

MESSRS.

SPECIFICATION FOR APPROVAL

承 認 書

Product	SMD PIEZO BUZZER
Part No.	APD-1109-1 (RoHS)
Customer Approval	
Customer Project	

Approved By	Checked By	Made By
		



Advanced Acoustic Technology Corporation
笠翔科技 // 常州笠翔电子有限公司



ISO 9001 Certified
ISO 14001 Certified
QS9000 Certified

Head Company / 2F, No.207, Sec. 6, Chung Shan N. Rd., Taipei, Taiwan
Tel: +886-2-8866-5255 Fax: +886-2-8866-5250

大陸總公司 / 中國江蘇省常州市新北區龍虎塘工業園新苑四路 89 號
Tel: +86-519-8511-2382 Fax: +86-519-8510-0908

[http:// www.aatc.com.tw](http://www.aatc.com.tw) www.aatc.com.cn

EDITION:1.1

1. Specifications

APD-1109-1 (RoHS)

Items		Units	Specifications	Conditions
01	Rated Voltage	Vp-p	5	(square wave)
02	Operating Voltage	Vp-p	1~25	
03	Rated Current	mA(Max)	2	
04	Sound Output	dBA(Min)	73	At 5Vp-p , 4.1KHz / 10cm
05	Resonant Frequency	Hz	4100	
06	Capacitance	pF	12000±30%	At 1KHz
07	Operating Temp.	°C	-40 ~ +80	
08	Storage Temp.	°C	-40 ~ +80	
09	Weight	g	0.25	

2. Measuring Method

2-1. Test Condition

STANDARD

Temperature : 15 ~ 35°C

Relative humidity : 25% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar.

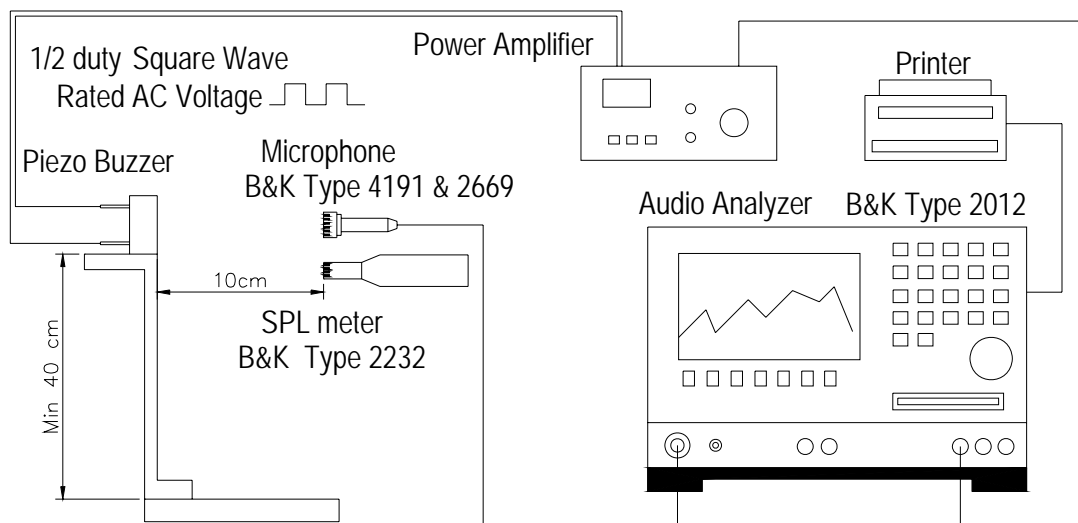
BASIC

Temperature : 20±3°C

Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

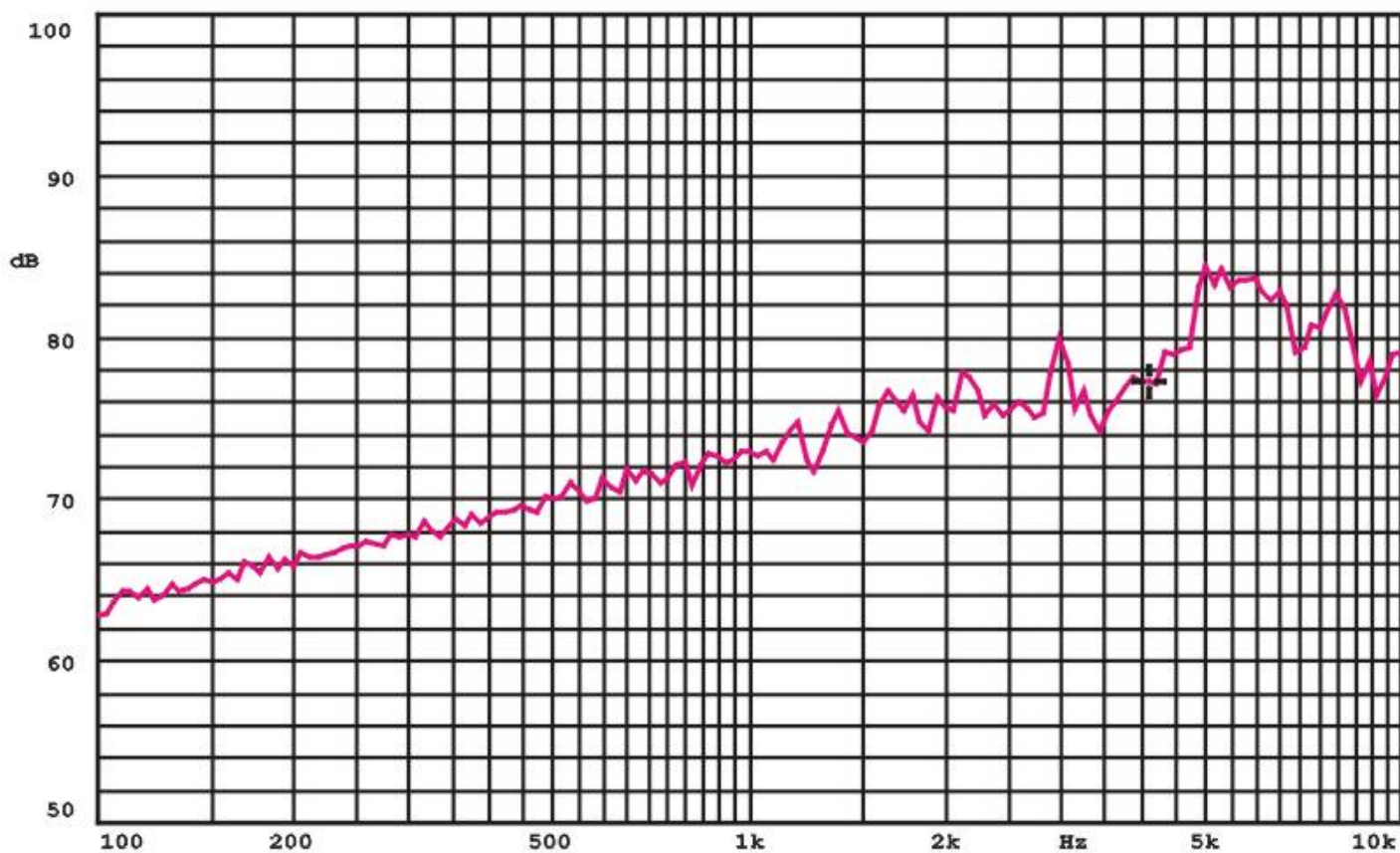
2-2. Standard Test Fixture



2-3. Frequency Response Curve

X:4.0973kHz Y:77.28dB ZA:Live Curve SSR T. RMS

A: Frequency Response, Magn dB re 20.00 μ PA

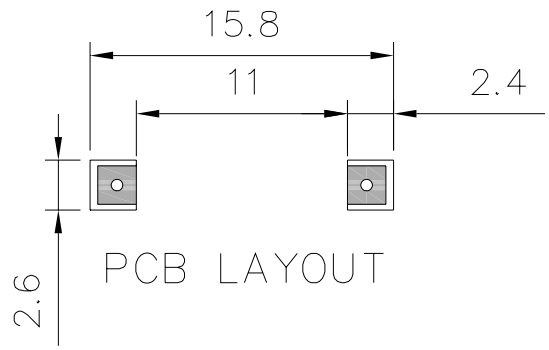
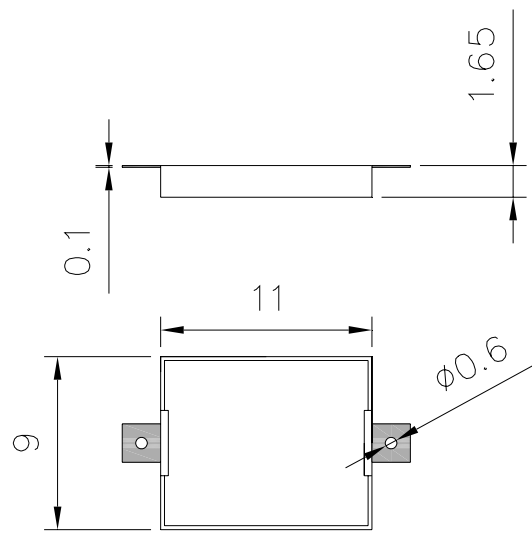
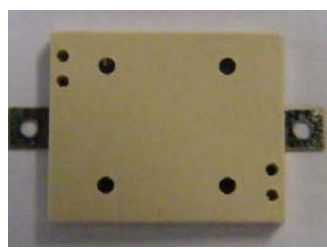
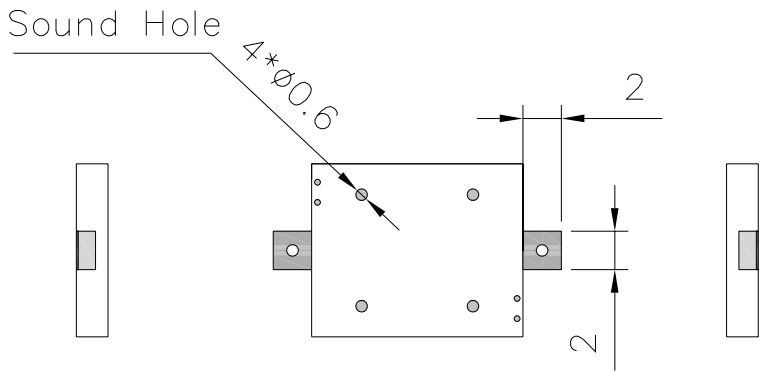


28-SEP-2009 16:08:14

Mode: SSR



REV NO.	REVISION NOTE	APPROVAL	DATE
---------	---------------	----------	------



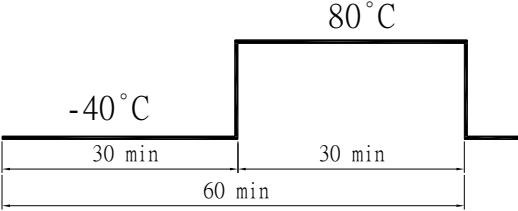
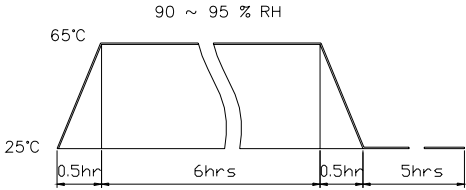
REFLOW SOLDER AND WASH ALLOWED .

TITLE:	SMD PIEZO BUZZER	DRAWN:	Jason	2009/09/28	SCALE:	2:1	SHEET:	1 of 1
PART NO.	APD-1109-1	DESIGNED:	R&D OF AAT		UNITS:	mm		
DWG NO.	EPM09SH	CHECKED:			TOLERANCE	± 0.2		
		APPROVAL:			UNLESS OTHERWISE SPECIFIED:			
		MATERIAL:			ONE PLACE DECIMAL ± ***			
					TWO PLACE DECIMAL ± ***			
					THREE PLACE DECIMAL ± ***			



苙翔科技股份有限公司
ADVANCED ACOUSTIC TECHNOLOGY CORPORATION

4.RELIABILITY TEST

Item	Test conditions	Evaluation standard
01 High temp.Storage life	The part shall be capable of withstanding a storage Temperature of 80°C for 96 hours.	After the test the part shall meet specifications without Any degradation in appearance and performance except S.P.L S.P.L shall be 65dB or more.
02 Low temp.Storage life	The part shall be capable of withstanding a storage Temperature of -40°C for 96 hours.	
03 Temp. cycle	The part shall be subjected 10 cycles. One cycle shall consist of; 	
04 Temp./Humidity cycle	The part shall be subjected 10 cycles. One cycle shall be 12 hours and consist of; 	
05 Operating life	Rated Voltage,Frequency applied. 1. Ordinary temperature The part shall be subjected to 1000 hours at room temperature (25 ±10°C) 1. High temperature The part shall be subjected to 500 hours at 80°C 2. Low temperature The part shall be subjected to 500 hours at -40°C	
06 Vibration	The part shall be subjected to a vibration cycle of 10Hz to 55Hz to 10Hz in a period of 1 minute. Total peak amplitude shall be 1.52mm (9.3G). The vibration test shall consist of 2 hours per plane in each three mutually perpendicular planes for a total time of 6 hours.	

Item		Test conditions	Evaluation standard
07	Fixed drop	The part shall be mounted on standard pc board and dropped from a height of 152cm onto a concrete floor 5 times in each 6 planes.(a total of 30 times)	After the test the part shall meet specifications without Any degradation in appearance and performance except S.P.L S.P.L shall be 65dB or more.
08	Free drop	The part only shall be dropped from a height of 75cm onto a 40mm thick wooden board 3 times in 3 axes (X.Y.Z). (a total of 9 times).	
09	Solder heat resistance	Soldering into solderbath : $260\pm 5^{\circ}\text{C}$ Soaking time : 3.5 ± 0.5 sec	
10	Solder ability	Soldering 260°C Max / 2 Sec	
11	Lead strength	Pull lead with a force of 10N,on the direction of the lead axis for 10 : 10 ± 1 sec	
12	Washability	Solvent : deionized water Solvent temp. : $55\pm 5^{\circ}\text{C}$ Soaking time : 5 ± 0.5 min.	

5.Solder ability

Temperature profile for reflowable Buzzer .

