Challenge Electronics
95 East Jefryn Boulevard
Deer Park, NY 11729

Tel: 1-800-722-8197
1-631-595-2217
Fax: 1-631-667-5484

Email: Sales@ChallElec.com
Web: www.ChallengeElectronics.com
ISO 9001:2008 Certified

RoHS Lead Free REACH The new chemical legislation COMPLIANCE

PRODUCT INFORMATION

Part #: CE-CX330AVS

Revision: 4-2016

DESCRIPTION

Challenge Electronics CONTINUOUS Tone, EXTRA Loud, 3 to 30 Vdc, A style case Rear Panel Mounting in 1.125" (28.6 mm) Hole, Sound Pressure Level of 103 dB(A) at 30 Vdc at 61 cm, 2,900 Hz. Output Frequency, S two 0.25" (6.4 mm) Blades with M3 0.25" (6.4 mm) long Stainless Steel Screws termination; Piezoelectric Alarm with a mechanical Volume Control, RoHS Compliant

FEATURES

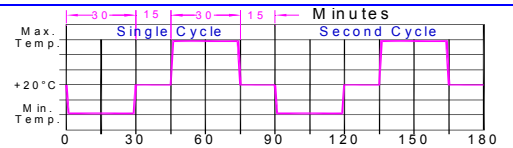
- Reliable Solid State Piezoelectric Technology
- Corrosion resistant Stainless Steel Diaphragm
- Flame Retardant Plastic
- Extended storage temperature
- Hermetically Sealed Alarm
- Water Proof, NEMA 3R, 4X, or 12 with Gasket (not supplied)
- RoHS, Lead Free Compliance
- ISO 9001:2008 Certified
- RoHS Lead Free, SVHC, and REACH

REACH COMPLIANCE DECLARATION

This Article contains Piezoelectric-Ceramic-Disc, which is more than 0.1% (w/w) of REACH Candidate List SVHC Lead-Zirconium-Titanium-Oxide (CAS 12626-81-2), a key ingredient of the Piezoelectric-Ceramic-Disc in the Alarm operation.
See section Substance Of Very High Concern and RoHS Lead Free Compliance, page # 2, for full details.

SPECIFICATIONS

Operating Mode		**Extra Loud, Continuous Tone**			**Operating Voltage**	**3 to 30 Vdc**		**Nominal Operating Voltage**		**24 Vdc**	
Operating Frequency		**2,900 ± 500 Hz.**				**Pulse Rate**					
Typical Loudness		**At 3 Vdc**	**84 (-5 / +9) dB(A)**		**At 24 Vdc**	**102 (-3 / +8) dB(A)**		**At 30 Vdc**	**103 (-3 / +8) dB(A)**		
		In production, SPL is measured at 30 Vdc; AQL test at 3 Vdc, 24 Vdc, and 30 Vdc of SPL, Current, and Frequency; SPL is measured at 24" (61 cm); 25°C; Sound Level meter # 2240, Type 2, Fast Response, A-Weighted; per SJ/T10382-1993									
Operating Current		**At 3 Vdc**	**Typ. 3 mA**	**Max. 6 mA**	**At 24 Vdc**	**Typ. 28 mA**	**Max. 35 mA**	**At 30 Vdc**	**Typ. 38 mA**	**Max. 45 mA**	
Operating Temperature		**-30°C to +65°C**	**Storage Temperature**	**-40°C to +100°C**							
Volume Control		**Maximum Sound Pressure Level can be restricted up to 20 dB from maximum output. (Note, The Volume Control Rotor may reduce maximum loudness)** **To attenuate sound, while alarm is turned on, rotate the ROTOR until maximum desired sound is achieved**									
Surge Voltage		**20% over maximum Operating Voltage for less than 5 minutes**									
Polarity Protection		**Protected against Reversed Voltage to the Maximum Operating Voltage**									
Materials	**Alarm Case**	**Plastic, "A" Case, NORYL™, PX9406 or equal, flame retardant UL 94-V0, Black**						**Diaphragm**	**Stainless Steel 304**		
	Encapsulation	**Silicon Potting covering SMD components, topped with 2 parts epoxy potting, Black**									
	Termination	**Two, 0.25 (6.4 mm) Quick Connect Blades, 0.032Ø (0.8Ø mm) Wide, Brass, Electro-Tin plated, with M3 0.25" (6.4 mm) long Stainless Steel Screws**									
Physical Dimensions		**Diameter (D)**	**1.46" (37.1 mm) Ø**		**Length (L)**	**1.46" (37.1 mm)**		**Terminals Spacing**	**1.0" (25.4 mm)**		
Approximate Weight		**40 grams**	**With Volume Control**	**Yes**	**Compliance**	**RoHS Lead Free, SVHC, and REACH**					
RELIABILITY		**1. Reliability Tests done per Buzzer test method SJ-258-10382** **2. * Parts should conform to original performance within ±3dB, after 3 hours of recovery and dry period**									
Thermal Operating Temperature Test		**96 hours** continuous operation **at Nominal Voltage**, at **Maximum Operating Temperature**, **per GB/T2423.2-1989** *									
		96 hours continuous operation **at Nominal Voltage, at Minimum Operating Temperature**; **per GB/T2423.1-1989** *									
Thermal Storage Temperature Test		**96 hours** storage at **Maximum Storage Temperatures, per GB/T2423.2-1989** *									
		96 hours storage at **Minimum Storage Temperatures**; **per GB/T2423.1-1989** *									
Thermal Shock Test		**5 cycles** of **Minimum and Maximum Operating Temperature** Each cycle shell be set per diagram below and is three (3) hours long. Make sure to limit temperature range to specifications listed above, **per GB/T2423.3-1993** *									
Humidity Test		**120 Hours** at +60°C±2°C, 90-95% RH, **per EIA/JESD22 – A101 & GB2423.3-93** *									
Salt Spray		Withstand exposure to salt spray for a period of **300 hours**, **per ASTM B117 & GJB150.11A-2009** *									
Water & Dust Exposure		Withstands water submergence and dust exposure when mounted with Gasket) per **IP-68** *									
Vibration Test	**Alarm Functionality**	Withstand **2 Hours** of Sweeping 10 to 55 Hz. Vibration Frequency and Vibration Amplitude of 1.5 mm, in each of 3 perpendicular directions *									
	Mechanical Strength	Withstand **300 Hours** of Continuous Reciprocating Vibrations, Vibration Range of 1.0" (25.4 mm) P-P and Vibration Frequency of 5 Hz. (300 rpm) *									
Drop Test		Dropped naturally from 1 meter height onto the surface of 10 mm wooden board, 2 directions upper and side of the part are applied, **per GB2423.8-81** *									
Termination Strength		Maximum of 15 pounds (6.8 Kg) load pull test and of 4 lb. per inch driving torque on screw									
Life Test	**Intermittent**	**1,000 hours** of a 1 minute on 4 minutes off cycle at room temperature and **maximum Voltage**									
	Continuous	**250 hours** continuous operation at room temperature and **maximum Voltage**									
Warranty		For a period of **Two (2) 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									

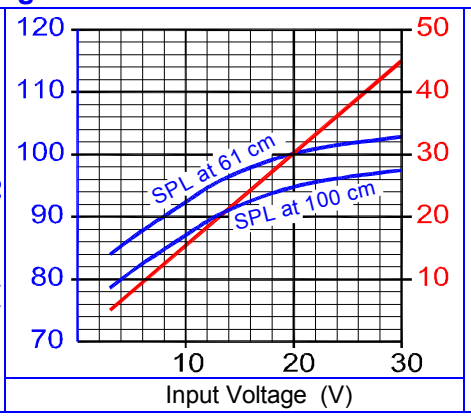


Challenge Electronics
95 East Jefryn Boulevard
Deer Park, NY 11729

Tel: 1-800-722-8197
1-631-595-2217
Fax: 1-631-667-5484

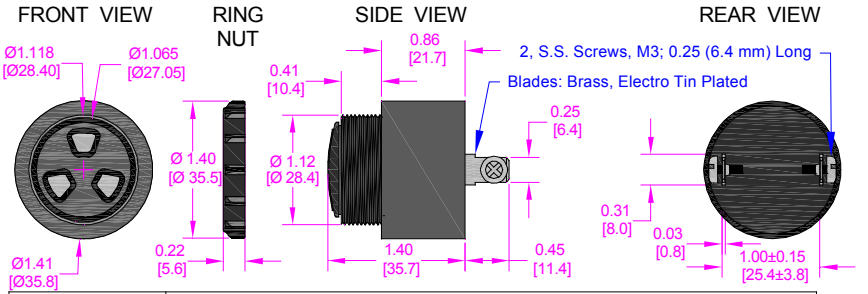
Email: Sales@ChallElec.com
Web: www.ChallengeElectronics.com
ISO 9001:2008 Certified

Current Draw and Loudness Vs. Input Voltage



DIMENSIONS

Units	Inches	Tolerance	0.030
	(mm)		(0.7)

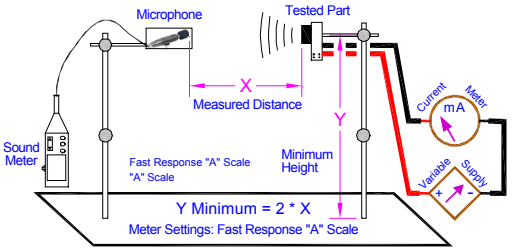


Alarm Threads:	1.125-24 UNS Threads, 2A Class, Major 1.118" Ø, Minor 1.065" Ø , Pitch 1.095" Ø
Ring Nut Threads:	1.125-24 UNS Threads, 2B Class, Major 1.128" Ø, Minor 1.075" Ø , Pitch 1.105" Ø
Mounting Hole:	1.128" (28.7 mm) Ø, Panel Thickness 0.03" (0.75 mm) to 0.25" (6.4 mm)
Gasket (Optional):	Rubber, ID 1.18" (30.0 mm), OD 1.40" (35.6 mm), Thickness 0.10" (2.54 mm)

ALARM MARKING

On side Case:	**CE-CX330AVS Cont. Tone 3-30 Vdc / (XXXXX) Challenge Electronics Made in China**
On Back:	**Polarity Identification (when Required)**
Date Code Information:	**(XXXXX);** Date Code consists of 2 Digits for year, 2 for week, and last for the day of the week

TESTING PROCESS



X = 24" (61 cm)

SUBSTANCE OF VERY HIGH CONCERN and RoHS COMPLIANCE DECLARATION

This product does NOT contain any of the 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) and Substances of Very High Concern (SVHC), and European Union Directive 2011/65/EU (RoHS Directive) of the European Parliament with one (1) Exemption

Lead (Pb) / Lead Compounds	≤1,000 ppm	**≤ 10,000 ppm (*)**	**Poly Brominated Diphenyl Ethers (PBDE)**	≤1,000 ppm	**In compliance**
Mercury (Hg) / Mercury Compounds	≤1,000 ppm	**In compliance**	**Bis (2-Ethylhexyl) Phthalate (DEHP)**	≤1,000 ppm	**In compliance**
Cadmium (Cd) / Cadmium Compounds	≤ 100 ppm	**In compliance**	**Butyl Benzyl Phthalate (BBP)**	≤1,000 ppm	**In compliance**
Hexavalent Chromium (Cr VI)	≤1,000 ppm	**In compliance**	**Dibutyl Phthalate (DBP)**	≤1,000 ppm	**In compliance**

(*) 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 a glass or ceramic other than dielectric ceramic in capacitors, e.g. Piezoelectric devices, or in a glass or ceramic matrix compound Piezoelectric is also known as Lead Zirconate Titanate (PZT) ceramics. Piezoelectric Ceramic disc, (PZT), lead as high covalent compound in the ceramic matrix to achieve good ferroelectric properties in a wide temperature range. The best-known performances can be reached with PZT ceramics, which are a mixture of PbTiO3 and PbZrO3. The lead content, homogeneous material compound is between 58% and 68% by weight depending on the proportion of zirconium (Zr) and titanium (Ti)

1) According to the REACH terminology, Challenge Electronics acknowledge being Producers, Importers and Marketer of Sound Devices Articles, which do not contain Substances of Very High Concern (SVHC's) to be intentionally released

2) Challenge Electronics hereby declares, to the best of our knowledge and based on our China Manufacturers and Fabricators information, that, all Challenge Electronics Sound Devices Articles are chemically safe, and should not harm any human, animals, or the environment

3) It should be noted that SVHC items are not banned from inclusion, but are Reportable per current REACH regulations
- a) With the exception of The Piezoelectric-Ceramic-Disc article that CONTAINS more than 0.1% (w/w) of REACH Candidate List SVHC Lead-Zirconium-Titanium-Oxide (CAS 12626-81-2), which is a key ingredient of the Piezoelectric-Ceramic-Disc in the Alarm operation. See also the RoHS Compliance ANNEX III of the Directive Applications exempted from the restriction in Article 4(1)
- b) Some SMD and Dip type Capacitors CONTAINS one of the following Lead Oxides published in the ECHA SVHC Candidate List at or greater than 0.1% of total weight: Lead monoxide (CAS 1317-36-8), Lead titanium zirconium oxide (CAS 12626-81-2)

4) In all cases, the lead substance is chemically combined in Capacitors and presents no hazard to humans or the environment under normal handling and use. In addition, Challenge Electronics complies with the restrictions stated in Annex XVII of REACH

IMDS Guide for Piezoelectric

Automotive Industry Interpretation Guide for ELV Annex II (2016/774/EU) with IMDS Information added by the IMDS Steering Committee

- **Interpretation Guide for ELV Annex II (2016/774/EC) Version 3.0**
- **Definition/interpretation of -Exemption (10a)**

Examples for components covered by (10a)

a) Piezoceramics

Piezoceramics are characterized through their ability to transform mechanical energy in electrical energy and reciprocal. They fulfil technical functions as actuators, sensors, generators and motors. They are used for instance in Actuators for diesel and gasoline injection valves, knock sensors, resonator and filter, actuators, bending actuators for pneumatic valves, tire Pressure Sensors, ceramic sensors (like ABS, air bag, pressure, car navigation sensors), **Piezoelectric Alarms, Piezoelectric buzzers, Piezoelectric Sound Transducers, Ultrasonic Sensor and Transmitter**. The lead content in the Piezoceramics ceramics is around 50 to 70% by weight, depending on the content of dopants, required functional properties and on the proportion of Zirconium (Zr) and Titanium (Ti)

Lead Zirconium Titanium Oxide Information Basic information

Density:	**7.7 g/cm³**	CAS #:	**12626-81-2**	EC #:	**235-727-4**	Inclusion Date:	**12/19/2012**	DN:	**ED/169/2012**	Product Categories:	**Inorganics**
Safety Information:		RIDADR:	**UN1993**	TSCA:	**Yes**	Hazard Class:		**3**		Packing Group:	**III**

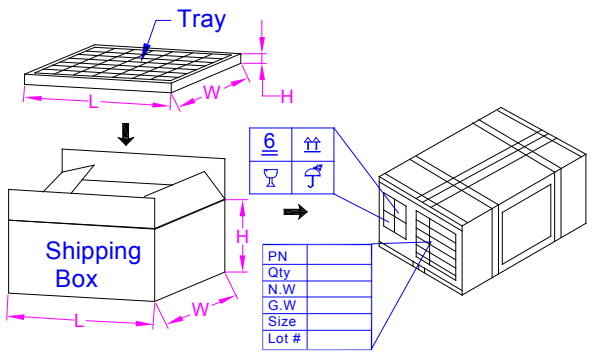
In Challenge Electronics role as Supplier, we have taken the necessary steps towards our China Manufacturing in order to get a written confirmation about their knowledge of the Regulation and their analysis of the impact on their company

Challenge Electronics
95 East Jefryn Boulevard
Deer Park, NY 11729

Tel: 1-800-722-8197
1-631-595-2217
Fax: 1-631-667-5484

Email: Sales@ChallElec.com
Web: www.ChallengeElectronics.com
ISO 9001:2008 Certified

PACKAGING



Shipping Box MARKING	TRAY		
Part Number	Dimensions	L	34.7 cm
Other PN if required		W	34.7 cm
Quantity		H	21.2 cm
Lot and/or Date Code	Quantity		42
PO Number	SHIPPING BOX		
Gross Weight	Dimensions	L	35 cm
Box Number of Boxes		W	35 cm
RoHS Lead Free Compliance		H	22.5 cm
	Quantity		250
	Approximate Weight		9 Kg.
	Volume		0.0276 m^3
	Made in		China

Revision	Description	By	Date
1-2007	Updated specifications	E. Zofan	3/20/2007
2-2010	Revised Current Draw and Loudness Vs. Input Voltage	E. Zofan	7/28/2010
3-2012	Chanched Specifications format	E. Zofan	7/31/2012
4-2016	Added full disclosure of REACH COMPLIANCE DECLARATION	E. Zofan	11/8/2016