

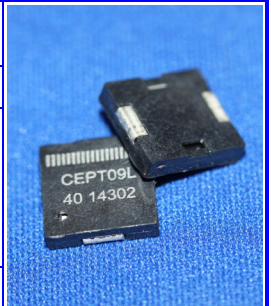


## PRODUCT INFORMATION

<b>PART #:</b>	<b>CEPT090L018-120-40MHR</b>	<b>Revision: 6-2014</b>
----------------	------------------------------	-------------------------



## SMD Piezoelectric Sound Transducer

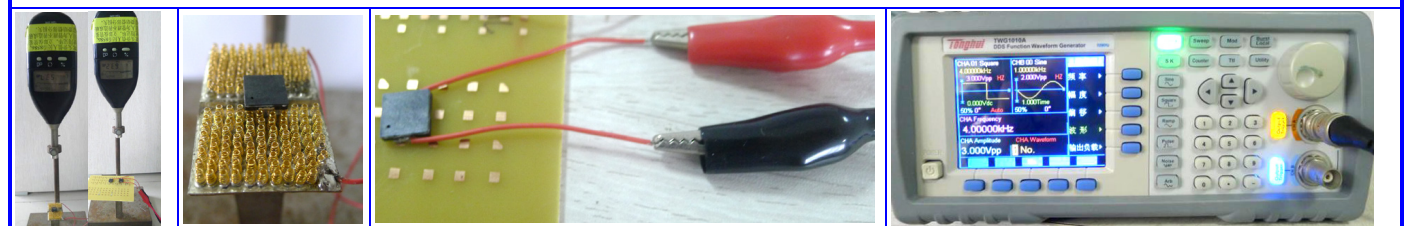


DESCRIPTION	FEATURES
Challenge Electronics Piezoelectric Transducer; <b>9.0 mm</b> Length; L style case (SMD Square with Side Sound Port); <b>1.8 mm</b> High; <b>1 to 20 Vp-p</b> Operating Voltage; <b>4,000 Hz.</b> Resonant Frequency; minimum Sound output of <b>70 dB(A)</b> at <b>10 cm</b> at Rated Voltage; SMD Termination, High Temperature RoHS Compliance	<ul style="list-style-type: none"> <li>● RoHS Compliant</li> <li>● REACH Compliant</li> <li>● ISO 9001 &amp; TS16949 Certified</li> </ul>

SPECIFICATIONS							
Operating Voltage	1- 20 Vp-p	Nominal Rated Voltage	3 Vp-p	Resonant Frequency	4,000 ± 500 Hz.		
Sound Pressure Level	Minimum 70 dB(A), at: 10 cm, Resonant Frequency, Nominal rated Voltage, Square Wave 50% Duty Cycle						
Operating Current	Maximum 1 mA, at: Resonant Frequency, Nominal rated Voltage, Square Wave						
Operating Temperature	-40°C to +105 °C	Storage Temperature	-40°C to + 120°C	Capacitance	15,000 ± 30% pFD at 100 Hz. 1 Vrms		
Material	Housing	Plastic, LCP Vectra E130i or equal			Sound Port Direction	Side	
	Diaphragm	Ni Alloy Disc N42 or equivalent			Encapsulation	Plastic Cap	
	Termination	SMD					
Physical Dimensions	Length (L)	9.0 mm ± 0.2 mm	Width (W)	9.0 mm ± 0.2 mm	Height (H)	1.8 mm ± 0.2 mm	
Approximate Weight	0.18 grams	Removable Washing Label	No	Compliance	RoHS and REACH		
Packaging							

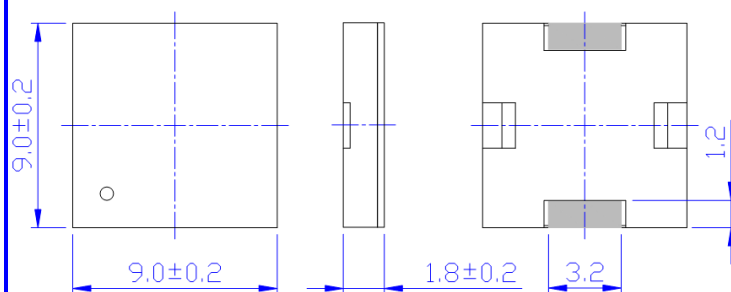
RELIABILITY	
Thermal Operating Temperature Test	96 hours continuous operation at Rated Voltage, at Maximum Rated Operating Temperature * 96 hours continuous operation at Rated Voltage, at Minimum Rated Operating Temperature *
Thermal Storage Temperature Test	96 hours storage at Maximum Rated Storage Temperatures * 96 hours storage at Minimum Rated Storage Temperatures *
Thermal Shock Test	<p>5 cycles of Minimum and Maximum Operating Temperature Each cycle shall be set per diagram and is 3 hours long *</p> <div style="text-align: center;"> </div>
Humidity Test	140 Hours at +40°C±2°C, 90-95% RH *
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 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

## MEASUREMENT SETUP

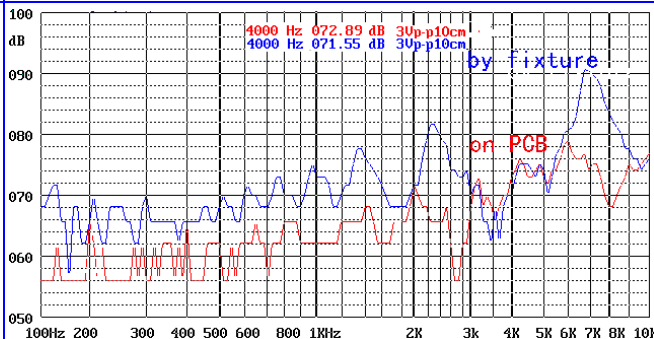




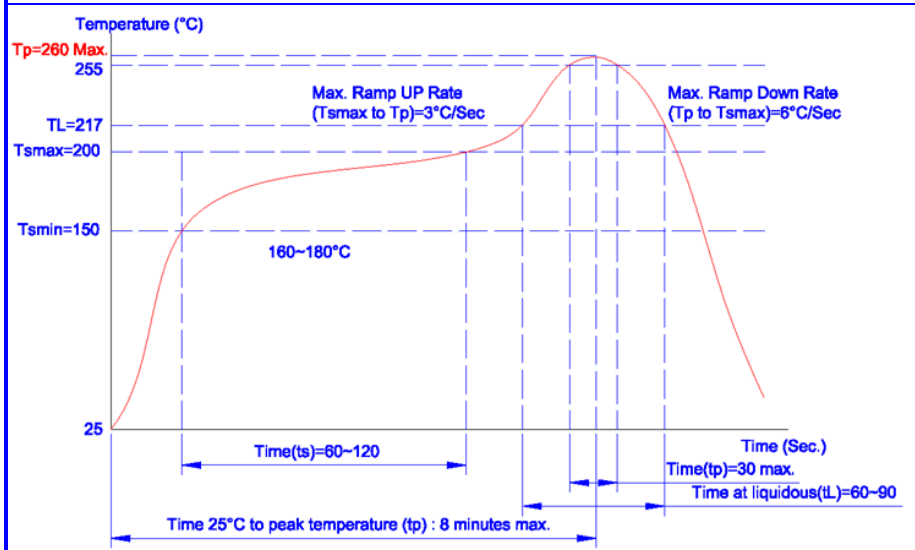
**DIMENSIONS** Units in: mm Tolerance:  $\pm 0.2$  mm



**FREQUENCY RESPONSE CURVE**

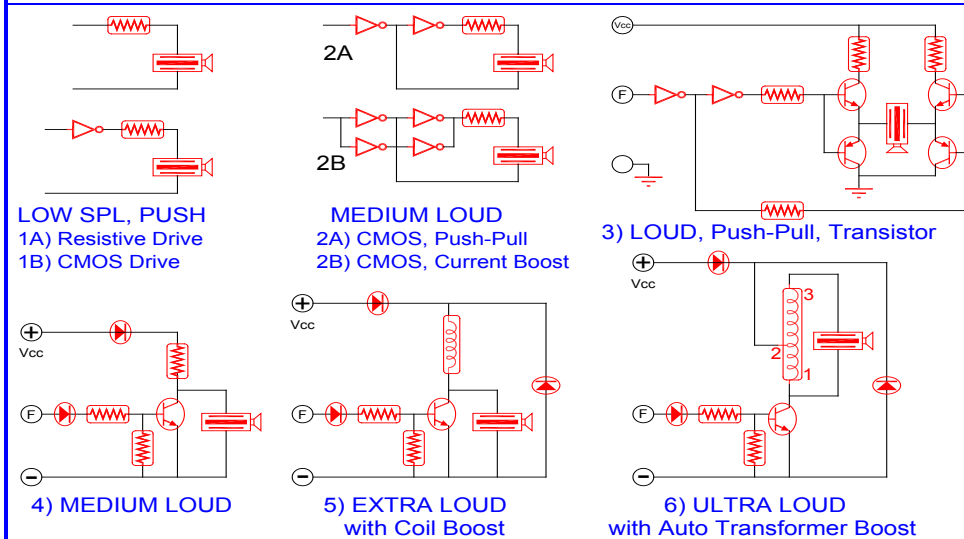


**SOLDER REFLOW PROFILE**



Stage	Temperature Profile	Maximum Time
Pre-heat	150~200°C	120 sec
Solder Melt	Above 230°C	90 sec
Peak	260°C Maximum	30 sec
Cool Down		90 sec
Total Duration Period		

**RECOMMENDED CIRCUIT DRIVE**

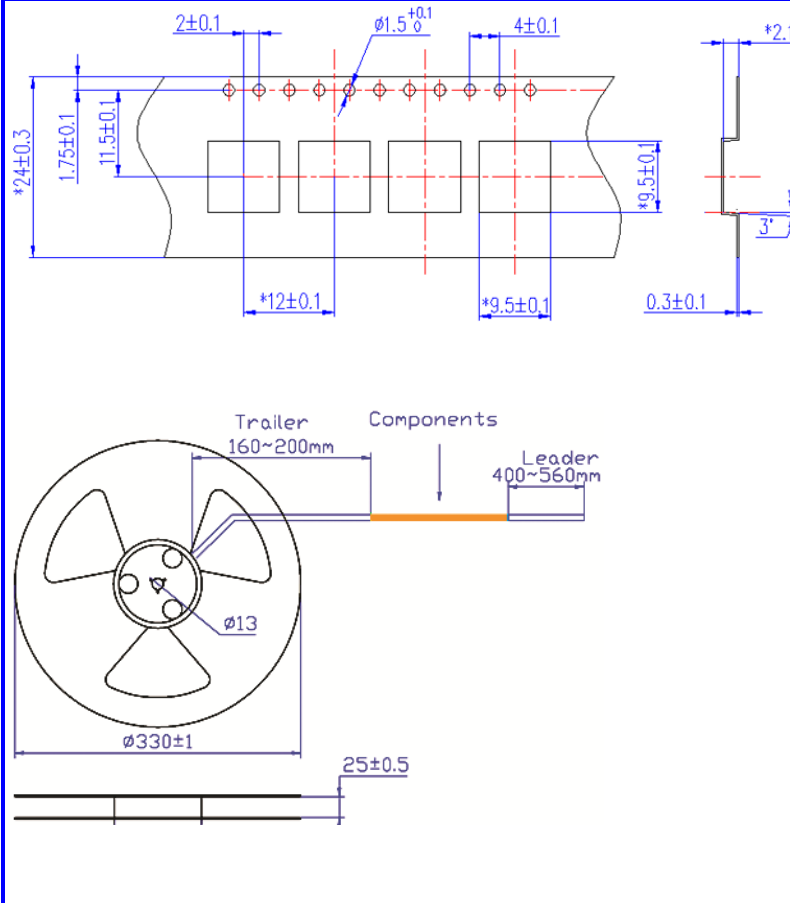


**STORAGE**

1. 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.
2. Exposure: Devices should not be exposed to high humidity high temperature environment. MSL (moisture sensitivity level) Class 2



## TAPE and REEL INFORMATION



- NOTE:**
- 10 sprocket hole pitch cumulative tolerance +/-0.20mm.
  - Carrier camber not to exceed 1 mm in 100 mm.
  - All dimensions meet EIA-481-2-A requirements.
  - Thickness: 0.40+/-0.05 mm.
  - Component loaded per 13" reel: suspend.
  - Quantity:
    - 2500 pcs per reel
    - 5 reels/12,500 pcs per carton.

## PACKAGING

MARKING		Reel	
Reel	Reel Diameter	13 in. 330 mm	
Part Number	Quantity	2500 pcs	
Quantity			
Lot and/or Date Code			
<b>Shipping Box</b>			
Part Number			
Customer PN (if required)			
Quantity	<b>Shipping Box</b>		
Lot and/or Date Code	Dimensions	X	35 cm
PO Number		Y	35 cm
Net Weight		Z	22.5 cm
Gross Weight	Number of Reels	5	
Box Number of Boxes	Quantity	12,500	
	Approximate Weight	Kg	
<b>Made in</b>			<b>China</b>

Revision	Description	By:	Date:
1-2014	Replace Product Photo	W. Sargent	8-5-2014
2-2014	Update Tape and Reel Drawings	W. Sargent	8-7-2014
3-2014	Revised per-unit weight. Added carton size and shipping quantity. Removed Insulation test spec. Updated reliability test performance.	W. Sargent	8/14/2014
4-2014	Replaced Frequency Response Chart. Added REACH compliance. Changed SPL from 75dB to 70dB.	W. Sargent	10/17/2014
5-2014	Added Measurement Setup Photos	W. Sargent	10/27/2014

The information contained herein is believed to be correct, but no guarantee or warranty, express or implied, with respect to accuracy, completeness or results is extended and no liability is assumed.

Challenge Electronics reserves the right to make changes in any specification, data or material contained herein.



**Challenge Electronics**

95 East Jefryn Boulevard  
Deer Park, NY 11729

**Tel: 1-800-722-8197**

**1-631-595-2217**

**Fax: 1-631-586-5899**

**WEB: [www.ChallengeElectronics.com](http://www.ChallengeElectronics.com)**

**EMAIL: [Sales@Challelec.com](mailto:Sales@Challelec.com)**

**ISO 9001:2008 Certified**

6-2014	Added Quantities to Tape and Reel Page	W. Sargent	12/15/2014
--------	--	------------	------------

The information contained herein is believed to be correct, but no guarantee or warranty, express or implied, with respect to accuracy, completeness or results is extended and no liability is assumed.

Challenge Electronics reserves the right to make changes in any specification, data or material contained herein.

CE-EG-04-400PT Piezoelectric Sound Transducer Specifications

4 of 4

**Copyright © 2014 Challenge Electronics**

**12/15/2014**