



PRODUCT INFORMATION



Part #: **CE-CU516F24Q**

Revision: 5-2016

NEW FRONT PANEL MOUNT SELF-LOCKING Piezoelectric Alarm

DESCRIPTION

Challenge Electronics **CONTINUOUS** Tone; **ULTRA Loud**; **5 to 16 Vdc**; **F** style Front Panel Self-Lock Mounting case; **2,450 Hz.** Output Frequency; typical Sound Pressure Level of **107 dB(A)** at 16 Vdc at 61 cm; **Quick Disconnect 0.25"** Blades termination; Piezoelectric Alarm



FEATURES

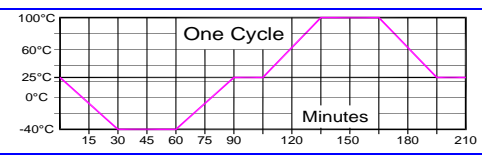
- ◆ Reliable Solid State Piezoelectric Technology
- ◆ Corrosion resistant Stainless Steel Diaphragm
- ◆ Flame Retardant Plastic
- ◆ Extended storage temperature
- ◆ Hermetically Sealed Alarm
- ◆ Polarity and Voltage Surge Protected
- ◆ IP-68; Water and Dust Proof
- ◆ NEMA 3R, 4X, or 12 with Gasket
- ◆ RoHS, Lead Free and REACH Compliance

SPECIFICATIONS

Operating Mode	Ultra Loud, Continuous Tones		Operating Voltage	5 to 16 Vdc		Nominal Operating Voltage	12 Vdc		
Operating Frequency	2,450 ± 250 Hz.				Pulse Rate				
Typical Loudness	At 5 Vdc	97 (+10/-6) dB(A)	At 12 Vdc	106 (+10/-5) dB(A)	At 16 Vdc	107 (+10/-4) dB(A)			
	SPL is measured at 24" (61 cm), 25°C, Sound Level meter # 2240, Type 2, Fast Response, A-Weighted								
Operating Current	At 5 Vdc	Typ. 17 mA	Max. 25 mA	At 12 Vdc	Typ. 46 mA	Max. 60 mA	At 16 Vdc	Typ. 55 mA	Max. 70 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)				

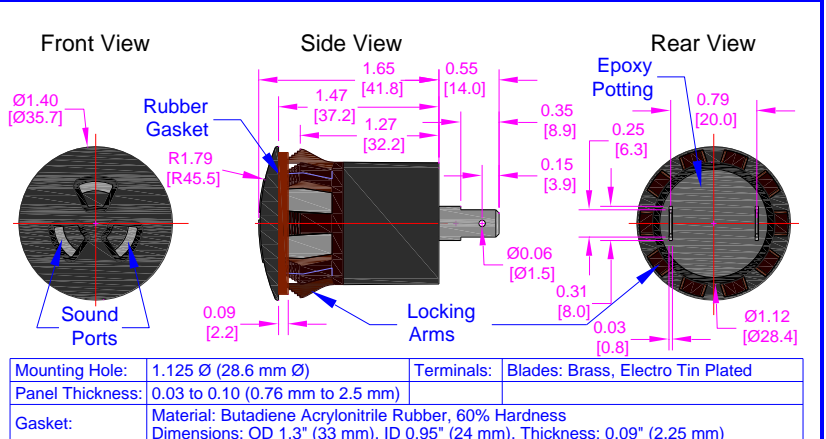
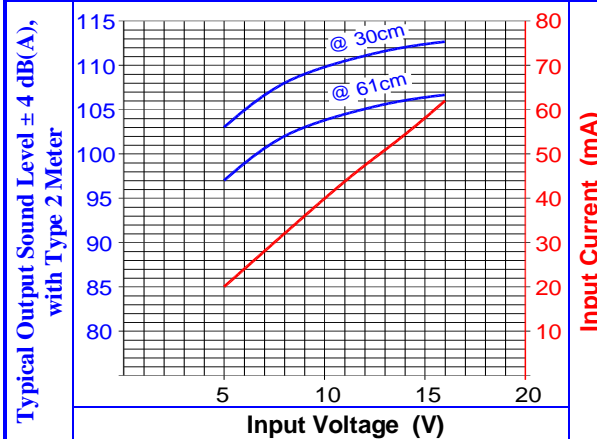
RELIABILITY

Thermal Operating Temperature Test	96 hours continuous operation at Rated Power , at Maximum Rated Operating Temperature *	
	96 hours continuous operation at Rated Power , 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	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 *	
Humidity Test	120 Hours at +60°C±2°C, 90-95% RH *	
Salt Spray	Withstand exposure to salt spray per ASTM B117 for a period of 300 hours *	
Water & Dust Exposure	Withstands water submergence and dust exposure 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 10mm wooden board, 2 directions upper and side of the part are applied *	
Termination Strength	Maximum of 15 pounds (6.8 Kg) load pull test	
* Reliability Test Performance	Parts should conform to original performance within ±3dB, after 3 hours of recovery and dry period	
Life Test	Intermittent	1,000 hours of a 1 minute on 4 minutes off cycle at room temperature and Maximum Rated Voltage
	Continuous	250 hours continuous operation at Maximum Rated Voltage and maximum Operating Temperatures
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	





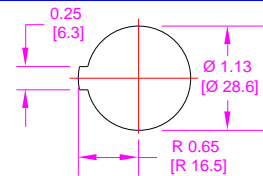
Current Draw and Loudness Vs. Input Voltage	DIMENSIONS	Units	Inches	Tolerance	0.030
			(mm)		(0.7)



ALARM MAKING

On side Case:	Part Number Sound Type Operating Voltage Range / Date Code Challenge Electronics Made in China
On Back:	Polarity Identification (when Required)

Recommended Mounting Hole



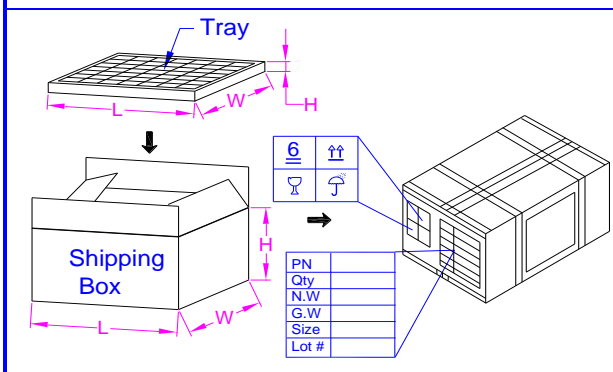
SUBSTANCE OF VERY HIGH CONCERN (REACH) and RoHS LEAD FREE COMPLIANCE

This product does NOT contain any of the REACH Substances of Very High Concern (SVHC), and complies 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	Poly Brominated Biphenyls (PBB)	≤ 1,000 ppm	In compliance
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	Arsenic (As)	≤ 1,000 ppm	In compliance
Hexavalent-Chromium (Cr6+)	≤ 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).

PACKAGING



Shipping Box MARKING		TRAY	
Part Number	Dimensions	L	cm
Other PN (if required)		W	cm
Lot and/or Date Code		H	cm
Quantity	Quantity	50	
PO Number	SHIPPING BOX		
Net Weight	Dimensions	L	cm
Gross Weight		W	cm
Box Number of Boxes		H	cm
Made in China	Number of Trays	5	
	Quantity	250	
	Approximate Weight	Kg.	

Revision	Description	By	Date
1-2014	Added Polarity Protection to specifications	E. Zofan	7/21/2014
2-2014	Corrected Text in Dimension Drawing	E. Zofan	8/6/2014
3-2014	added alarm marking, Mechanical Vibration Reliability	E. Zofan	8/25/2014
4-2015	New Format	E. Zofan	5/8/2015
5-2016	Modify the format	E. Zofan	1/26/2016