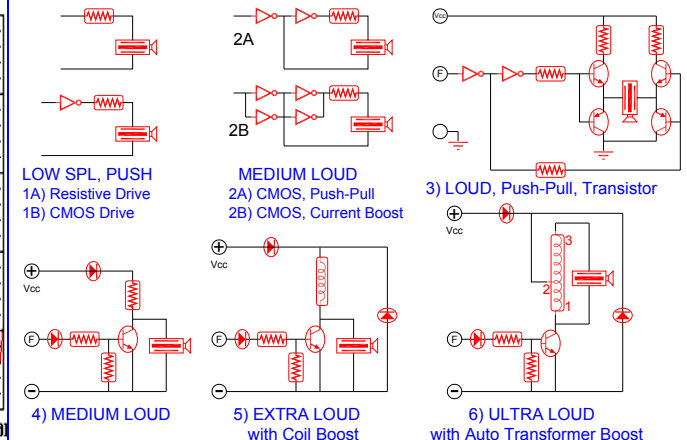


PCB Layout

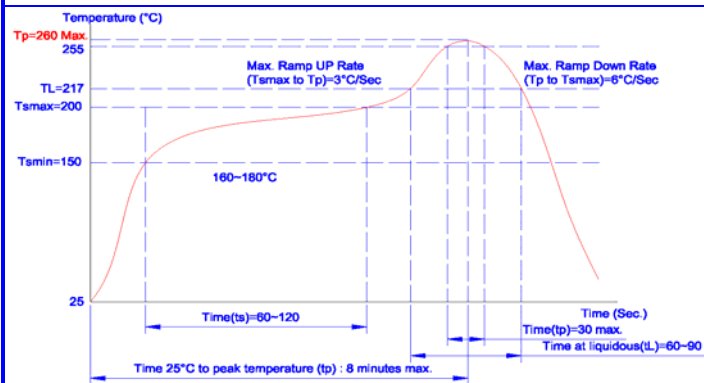
FREQUENCY RESPONSE



RECOMMENDED CIRCUIT DRIVE



SOLDER REFLOW PROFILE



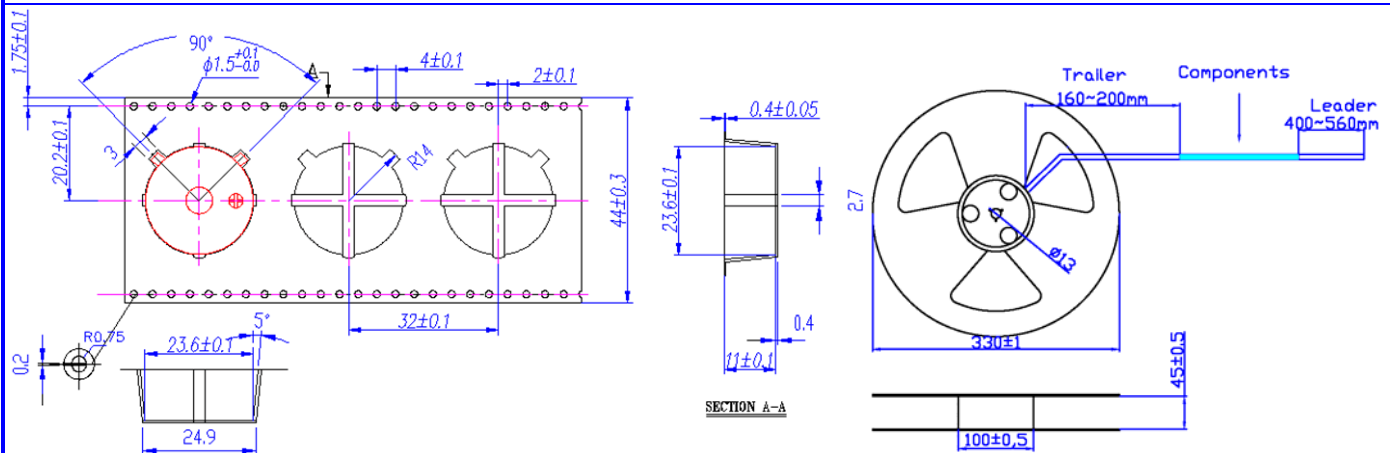
Stage	Temperature Profile	Maximum Time
Pre-heat	170~230°C	120 sec
Solder Melt	Above 230°C	100 sec
Peak	260°C Maximum	
Cool Down		100 sec
Total Duration Period		6 Minutes Maximum

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

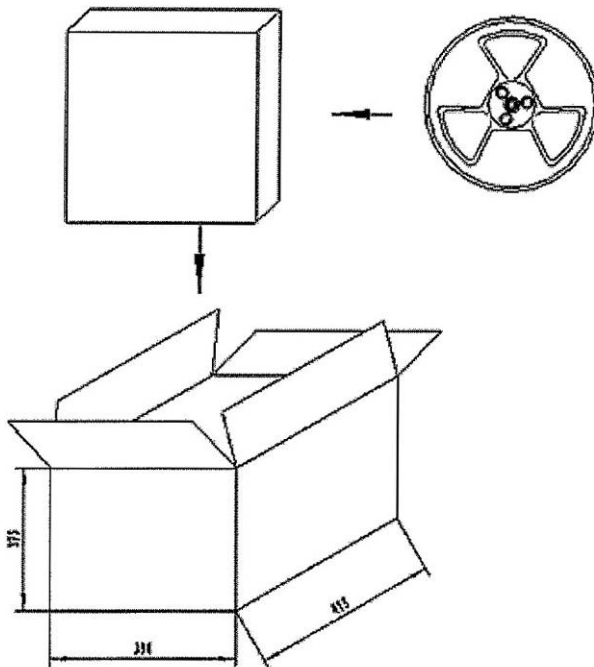


TAPE and REEL INFORMATION



1. 10 sprocket holes pitch cumulative tolerance +/-0.20mm.
2. Carrier camber not to exceed 1 mm in 100 mm.
3. Ao & Bo measured on a plane 0.3mm 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. Component loaded per 13" reel: 150 pcs.

PACKAGING



MARKING		Reel	
Bundle		X1	
Customer PN	Dimensions	Y1	
Other PN if required		Z1	
Quantity		Quantity	150
Lot and/or Date Code	Box		
Bundle Number	Dimensions	X2	
Shipping Box		Y2	
Customer Part Number		Z2	
Other PN (if required)	Quantity		
Quantity	SHIPPING BOX		
Lot and/or Date Code	Dimensions	X3	41.5 cm
PO Number		Y3	39 cm
Net Weight		Z3	37.5 cm
Gross Weight	Number of Boxes	10	
Box Number	Quantity	1,500	
of Number of Boxes	Approximate Weight		
Made in China			

Revision	Description	By	Date
1-2013	Modified Capacitance and added application Circuits	Ely Zofan	3/21/2013
2-2016	Corrected SPL from 100 dB Typical to 100 dB Minimum	WS	2/29/2016
3-2016	Modified weight from 3.05 to 3.1 g. Added Landing Pattern DWG. Replaced Freq. Chart and Tape Mech DWG	WS	3/2/2016