



PRODUCT INFORMATION

PART #	CEPT120S030-400MR	Revision: 2-2016
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SMD Piezoelectric Sound Transducer

DESCRIPTION	FEATURES	
Challenge Electronics Piezoelectric Transducer, 12.0 mm Long, 12.0 mm Wide, S Style case (Square, Bottom Sound Port), 3.0 mm High, 1 to 20 Vp-p Operating Voltage, 4,000 Hz. Resonant Frequency, Minimum Sound Output Level 83 dB(A) at 10 cm at Rated Voltage, M Type SMD Termination, RoHS Compliance	<ul style="list-style-type: none"> • Very Low Profile • Corrosion Resistance Diaphragm • Flame Retardant Plastic • RoHS • ISO 9001 	

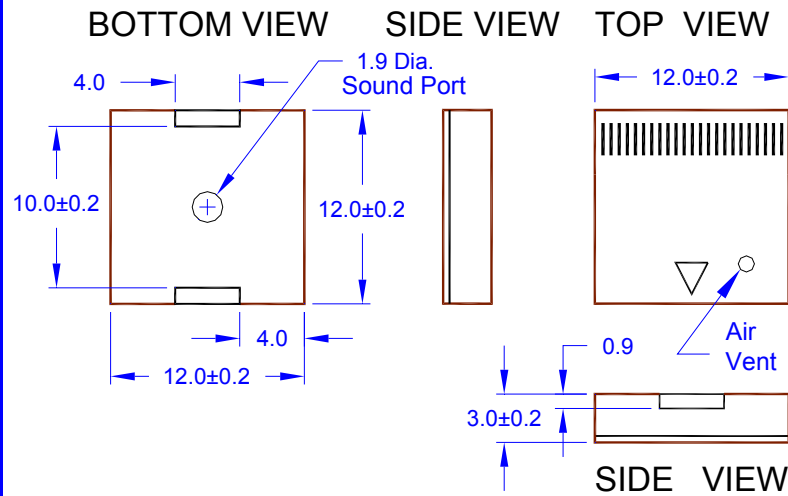
SPECIFICATIONS							
Operating Voltage	1- 20 Vp-p	Rated Voltage	5.0 Vp-p	Resonant Frequency	4,000 ± 500 Hz.		
Sound Pressure Level	83 ± 5 dB(A), at: 10 cm, Rated Voltage, Resonant Frequency						
Operating Current	1 mA, at: Rated Voltage, Resonant Frequency			Capacitance	15,000 pFD ± 30% 100 Hz. 1 Vrms		
Operating Temperature	-40°C to + 105°C	Storage Temperature	-40°C to +120°C				
Material	Case	Plastic, LCP Vectra E130i			Sound Port Direction	Bottom (through the PCB)	
	Diaphragm	Ni Alloy Disc N42			Encapsulation	Plastic	
	Termination	SMD, 2 soldering pads, Sn plated Brass					
Physical Dimensions	Length or Diameter (L /D)	12.0 mm ø	Width (W)	12.0 mm	Height (H)	3.0 mm	Pins Spacing
Approximate Weight	0.8 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	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	140 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 (9 times total) *
* Reliability Test Performance	Parts should conform to original performance within ±3dB, after 3 hours of recovery period
Operation Life Test	Continuous
	Intermittent
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

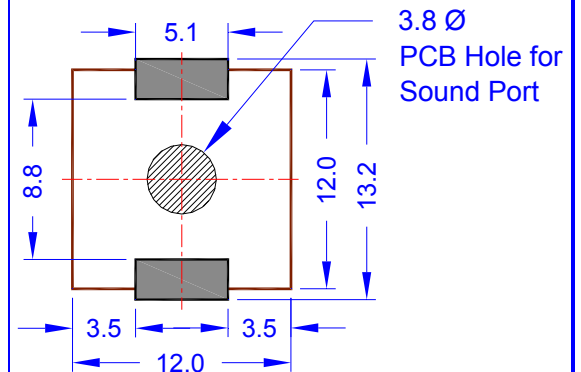


DIMENSIONS

Units in: mm, Tolerance: ± 0.3 mm unless specified otherwise.

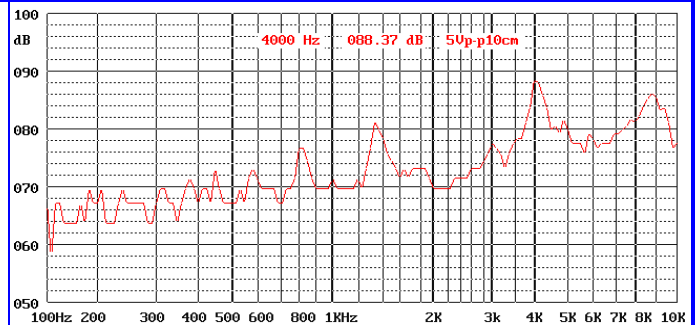


RECOMMENDED LAND PATTERN



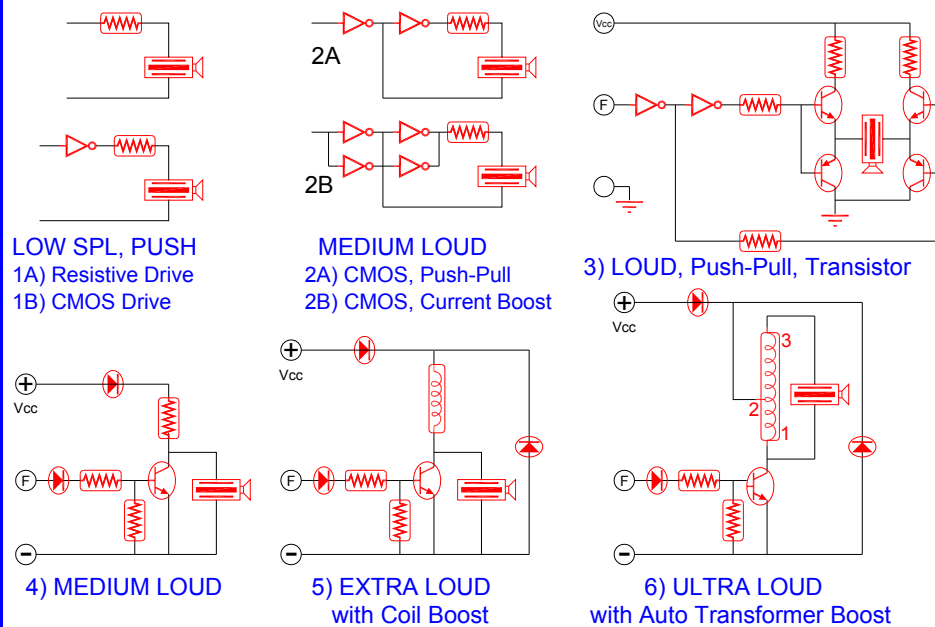
SPL and CURRENT vs. SUPPLY VOLTAGE

SPL vs. FREQUENCY RESPONSE



RECOMMENDED CIRCUIT DRIVE

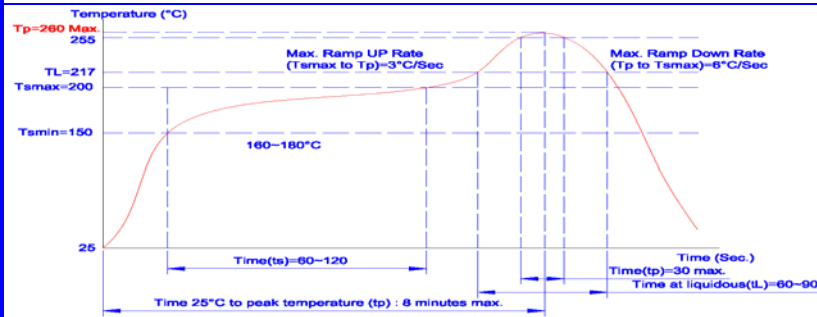
STORAGE



- 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

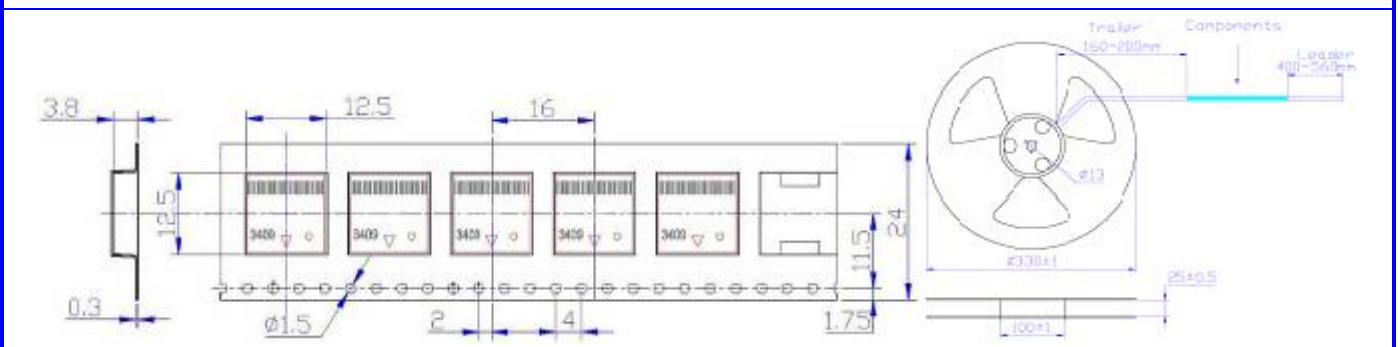


SOLDER REFLOW PROFILE



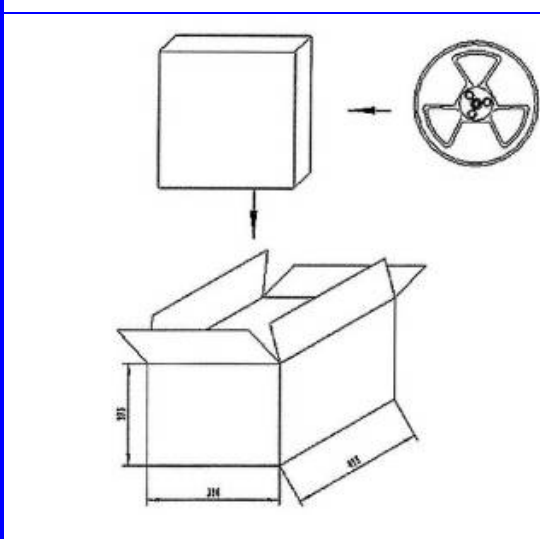
Stage	Temperature Profile	Maximum Time
Pre-heat	150~230°C	120 sec
Solder Melt	Above 230°C	100 sec
Peak	260°C Maximum	
Cool Down		100 sec
Total Duration Period		6 Minutes Maximum

TAPE and REEL INFORMATION



- 110 sprocket holes pitch cumulative tolerance ± 0.20 mm
- Carrier camber not to exceed 1 mm in 100 mm
- Ao & Bo measured on a place 0.3 mm above the bottom of the pocket
- Ko measured from a plane on the inside bottom of pocket to the top surface of the carrier
- All dimensions meet EIA-481-2-A requirements
- Component loaded 13" (330 mm) Reel: 1,000 parts

PACKAGING



MARKING		Reel	
Bundle		X1	33 cm
PN	Dimensions	Y1	33 cm
Quantity		Z1	0.3 cm
Lot and/or Date Code		Quantity	1,000
Bundle Number	Box		
Shipping Box	Dimensions	X2	
Customer Part Number		Y2	
Other PN (if required)		Z2	
Quantity	Quantity		
Lot and/or Date Code	SHIPPING BOX		
PO Number	Dimensions	X3	cm
Net Weight		Y3	cm
Gross Weight		Z3	cm
Box Number	Number of Box		
of Number of Boxes	Quantity		
Made in China	Approximate Weight	Kg	

Revision	Description	By	Date
1-2013	Revised Recommended Circuit Drive drawing	ESZ	2/27/2013
2-2016	Revised SPL from '88 dB Typical' to '83 dB Minimum'	WS	2/29/2016