




PRODUCT INFORMATION

Part #: **CE-CU630F24Q**

Revision:1-2016

NEW FRONT PANEL MOUNT SELF-LOCKING Piezoelectric Alarm

DESCRIPTION	FEATURES	
Challenge Electronics CONTINUOUS Tone; ULTRA Loud; 6 to 30 Vdc; F style Front Panel Self-Lock Mounting case; 2,400 Hz. Output Frequency; typical Sound Pressure Level of 107 dB(A) at 30 Vdc at 61 cm; Quick Disconnect 0.25" Blades termination; Piezoelectric Alarm	<ul style="list-style-type: none"> ◆ Reliable Solid State Piezoelectric Technology ◆ Corrosion resistant Stainless Steel Diaphragm ◆ Flame Retardant Plastic ◆ Extended storage temperature ◆ Hermetically Sealed Alarm ◆ Polarity and Voltage Surge Protected ◆ IP-68; Water and Dust Proof ◆ NEMA 3R, 4X, or 12 with Gasket ◆ RoHS, Lead Free and REACH Compliance 	

RoHS and 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

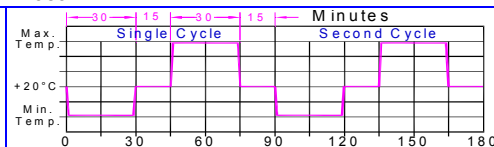
Operating Mode	Ultra-Loud, Continuous Tone	Operating Voltage	6 to 30 Vdc	Nominal Operating Voltage	24 Vdc				
Operating Frequency	2,400 ± 250 Hz.			Pulse Rate					
Typical Loudness	At 6 Vdc	91 (+10/-7) dB(A)	At 24 Vdc	106 (+10/-5) dB(A)	At 30 Vdc	107 (+10/-4) dB(A)			
	In production, SPL is measured at 30 Vdc; AQL test at 6 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 SJJ/T10382-1993								
Operating Current	At 6 Vdc	Typ. 10 mA	Max. 15 mA	At 24 Vdc	Typ. 32 mA	Max. 40 mA	At 30 Vdc	Typ. 40 mA	Max. 50 mA
Operating Temperature	-30°C to +65°C		Storage Temperature	-40°C to +90°C					
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, "F24" Case, PPO or equal; Locking Arms, Nylon; flame retardant UL 94-V0; Black							
	Diaphragm	Stainless Steel 304							
	Encapsulation	Silicon Potting covering SMD components topped with 2 parts epoxy potting, Black							
	Gasket	Material: Butadiene Acrylonitrile Rubber, 60% Hardness; OD 33 mm, ID 24 mm, Width 2.25 mm							
	Termination	Two (2), 0.25 (6.4 mm) Quick Disconnect Blades, 0.032" (0.8mm) thick, Brass, Electro-Tin plated							
Physical Dimensions	Length or Diameter (L / D)	1.400" (35.7 mm) Ø	Width (W)		Height (H)	1.65" (41.8 mm)			
Approximate Weight	37 grams	With Volume Control	No	Compliance	RoHS, Lead Free, and REACH (SVHC)				

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 Rated Power, at Maximum Operating Temperature; per GB/T2423.2-1989 *
Thermal Storage Temperature Test	96 hours storage at Minimum Storage Temperatures; per GB/T2423.1-1989 *
Thermal Shock Test	5 cycles of Minimum and Maximum Operating Temperature

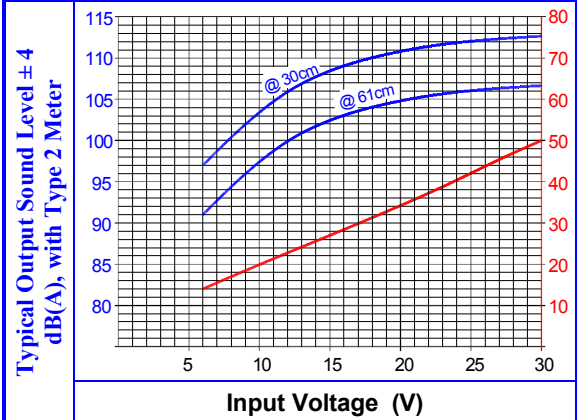
Each cycle shall be set per diagram below and is three (3) hours long. Make sure to limit temperature range to specifications listed above; per GB/T2423.3-1993 *



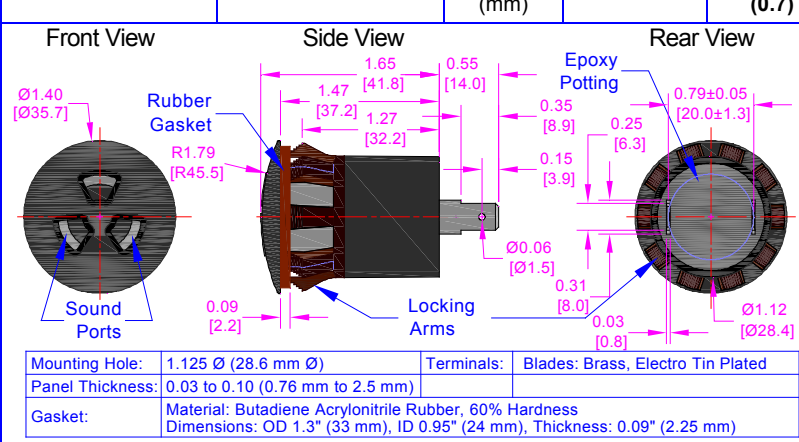
Humidity Test	120 Hours at +60°C ± 2°C, 90-95 % RH; per EIA/JESD22 – A101 & GB2423.3-93 *
Salt Spray	Withstand exposure to salt spray, per ASTM B117 & GJB150.11A-2009, for a period of 300 hours *
Water & Dust Exposure	Dust, water, salt, dust-control agents, moisture-control agents, detergents, degreasers, diesel fuel, hydraulic fluid 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
Life Test	Intermittent: 1,000 hours of a 1 minute on 4 minutes off cycle at room temperature and Nominal Voltage
	Continuous: 250 hours continuous operation at room temperature and Nominal 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



Current Draw and Loudness Vs. Input Voltage



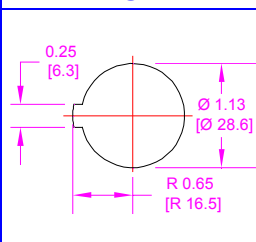
DIMENSIONS



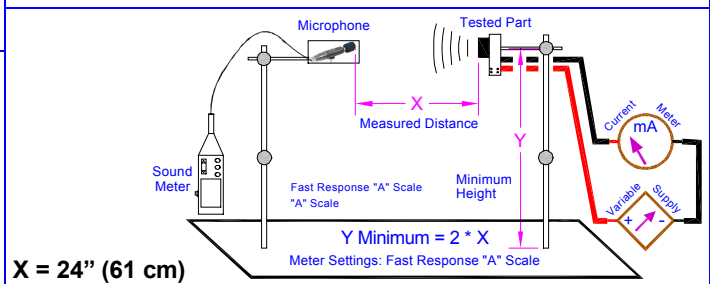
ALARM MAKING

On side Case:	CE-CU630F24Q Continuous 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

Recommended Mounting Hole



Standard SPL Measurement Process



SUBSTANCE OF VERY HIGH CONCERN and RoHS COMPLIANCE DECLARATION

This product does NOT contain any of the REACH Substances of Very High Concern (SVHC), and complies with European Union REACH Regulation No.1907/2006 regarding chemical substances that must be registered and disclosed with one (1) Exemption

Substance	Limit	Exemption	Limit	Compliance
Lead (Pb) / Lead Compounds	≤1,000 ppm	≤ 10,000 ppm ⁽¹⁾	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

⁽¹⁾ 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)

- 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
- 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
- It should be noted that SVHC items are not banned from inclusion, but are Reportable per current REACH regulations
 - 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)
 - 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)

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/cm ³	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



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		50
PO Number	SHIPPING BOX		
Gross Weight	Dimensions	L	34.7 cm
Box Number of Boxes		W	34.7 cm
RoHS Lead Free Compliance		H	21.2 cm
	Quantity		250
	Approximate Weight		Kg.
	Volume		0.0276 m ³
	Made in		China

Revision	Description	By	Date
1-2016	Modified Dimensions drawing, added RoHS and REACH Compliance Declaration	Ely Zofan	11/8/2016