



PRODUCT INFORMATION							
PART #:		CEPT122S048-125-20MR				Revision: 1-2013	
		SMD Piezoelectric Sound Transducer					
DESCRIPTION			FEATURES				
Challenge Electronics Piezoelectric Transducer; 12.2mm Long; S style case (Square, Bottom Sound Port); 4.8mm High; 1 to 25 Vpp Operation Voltage; 2,000Hz. Resonant Frequency; minimum output of 70 dB(A) at 10 cm at Rated Voltage; SMD Termination, RoHS Compliance			<ul style="list-style-type: none"> • RoHS Compliant • ISO 9001 & TS16949 Certified 				
SPECIFICATIONS							
Operating Voltage		3 Vpp	Nominal Rated Voltage	1-25 Vpp	Resonant Frequency	2,000 Hz.	
Sound Pressure Level		70 dB(A), at: 10 cm, Resonant Frequency, Nominal rated Voltage, Square Wave					
Operating Current		1 mA, at: Resonant Frequency, Nominal rated Voltage, Square Wave					
Operating Temperature		-30°C to +70 °C	Storage Temperature	-40°C to + 85°C	Capacitance	15,000 ± 30% pFD	
Material	Housing		LCP, Plastic, Black		Sound Port Direction	Bottom (through the PCB)	
	Diaphragm		Ni Alloy		Encapsulation	Plastic Plate	
	Termination		SMD				
Physical Dimensions		Length or Diameter (L /D)	12.2 mm	Width (W)	12.0 mm	Height (H)	4.8 mm
Approximate Weight		0.4 grams	Removable Washing Label	No	Compliance	RoHS	
Packaging							
RELIABILITY							
Thermal Operating Temperature Test		96 hours continuous operation at Rated Voltage, at Maximum Rated Operating Temperature *					
Thermal Storage Temperature Test		96 hours continuous operation at Rated Voltage, at Minimum Rated Operating Temperature *					
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	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					



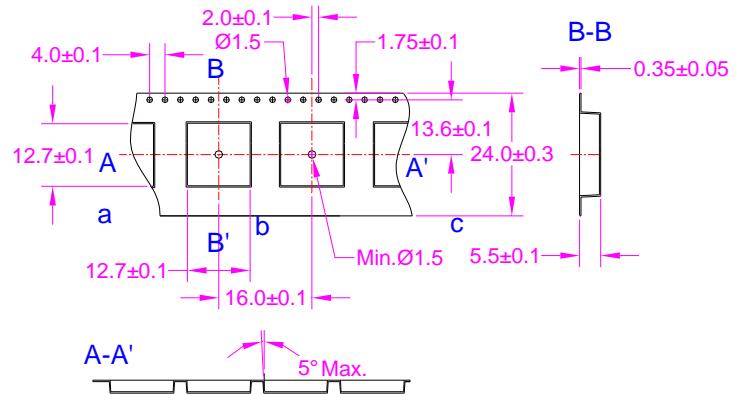
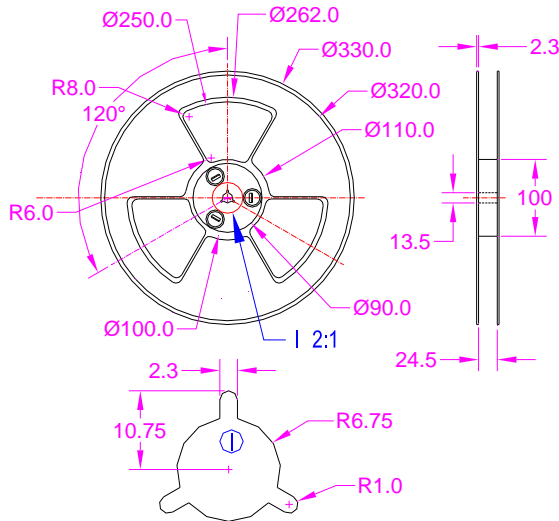
DIMENSIONS Units in: mm Tolerance: ±0.5 mm			Recommended Land Pattern
<p>Bottom View</p>	<p>Side View</p>	<p>Top View</p>	<p>PCB Hole Diameter for Sound Port should be a minimum of double (2X) Transducer Sound Port Diameter</p>

FREQUENCY REPOSE CURVE	SOLDER REFLOW PROFILE																				
<p>X: 1.700 K Hz *Y: 55.38 dB Z: Live Curve SSR.T.Ha A: Frequency Response, Magn dB Ref 20.00 U: Pa/V</p>		<table border="1"> <thead> <tr> <th>Stage</th> <th>Temperature Profile</th> <th>Maximum Time</th> </tr> </thead> <tbody> <tr> <td>Pre-heat</td> <td>150~230°C</td> <td>120 sec</td> </tr> <tr> <td>Solder Melt</td> <td>Above 230°C</td> <td>100 sec</td> </tr> <tr> <td>Peak</td> <td>260°C Maximum</td> <td></td> </tr> <tr> <td>Cool Down</td> <td></td> <td>100 sec</td> </tr> <tr> <td>Total Duration Period</td> <td></td> <td>6 Minutes Maximum</td> </tr> </tbody> </table>	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	
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RECOMMENDED CIRCUIT DRIVE	STORAGE
<div style="display: flex; justify-content: space-around;"> <div style="width: 30%;"> <p>LOW SPL, PUSH 1A) Resistive Drive 1B) CMOS Drive</p> </div> <div style="width: 30%;"> <p>MEDIUM LOUD 2A) CMOS, Push-Pull 2B) CMOS, Current Boost</p> </div> <div style="width: 30%;"> <p>3) LOUD, Push-Pull, Transistor</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="width: 30%;"> <p>4) MEDIUM LOUD</p> </div> <div style="width: 30%;"> <p>5) EXTRA LOUD with Coil Boost</p> </div> <div style="width: 30%;"> <p>6) ULTRA LOUD with Auto Transformer Boost</p> </div> </div>	<ol style="list-style-type: none"> 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

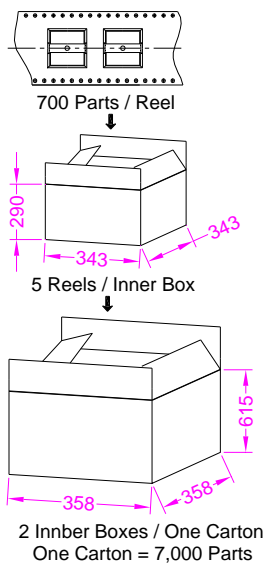


TAPE and REEL INFORMATION



1. 110 sprocket holes pitch cumulative tolerance ± 0.20 mm
 2. Carrier camber not to exceed 1 mm in 100 mm
 3. Ao & Bo measured on a plane 0.3 mm 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
- Component loaded 13" (330 mm) Reel: **700** parts

PACKAGING



MARKING		Reel	
Reel	Reel Diameter	13" (330 mm)	
Part Number		700	
Quantity	Bundle		
Lot and/or Date Code	Dimensions	X	34.3 cm
Shipping Box		Y	34.3 cm
Part Number		Z	29 cm
Customer PN (if required)	Quantity	3,500	
Quantity	Shipping Box		
Lot and/or Date Code	Dimensions	X	35.8 cm
PO Number		Y	35.8 cm
Net Weight		Z	61.5 cm
Gross Weight	Number of Bundles	2	
Box Number of Boxes	Quantity	7,000	
	Approximate Weight	Kg	
Made in			China

Revision	Description	By:	Date:
1-2013	Updated Tape & Reel information, Packaging ,and PCB Layout drawings	Ely Zofan	10/10/2013