



Part Number:

**CEPX-12D90BW51**

Revision: 1-2015

**Challenge Electronics Piezoelectric X-tal Sounding Element: 12.0 mm diameter, 0.21 mm High; Direct Type; Resonant Frequency (Fo) 9,000 Hz.; Brass Diaphragm; Wire Leads 51 mm Long; RoHS & REACH Compliant**

**Features**

◆ RoHS, Lead Free, and REACH Compliance

◆ ISO 9001:2008 & ISO-TS 16949:2009 Certified

**Specification**

Assembly Type	Direct Drive	Maximum Operating Voltage	30 Vp-p	Resonant Frequency (Fo)	9,000 ± 1,000 Hz.
Resonant Impedance	Maximum 1,000 Ohms		Static Capacitance	8,000 ± 30% pFD at 1,000 Hz.	
Electrical - Mechanical Coupling Coefficient	(Kp)	>	(tgδ)	Loss	
Operating Temperature	-20°C to +60°C		Storage Temperature	-20°C to +70°C	
Materials	Ceramic	Piezoelectric Ceramic Disc, Silver Coated, 9 mm Ø			
	Diaphragm	Brass, 12.0 mm Ø, 0.10 mm Thick			
	Termination	Wire 32 AWG, per UL 1571, 51.0 ± 5.0 mm long, stripped and tinned 2.0 ± 1.0 mm long			

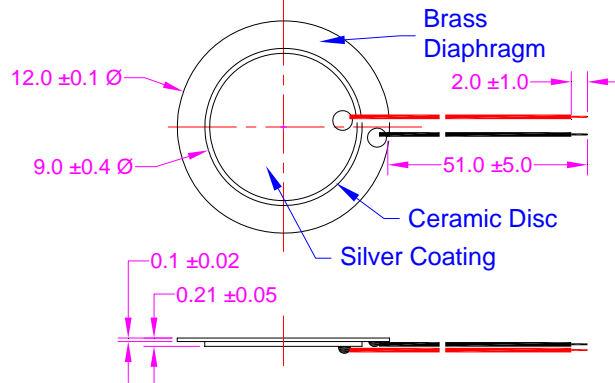
**Reliability**

\* Parts should conform to original performance within ±3 dB, after 3 hours of recovery and dry period

Thermal Operating Cycle Test	96 hours continuous operation each at minimum & maximum rated Operating Temperatures.
Thermal Storage Cycle Test	96 hours continuous operation each at minimum & maximum rated Storage Temperatures.
Thermal Shock Test	Put in minimum operating temperature for 1 hour than move to +20°C for 5 min. than at maximum operating temperature for 1 hour. than back to +20°C 5 min. Repeat for 5 cycles.
Humidity Test	120 Hours at +60°C±2°C. 90-95% RH
Vibration Test	2 Hours at 1.5 mm with 10 to 50 Hz. Of vibration frequency to each of 3 perpendicular direction
Thermal Operating Cycle Test	96 hours continuous operation each at minimum & maximum rated Operating Temperatures.
Caution	<b>Do not maintain Vdc (Direct Current) on the Piezoelectric Assembly. Direct Voltage may depolarize the Piezoelectric Ceramic Disc</b>
Warranty	For a period of one (1) years 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**

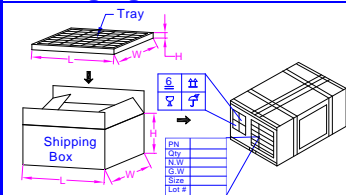
Dimensions are in: Inches/(mm), Tolerance: ±0.025"/(±0.6 mm)



**Substance Of Very High Concern (REACH) and RoHS Lead Free Compliance**

This product does NOT contain any of the REACH Substances of Very High Concern (SVHC), and is in compliance with European Union REACH Regulation No.1907/2006 regarding chemical substances which must be registered or disclosed	Cadmium (Cd) / Cadmium Compounds	≤ 100 ppm	In compliance
	Lead (Pb) / Lead Compounds	≤ 1,000 ppm	≤ 10,000 ppm (*)
(*) European Union Directive 2011/65/EU (RoHS Directive) of the European Parliament. And of the Council of 8 June 2011 and all subsequent amendments, The ANNEX III of the Directive Applications exempted from the restriction in Article 4(1): 7(c)-I, Electrical and electronic components containing lead in ceramic matrix compound Piezoelectric is also known as Lead Zirconate Titanate (PZT) ceramics. Lead content, homogeneous material compound is between 58% and 68% by weight depending on the proportion of zirconium (Zr) and titanium (Ti)	Mercury (Hg) / Mercury Compounds	≤ 1,000 ppm	In compliance
	Hexavalent-Chromium (Cr6+)	≤ 1,000 ppm	In compliance
	Poly Brominated Biphenyls (PBB)	≤ 1,000 ppm	In compliance
	Poly Brominated Diphenyl Ethers (PBDE)	≤ 1,000 ppm	In compliance
	Arsenic (As)	≤ 1,000 ppm	In compliance

**Packaging**



**Box Marking**

**Tray**

Part Number	Dimensions	L	cm
Other PN (if required)		W	cm
Lot and/or Date Code	Quantity	50	
Quantity	<b>Shipping Box</b>		
PO Number	Dimensions	L	cm
Net Weight		W	cm
Gross Weight		H	cm
Box _ of _	Number of Trays		
Made in China	Quantity		
	Approximate Weight		Kg.

Revision	Description	By	Date
1-2015	Revised Termination, specifying wire, length and type	W Sargent	2015-07-16