
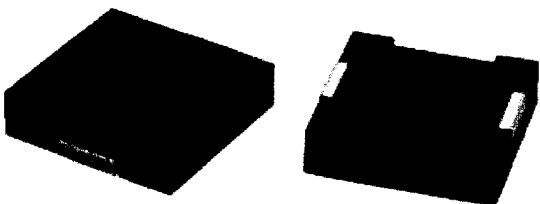


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	<i>MODEL NUMBER 1230S-HL-05-4.0</i>			

SPECIFICATION FOR APPROVAL PIEZO BUZZER

Model No.	1230S-HL-05-4.0
Note	

Product Photo	
	DRAWING:
	CHECKED:
	APPROVED:

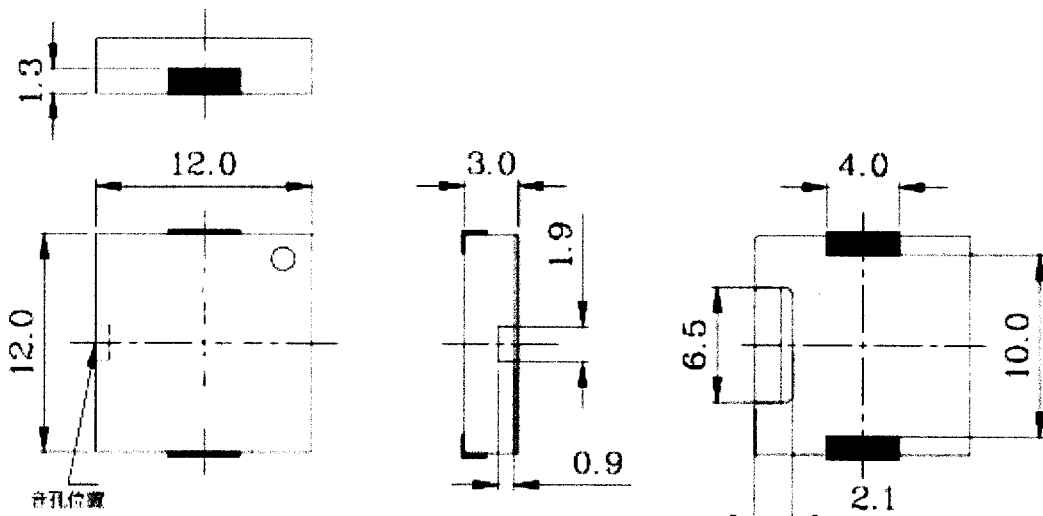
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	NMODEL NUMBER		1230S-HL-05-4.0	

1. 1230S-HL-05-4.0 PIEZO BUZZER

1	Rated Voltage (Vp-p)	5
2	Operating Voltage (Vp-p)	1~25
3	Resonant Frequency (Hz)	4000±500
4	Capacitance 100Hz (PF)	16000±30%
5	*Sound Output at 10cm (dB)	≥81
6	*Current Consumption (mA)	≤5
7	Operating Temperature (°C)	-40~+120
8	Storage Temperature (°C)	-40~+120
9	Weight (g)	0.5
10	RoHS	Yes

*Applying rated voltage (Resonant frequency, Square wave)

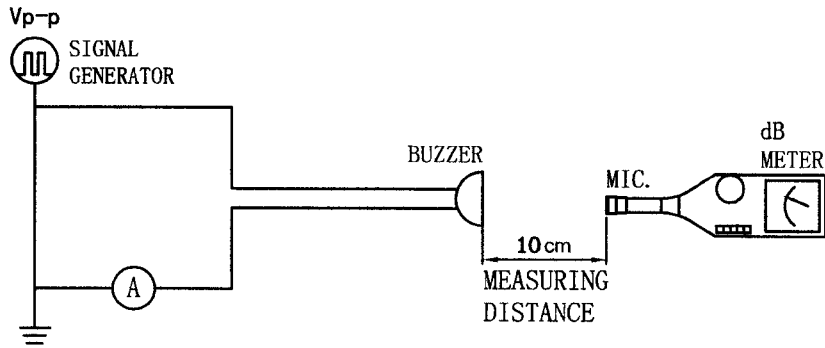
2.DIMENSIONS (UNIT: mm)



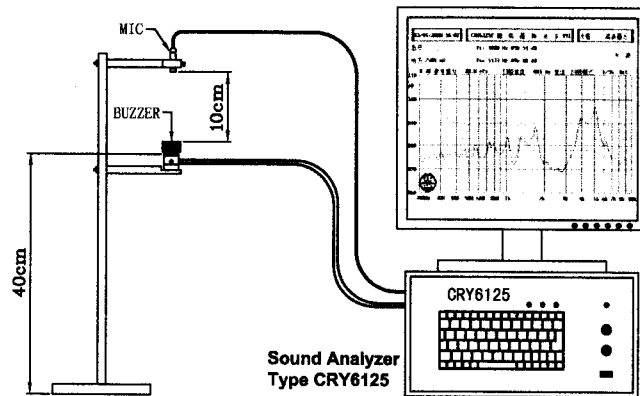
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3. Electrical And Acoustical Measuring Condition

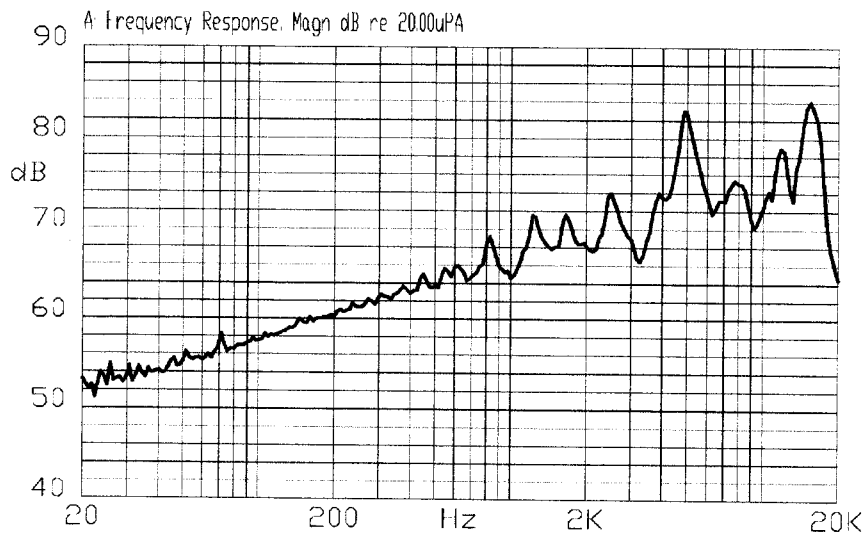
The oscillation frequency, current consumption and sound pressure are measured by the measuring instruments shown below



In the measuring test, buzzer is placed as follows:




4. Frequency Response



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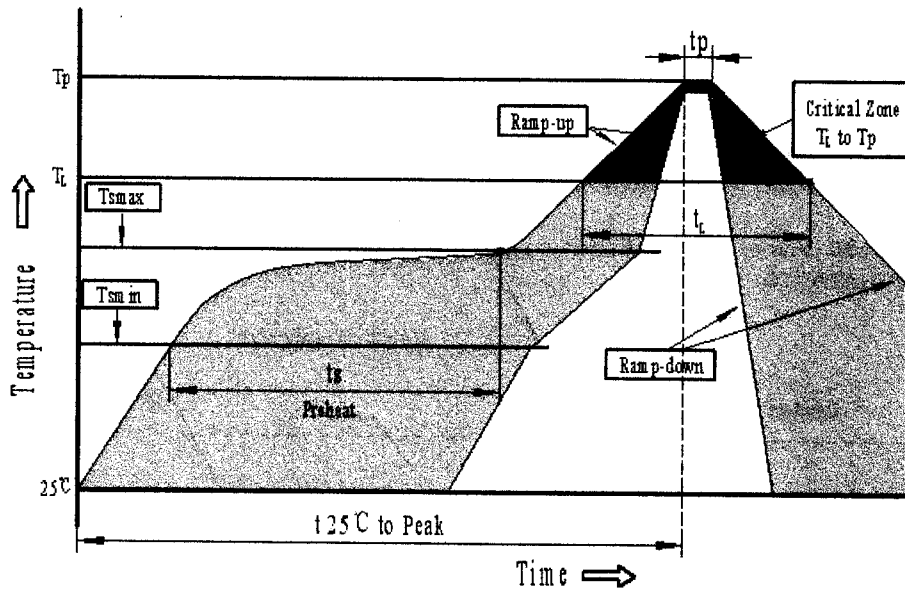
5. Reliability Test

N O	ITEM	TESTING CONDITION	VARIANCE AFTER TEST
1	<i>High temp. storage life</i>	The part shall be capable of withstanding a storage temperature is +80°C for 120 hours	<i>All specifications must be satisfied after the test.</i>
2	<i>Low temp. storage life</i>	The part shall be capable of withstanding a storage temperature is -30°C for 120 hours	
3	Temp. Cycle	Total 5 cycles, 1 cycle consisting of -30±2°C, 30 minutes 20±5°C 15 minutes 80±2°C, 30 minutes 20±5°C 15 minutes	
4	Humidity Test	40±2°C, 90~95% RH, 120 hours	
5	Vibration Test	The part shall be subjected to a vibration cycle is 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.	
6	Shock	Sounder shall be measured after being applied shock (980m/s ²) for each three mutually perpendicular directions to each of 3 times by half sine wave.	
7	Drop Test	Dropped naturally from 700mm height onto the surface of 10mm thick wooden board. 2 directions-upper and side of the part are to be applied.	
8	Lead pull	The part shall be pushed with a force of 9.8N for 10±1 seconds behind the part. 	After the test part shall meet specifications without any degradation in appearance and performance.
9	Solder heat resistance	The part leads (pins) shall be immersed in molten solder maintained at 250±10°C for a period of 30 seconds.	After the test part shall meet specifications without any degradation in appearance and performance.
10	Recommended temp. Profile for Reflow Oven	Shown in Fig. 1	

Warranty: For a period of one year from date of manufacture under normal operations.

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6.Recommended Temp. Profile for Reflow Oven (Fig.1)



Profile Feature	Pb-Free Assembly
Average ramp-up rate(T_L to T_p)	3°C/second max.
Preheat	
-Temperature Min.(T_{smin})	150°C
-Temperature Min.(T_{smax})	200°C
-Temperature Min.(t_s)	60~180 seconds
T_{smax} to T_L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
- Temperature(T_L)	217°C
-Time(T_L)	60~150 seconds
Peak temperature(T_p)	260°C+0/-5°C
Time within 5°C of actual Peak temperature (t_p)	6 seconds max.
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.