



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.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Soberton Inc.

Product Data Sheet

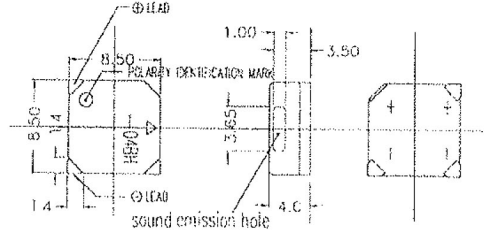
Part No. ST-04CH Reflow Type (SMD)

ST-04 BL
 -04 BH
 -04 BT
 -04 CH



8.5 X 8.5 X 4.0

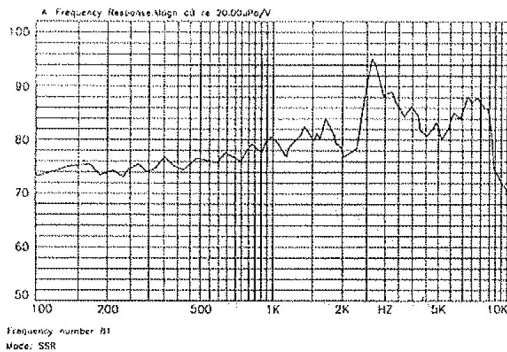
DIMENSIONS



UNIT: mm
 TOLERANCE: ± 3
 HOUSING MATERIAL: LCP

Type	Unit	
Color		Black
Rated Voltage	(V)	5
Operating Voltage	(V)	4-6
Current Consumption	(mA)	MAX.70
Coil Resistance	(Ω)	30 \pm 3
Sound Output (Min)	(dB)	87
Resonance Frequency	(Hz)	2730
Operating Temp	(C)	-30~+85
Storage Temp	(C)	-40~+85
Weight	(g)	1
Terminal		SMD
Dimension	mm	8.5 x 8.5 x 4
*applied voltage: Rated Voltage, 1/2 duty, square wave		
*distance for measurement 10cm		

FREQUENCY RESPONSE

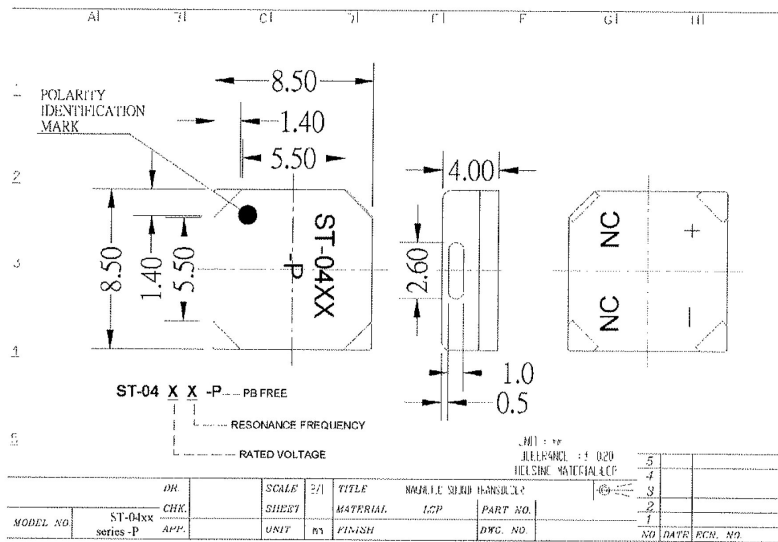


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RELIABILITY TEST

ST-04xx Series -P

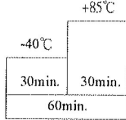
Note: No voltage is applied to the part during reliability test No. 1-4

Item	Test Conditions	Evaluation Standard
1	Temp. test	After the test the part shall meet specifications without any degradation in appearance and performance except SPL.
2	Temp. / Humidity cycle test	SPL. shall be 87 dB or more.

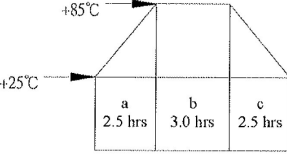
(1) High temp. storage life test:
The part shall be capable of withstanding a storage temperature of +85°C for 96 hours.

(2) Low temp. storage life test:
The part shall be capable of withstanding a storage temperature of -40°C for 96 hours.

(3) Temp. cycle:
The part shall be subjected to 10 cycles. One cycle shall consist of ;



The part shall be subjected to 10 cycles. One cycle shall be 8 hours and consist of ;



a, b : 90 ~ 98% RH
c : 80 ~ 98% RH

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RELIABILITY TEST

ST-04xx Series -P

Note: No voltage is applied to the part during reliability test No. 1~4

Item	Test Conditions	Evaluation Standard
3 Vibration Test	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.	
4 Dropping Test	(1) Fixed drop : The part shall be mounted on 100g jig(standard peboard) and dropped from a height of 152cm onto a concrete floor 5 times in each 6 planes. (a total of 30 times.) (2) 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.)	After the test the part shall meet specifications without any degradation in appearance and performance except SPL. SPL. shall be 87 dB or more.
5 Operating life test	(1) Ordinary temperature : The part shall be subjected to 1000 hours at room temperature ($25\pm 10^{\circ}\text{C}$) with rated voltage & resonance frequency applied. (2) High temperature : The part shall be subjected to 500 hours at $+70^{\circ}\text{C}$ with rated voltage & resonance frequency applied. (3) Low temperature : The part shall be subjected to 500 hours at -30°C with rated voltage & resonance frequency applied.	

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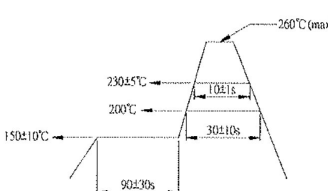
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RELIABILITY TEST

ST-04xx Series -P

Note: No voltage is applied to the part during reliability test No. 1~4

Item	Test Conditions	Evaluation Standard
6 Solderability	The part shall be dipped into the soldering bath conditioned as follows ; Solder temp. : $260 \pm 5^{\circ}\text{C}$ Soaking time : 10 - 11 seconds	95% surface of lead pins must be covered with fresh solder and soldering balls should be found.
7 Pin lead strength	3 lead pins shall be solder on the pc board , and the force (10n) shall be applied behind the part for 10 ± 1 seconds.	
8 For infrared reflow oven	<Recommended temperature profile for reflow oven> (Reference standard ; EIAJ ED-4702) 	After the test the part shall meet specifications without any degradation in appearance and performance except SPL. SPL. shall be 87 dB or more.

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