Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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soberton inc.

US ULTRASONIC TRANSDUCER

Acoustic Product Specification

Product Number: US-4112

Release | Revision: B/2018

CONTENTS

This document contains the technical specifications for the piezo audio buzzer.

Specifications

Item	Unit	Specification	Condition
Rated Voltage	Vrms	2.83	
Operating Volt	VDC	10 Max.	
Mean Current	mA	30 Max.	At 2.83Vrms
Sound Output	dBA	90	At 30cm/2.83Vrms
Resonant Frequency	KHz	2.5 ~ 50	
Operating Frequency	KHz	20 ±5	
Operating Temp	℃	-20 ~ +60	
Storage Temp	℃	-20 ~ +70	
Dimension	mm	∅41.0×12.0	
Weight	gram	5	
Material		ABS (black)	See Dimensions
Paper Cone		Mylar cone	6 months preservation at +25±3˚C Humidity 40%
IP Level		IP67	
Environmental Protection Regulation		RoHS	

Test condition:

Temperature: +25±2 ℃ **Related humidity:** 65±5%

Mechanical Characteristics

Item	Test condition	Evaluation standard
Lead Wire Pull Strength	The pull force will be applied to double lead wire : Horizontal: 3.0N(0.306kg) for 30 seconds. Vertical: 2.0N(0.204kg) for 30 seconds.	No damage and cutting off
Vibration	Buzzer will be measured after being applied vibration of amplitude of 1.5mm with 10Hz to 55Hz band of vibration frequency to each of 3 perpendicular directions for 2 hours.	The value of oscillation frequency/ current consumption would be in ±10% compared with initial ones.
Drop test	The part only will be dropped from a height of 70cm onto a 40mm thick wooden board 3 times in 3 axes(X,Y,Z). A total of 9 times.	The SPL would be in ±10dB compared with initial one.

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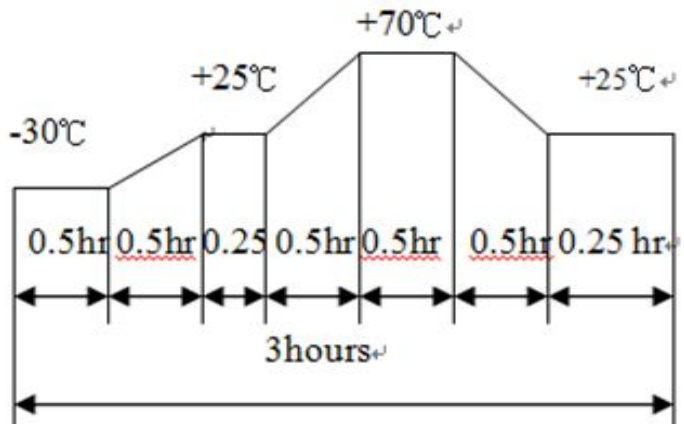
Environment Test		
Item	**Test condition**	**Evaluation standard**
High temp. test	After being placed in a chamber at +70℃ for 96 hours	Being placed for 4 hours at +25℃, buzzer will be measured. The value of oscillation, frequency / current consumption would be in ±10% compared with initial ones. The SPL would be in ±10dB compared with initial one.
Low temp. test	After being placed in a chamber at -30℃ for 96 hours	
Humidity test	After being placed in a chamber at +70℃ and 90±5% relative humidity for 96 hours	
Temp cycle test	The part will be subjected to 5 cycles. One cycle shall consist of: 	

Reliability Test		
Item	**Test condition**	**Evaluation standard**
Operating life test	**1. Continuous life test** 48 hours continuous operation at +55℃ with maximum rated voltage applied **2. Intermittent life test** A duty cycle of 1 minute on, 1 minutes off, a minimum of 1000 times at +25±2℃ and maximum rated voltage applied	After test, the part will meet specifications without any degradation in appearance and performance except SPL, after 4 hours at +25℃. The SPL would be in±10dBA compared with initial one.

Standard test condition:

a) Temperature: +5~+35℃

b) Humidity: 45~85%

c) Pressure: 860~1060mbar

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Release | Revision: B/2018

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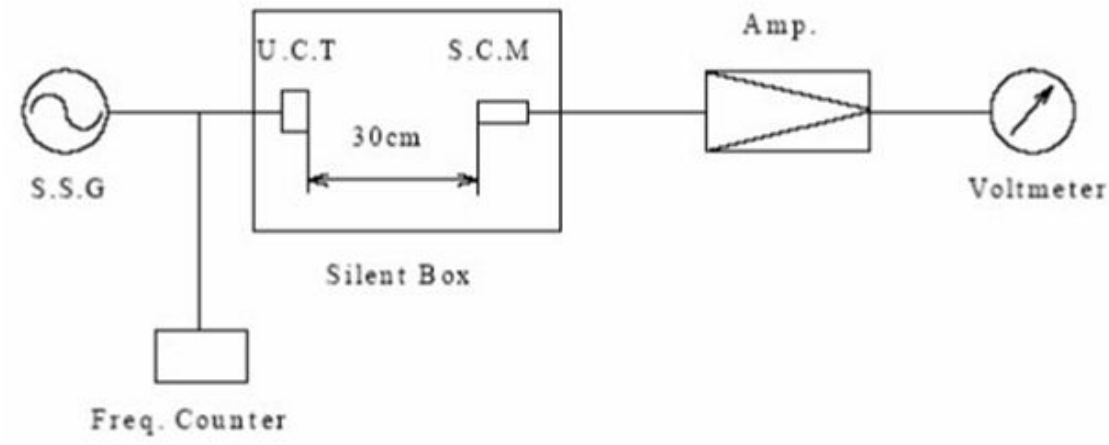
Measuring Method

S.P.L Measuring Circuit



S.S.G	:	Sine wave Signal Generator
U.C.T	:	Ultrasonic Ceramic Transducer
S.C.M	:	Standard Condenser Microphone (Brüel & Kjær 4135)
Amp.	:	Amplifier (Brüel & Kjær 2610)
Input Vol.	:	2.83Vr.m.s

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Release | Revision: B/2018

CONTENTS

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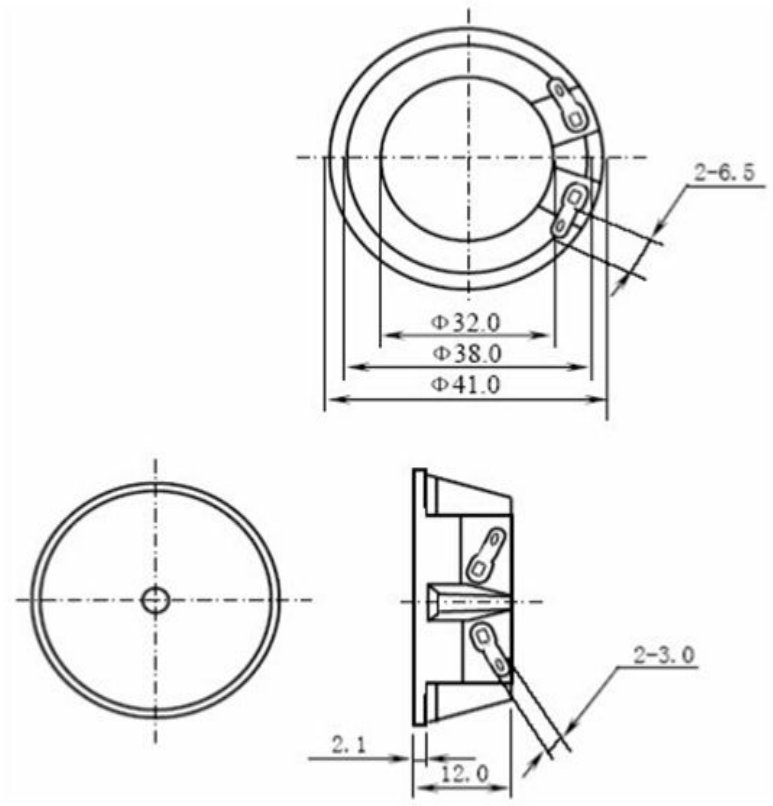
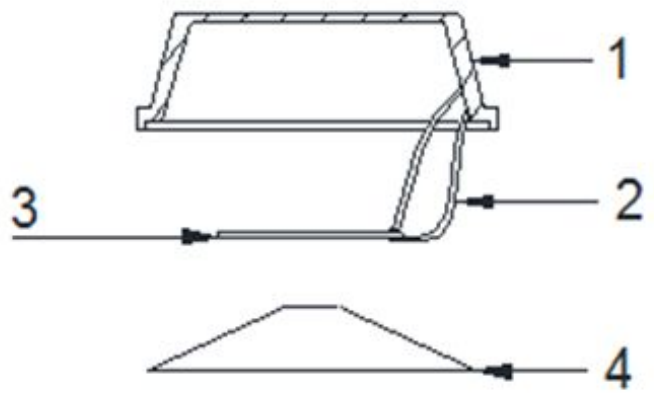
Dimensions

Tolerance: ±0.5 (unit: mm)





No.	Part Name	Material	Quantity
1	Case	ABS	1
2	Wire	Copper	2
3	Piezo	Brass + ceramic	1
4	Diaphragm	Polyetherimide	1

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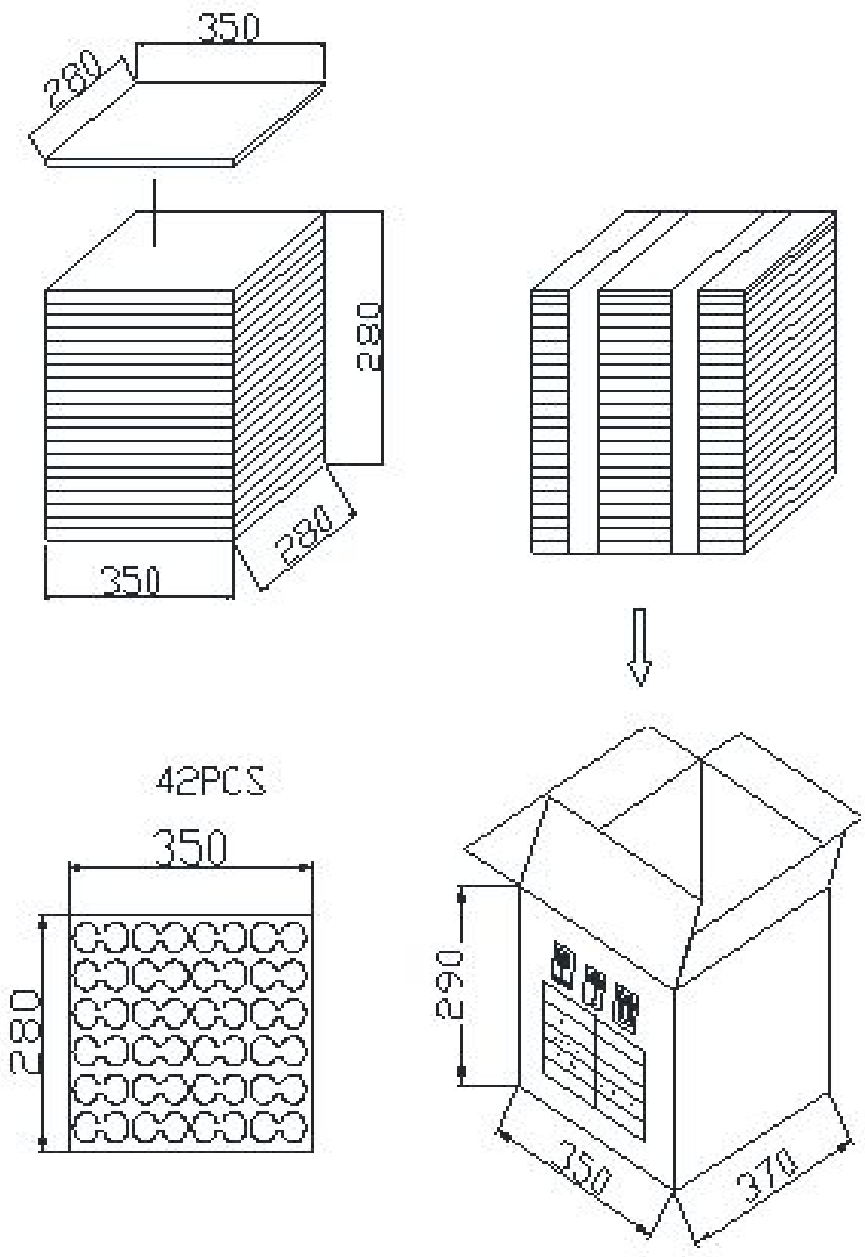
Packing



Details

	Size (mm)	Quantity (pcs)
Carton	350 x 280 x 17	42
Tray x 16	350 x 280 x 280	672
Box	370 x 350 x 280	672