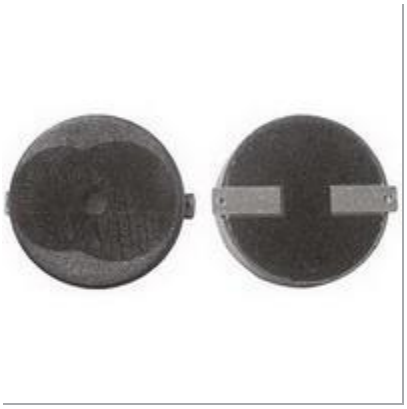
Datasheet

RS PRO Piezo Audio Transducer

EN



A. SCOPE

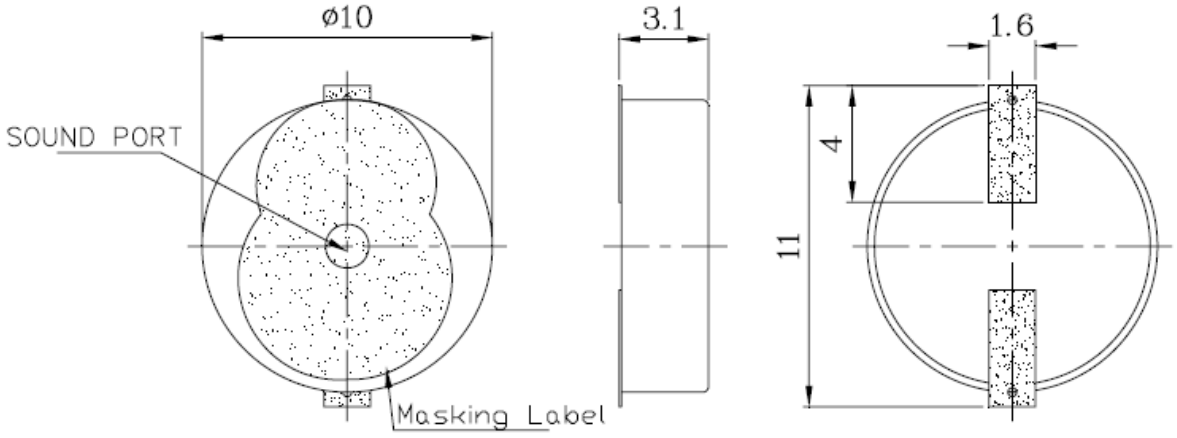
This specification applies piezo audio transducer, 754-1977

B. SPECIFICATION

B. SPECIFICATION 規格

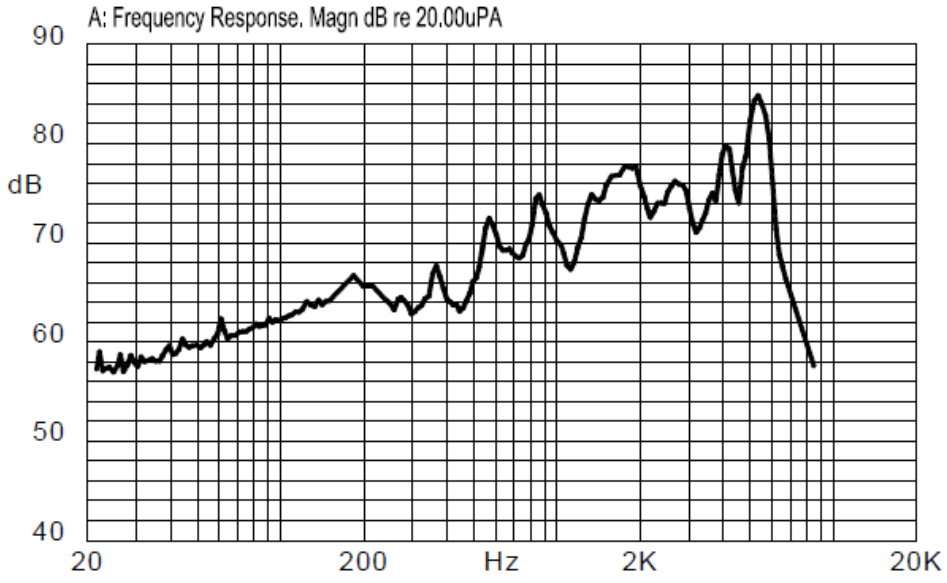
No.	Item	Unit	Specification	Condition
1	Operating Volt. Range 最大操作電壓	Vp-p AC	MAX 25	
2	Current consumption 消耗電流	mA	MAX 5	at 5Vp-p,square wave,5.2KHz.
3	Sound pressure level 輸出音壓	dB	MIN 75	at 10cm/5Vp-p,square wave,5.2KHz
4	Electrostatic capacity 靜電容量	pF	11,000 ± 30%	at 100Hz/1V
5	Operating temp. 操作溫度	℃	-20 ~ +70	
6	Storage temp. 儲存溫度	℃	-30 ~ +80	
7	Dimension 尺寸	mm	Φ10 x H3.1	See appearance drawing 請參照外觀尺寸圖
8	Weight (MAX) 重量	gram	0.3	
9	Material 材質		LCP（Black）	
10	Terminal 端子		SMD type (鍍金/Plating Au)	See appearance drawing 請參照外觀尺寸圖
11	Environmental Protection Regulation 環保法規		RoHS	

C. APPEARANCE DRAWING 外觀尺寸圖



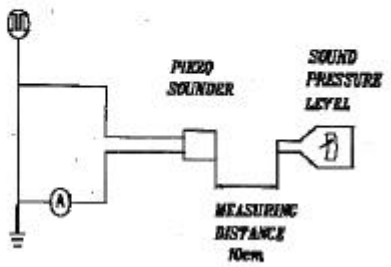
Tol : ± 0.5
Unit: mm

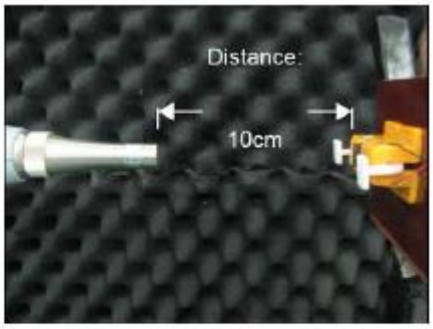
D. TYPICAL FREQUENCY RESPONSE CURVE 頻率響應曲線



E. MEASURING METHOD 測量方法

S.P.L. Measuring Circuit 音壓測試接線圖
Input Signal:5Vp-p,5.2kHz, Square Wave
輸入信號: 5Vp-p,5.2kHz,方波



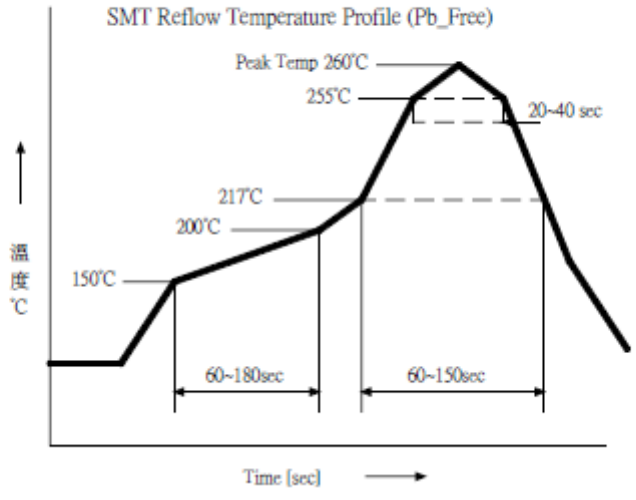


Mic : RION S.P.L meter UC30 or equivalent
Mic : RION 噪音計 UC30 或同等品
S.G : Hewlett Packard 33120A Function Generator or equivalent
S.G : Hewlett Packard 33120A 函數信號產生器或同等品

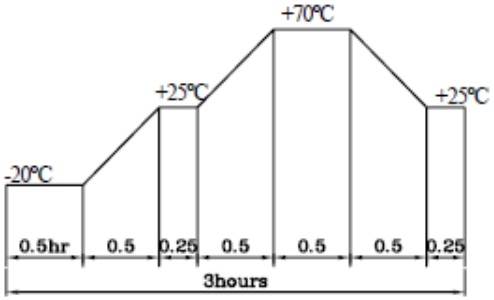
F. MECHANICAL CHARACTERISTICS 機械特性

No.	Item	Test condition	Evaluation standard
1	Solderability 焊錫附著性	Lead terminals are immersed in rosin for 5 seconds and then immersed in solder bath of +230 ±5℃ for 2 ± 0.5 second. 端子浸松香液中 5 秒後置於錫膏內,錫膏溫度:+230±5℃. 焊接時間: 2±0.5 秒.	95% surface of lead pads must be covered with fresh solder 錫膏須覆蓋端子上方 95%
2	Soldering Heat Resistance 焊錫耐熱性	1)IR reflow 遠紅外線熱風迴焊爐 Pre-heating conditions shall be+140 to +160℃ for 60 to 120 seconds. Ascending time up to +150℃ shall be longer than 30 seconds. Heating conditions shall be within 10 seconds at +230℃ min. But peak temperature shall be lower than +235℃,then being place in natural condition for 1 hour, sounder shall be measured 預熱條件為加熱到+140 to +160℃為 60 到 120 秒. 加熱到 150℃時間須長於 30 秒. 焊接條件為 10 秒內最低+230℃, 最高不可超過+235℃. 結束後須靜置於室溫中 1 小時後進行檢測 2)Soldering Iron 烙鐵 Soldering iron of +270±5℃ shall be placed 0.5mm above from electrode of sounder. Melting solder through soldering iron shall be applied to electrode for 3±1 seconds, then being place in natural condition for 4 hours, sounder shall be measured. +270±5℃的烙鐵置於電極上方 0.5mm 處, 以烙鐵將焊錫熔於電極上 3±1 秒,然後置於室溫中 4 小時後進行檢測.	No interference in operation. 操作上無任何不良.
3	Terminal Mechanical Strength 端子強度	The force 10 seconds of 9.8N is applied to each terminal is axial direction. 對每一端子以軸方向, 施 9.8N 拉力 10 秒.	No damage and cutting off 端子不鬆動, 不脫落
4	Vibration 振動測試	The part shall be subjected to a vibration cycle of 10Hz to 55Hz in a period of 1 minute. Total peak amplitude shall be 1.55mm . The vibration test shall consist of 2 hours per axis in each three axes (X, Y, Z), Total 6 hours. 振幅 1.55mm, 頻率 10Hz-55Hz,時間 1 分鐘. X,Y,Z 3 個方向各 2 小時, 共 6 小時.	After the test the part shall meet specifications without any damage in appearance and performance except SPL. The SPL shall be in ±10dB compared with initial one. 經測試後,單體除音壓外, 外觀及電氣特性須符合規格.輸出音壓變化量須在±10dB 內.

G. Recommended Temperature Profile For Reflow Oven 建議迴焊爐溫度曲線



H. ENVIRONMENT TEST 環境測試

No.	Item	Test Condition	Evaluation standard
1	High temp. test 高溫測試	After being placed in a chamber at +80℃ for 96hours 置於+80℃環境中 96 小時	Being placed for 4 hours at +25℃, buzzer shall be measured. The value of oscillation frequency/ current consumption should be in ±10% compared with initial ones .The SPL should be in ±10dB compared with initial one. 經測試後, 靜置於+25℃（室溫）環境中 4 小時後,諧振頻率與消耗電流變化量須在±10%內. 輸出音壓變化量須在±10dB 內.
2	Low temp. test 低溫測試	After being placed in a chamber at –30℃ for 96 hours 置於-30℃環境中 96 小時	
3	Humidity test 相對濕度測試	After being placed in a chamber at +40℃ and 90±5% relative humidity for 2 hours 置於+40℃, 相對濕度 90±5% 環境中 2 小時	
3	Temp. Cycle 溫度循環測試	The part shall be subjected to 5 cycles. 單體承受溫度循環測試5 次.其循環內容如圖示.  Unit : minute	

I. RELIABILITY TEST 信賴性測試

No.	Item	Test condition	Evaluation standard
1	Operating life test 壽命測試	1.Continuous life test 高溫壽命測試(連續) 250 hours continuous operation at +70℃ with rated voltage applied. 在+70℃環境下,以額定電壓連續操作 48 小時. 2.Intermittent life test 室溫壽命測試(間歇) A duty cycle of 1 minute on, 1 minutes off, a minimum of 5000 times at room temp.(+25 ±2℃)and maximum rated voltage applied. 在室溫下(+25 ±2℃), 以最大額定電壓操作, 通電 1 分鐘/斷電 1 分鐘,測試 5000 次循環.	Being placed for 4 hours at +25℃, buzzer shall be measured. The value of oscillation frequency/ current consumption should be in ±10% compared with initial ones .The SPL should be in ±10dB compared with initial one. 經測試後, 靜置於+25℃（室溫）環境中 4 小時後,諧振頻率與消耗電流變化量須在±10%內. 輸出音壓變化量須在±10dB 內.

TEST CONDITION.

Standard Test Condition	:	a) Temperature : +5 ~ +35℃	b) Humidity : 45-85%	c) Pressure : 860-1060mbar
一般測試條件	:	a) 溫度 : +5 ~ +35℃	b) 濕度 : 45-85%	c) 氣壓 : 860-1060mbar
Judgement Test Condition	:	a) Temperature : +25 ± 2℃	b) Humidity : 60-70%	c) Pressure : 860-1060mbar
爭議時測試條件	:	a) 溫度 : +25 ± 2℃	b) 濕度 : 60-70%	c) 氣壓 : 860-1060mbar

J. Recommended land pattern 建議基板設計尺寸圖