

MESSRS.

SPECIFICATION FOR APPROVAL

承 認 書

| | |
|-------------------|------------------------------|
| Product | ELECTRO MAGNETIC BUZZER(SMD) |
| Part No. | AD-503FR-1 |
| Customer Approval | |
| Customer Part No. | |

| Approved By | Checked By | Made By |
|-------------------------------|-------------------------------|---------------------------------|
| 工程 BOB CHEN JAN-11-2018 | 工程 ZACK KUO JAN-11-2018 | 工程 MOOSE CHEN JAN-11-2018 |



Advanced Acoustic Technology Corporation
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QS9000 Certified

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RoHS



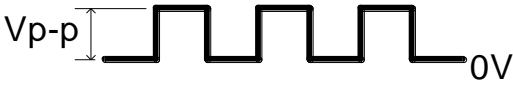
ADVANCED ACOUSTIC TECHNOLOGY CORP.

昊宸股份有限公司

| REVISIONS | | | |
|-----------|---------|------------------------------|----------------------------|
| PRODUCT | | ELECTRO MAGNETIC BUZZER(SMD) | |
| PART NO. | | AD-503FR-1 | |
| REV. | REVISER | DATE | DESCRIPTION |
| 1 | MOOSE | 2018-01-11 | Creating new drawing SPEC. |
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1. SPECIFICATION

AD-503FR-1

| ITEM | | UNITS | SPECIFICATIONS | CONDITIONS |
|------|---|--------------------|----------------|--|
| 01 | Rated Voltage | V | 3.0 |  |
| 02 | Operating Voltage | V | 2.0~4.0 | |
| 03 | Consumption Current | mA Max. | 100 | Standard state, standard drive circuit. Square wave 1/2 duty. |
| 04 | Sound pressure level (Distance at 10cm) | dB(A) Min. | 75 | Rated voltage, rated frequency. |
| 05 | Direct Current Resistance | Ω | 12 \pm 3 | |
| 06 | Rated Frequency | Hz | 4000 | |
| 07 | Operating Temp. | $^{\circ}\text{C}$ | -30 ~ +70 | |
| 08 | Storage Temp. | $^{\circ}\text{C}$ | -40 ~ +85 | |
| 09 | Weight | g | 0.1 \pm 0.03 | |

2. MEASURING METHOD

2-1. Test Condition

STANDARD

Temperature : 15 ~ 35 $^{\circ}\text{C}$

Relative humidity : 45% ~ 85%,

Atmospheric pressure: 860mbar to 1060mbar.

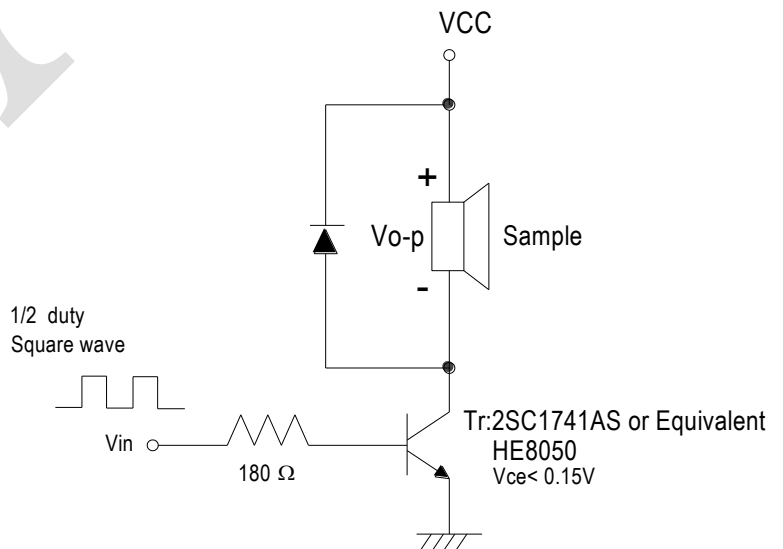
JUDGEMENT

Temperature : 20 \pm 3 $^{\circ}\text{C}$

Relative humidity : 60% ~ 70%,

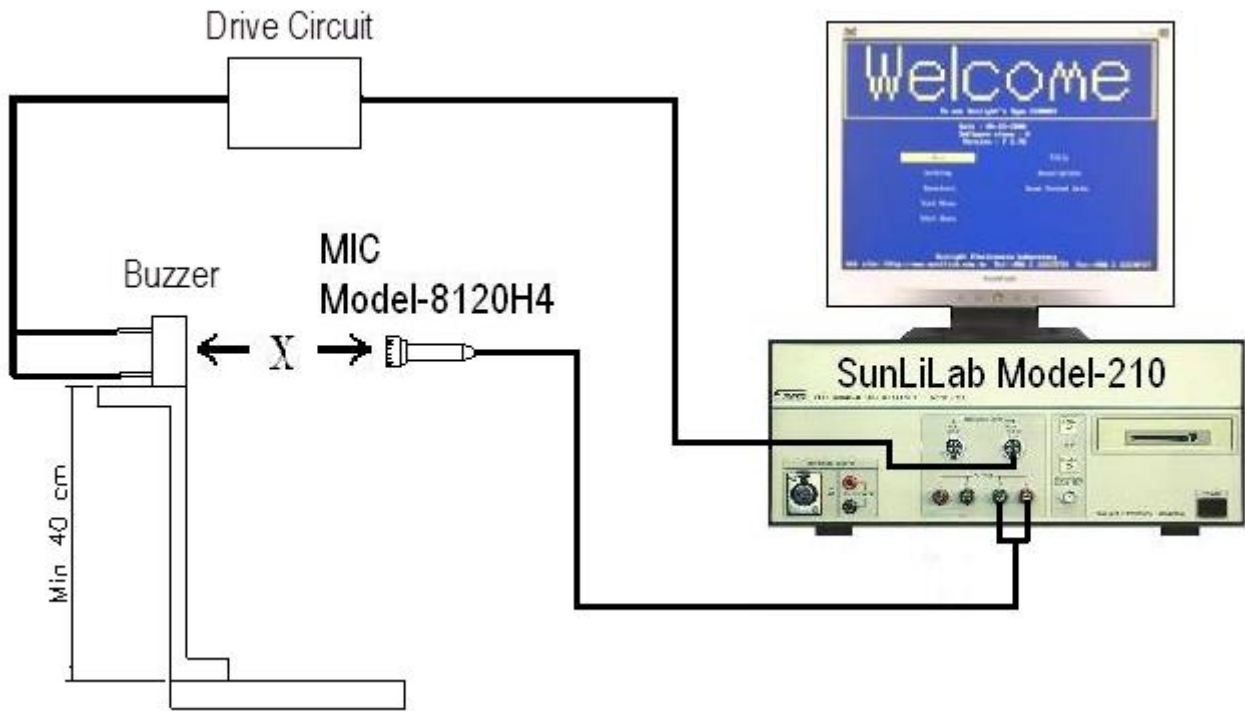
Atmospheric pressure : 860mbar to 1060mbar

2-2. Standard drive circuit



2-3. Standard Test Fixture

Distance: $X=10$ cm

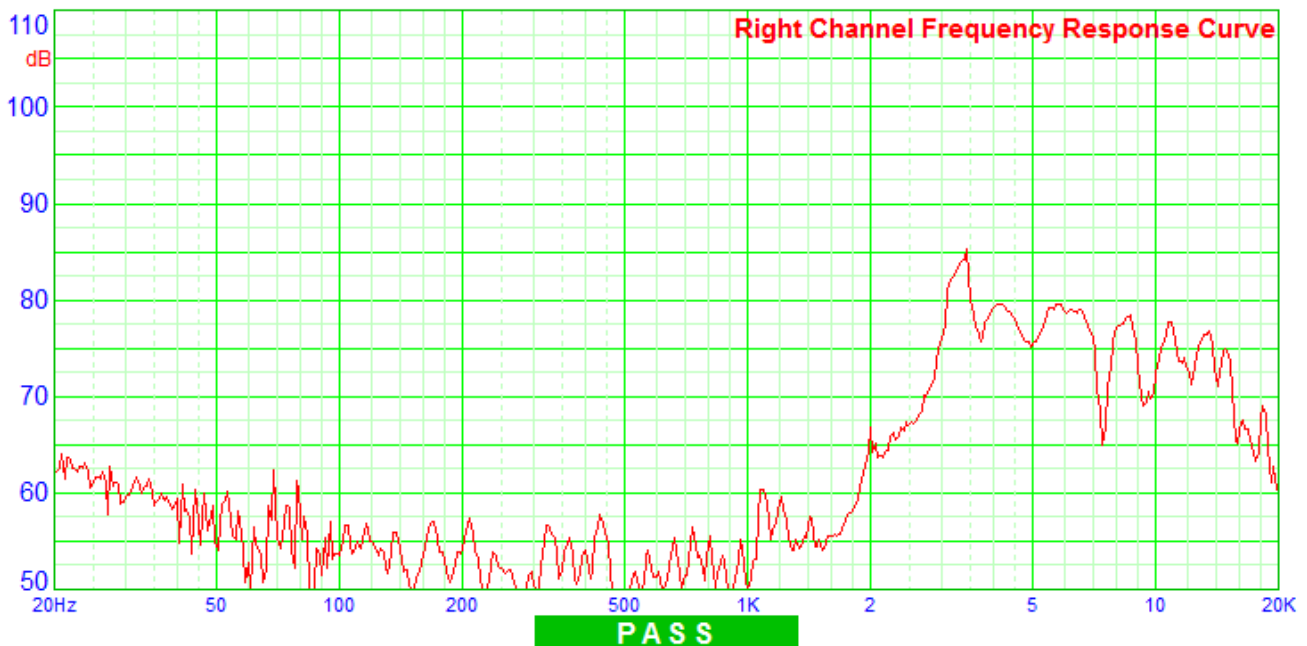


2-4. Frequency Response Curve

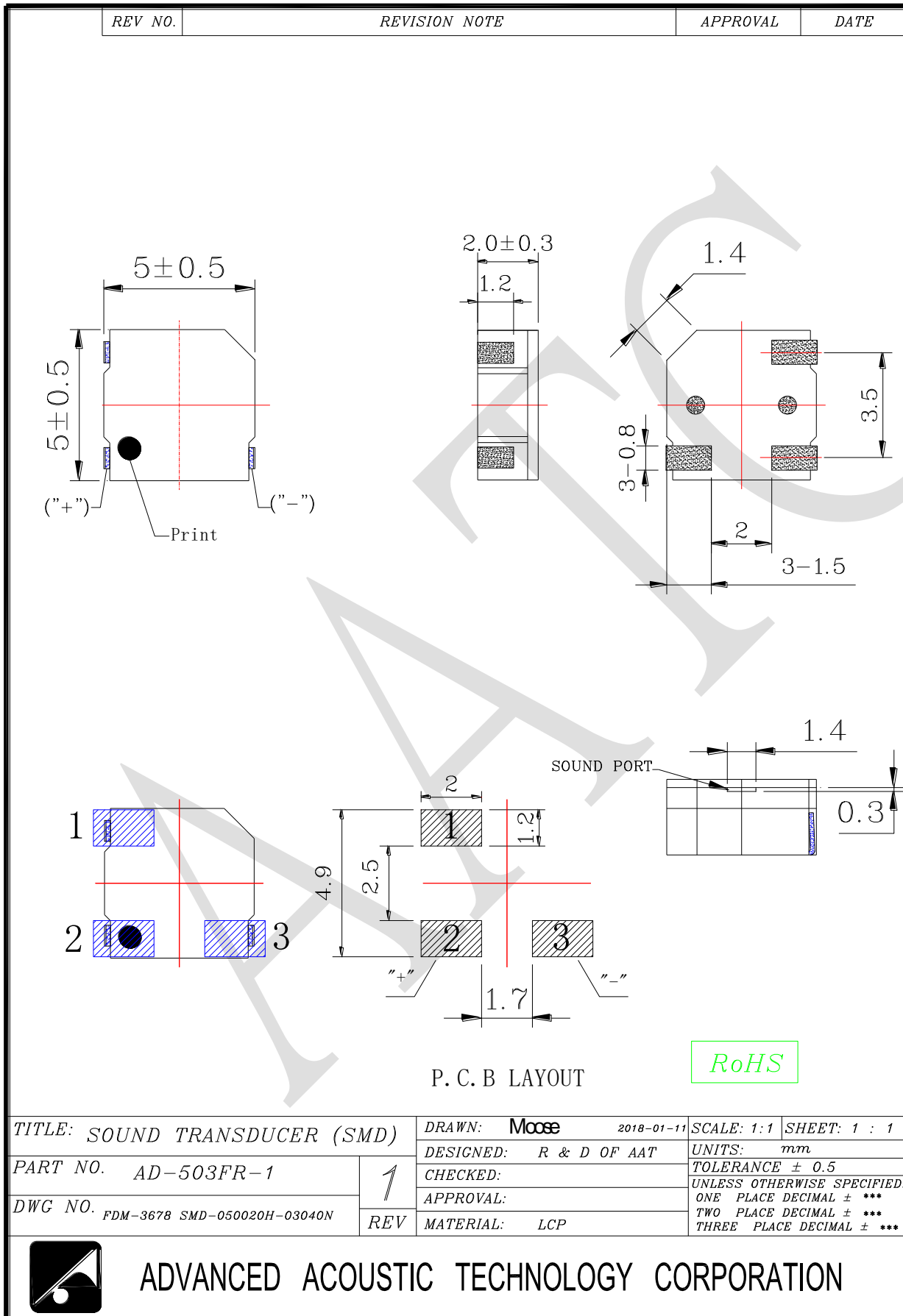
Type 2100PIE [Run] Piezo Frequency Response Test

Firm:2017 Object:2017 2100PIE F 1.00 01-11-2018 10:15:55
S= 79.3dB/ 4000Hz/3000.0mVP FR:P

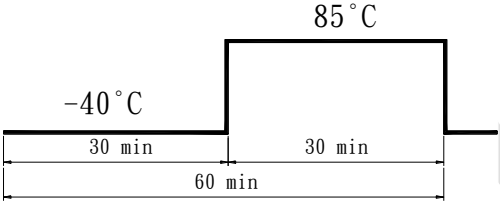
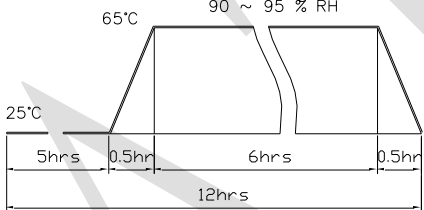
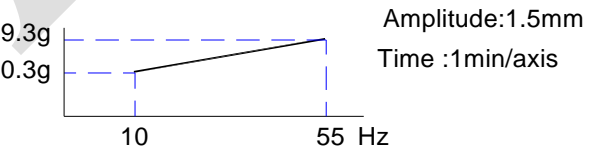
1/48 Oct.



3. DIMENSIONS

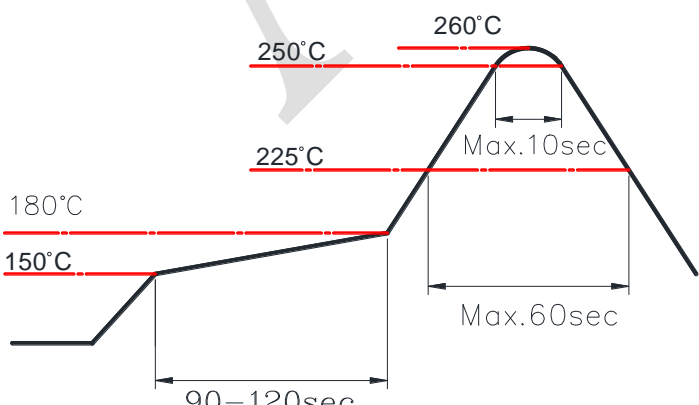


4. RELIABILITY TESTS

| Item | Test conditions | Evaluation standard |
|----------------------------|--|---|
| 01 High temp. Storage life | The part shall be capable of withstanding a storage Temperature of +85°C for 96 hours. | |
| 02 Low temp. Storage life | The part shall be capable of withstanding a storage Temperature of -40°C for 96 hours. | |
| 03 Temp. cycle | <p>The part shall be subjected 10 cycles. One cycle shall of ;</p>  | |
| 04 Temp./Humidity cycle | <p>The part shall be subjected 10 cycles. One cycle shall of;</p>  | |
| 05 Operating life | <p>Rated Voltage, Frequency applied.</p> <ol style="list-style-type: none"> Ordinary temperature The part shall be subjected to 1000 hours at room temperature (25 ±10°C) High temperature The part shall be subjected to 500 hours at 70°C Low temperature The part shall be subjected to 500 hours at -30°C | <ol style="list-style-type: none"> After the test the part shall meet specifications without Any degradation in appearance and performance except S.P.L S.P.L shall be ±7 dB. |
| 06 Vibration |  <p>Make this test for the directions of X, Y, Z for 2 hours each (total 6 hours).</p> | |
| Item | Test conditions | Evaluation standard |

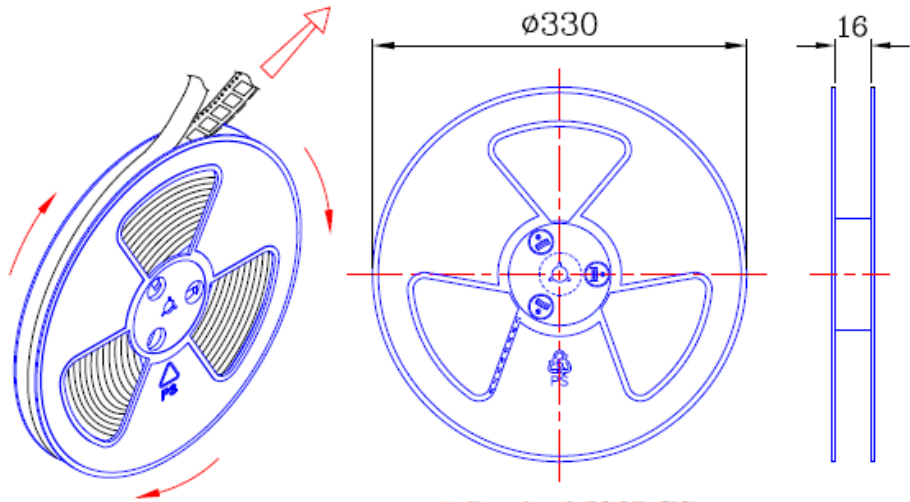
| | | | |
|----|----------------------------|---|--|
| 07 | Free drop | The part only shall be dropped from a height of 75cm onto a 40mm thick wooden board 1 times in 3 Direction each (X.Y.Z). (a total of 3 times). | 1. After the test the part shall meet specifications without Any degradation in appearance and performance except S.P.L 2. S.P.L shall be ± 7 dB. |
| 08 | Free drop (Packing) | The part only shall be dropped from a height of 100cm onto a 10mm thick wooden board 1 times in 3 axes (X.Y.Z). (a total of 3 times). | |

5. CAUTIONS FOR USE

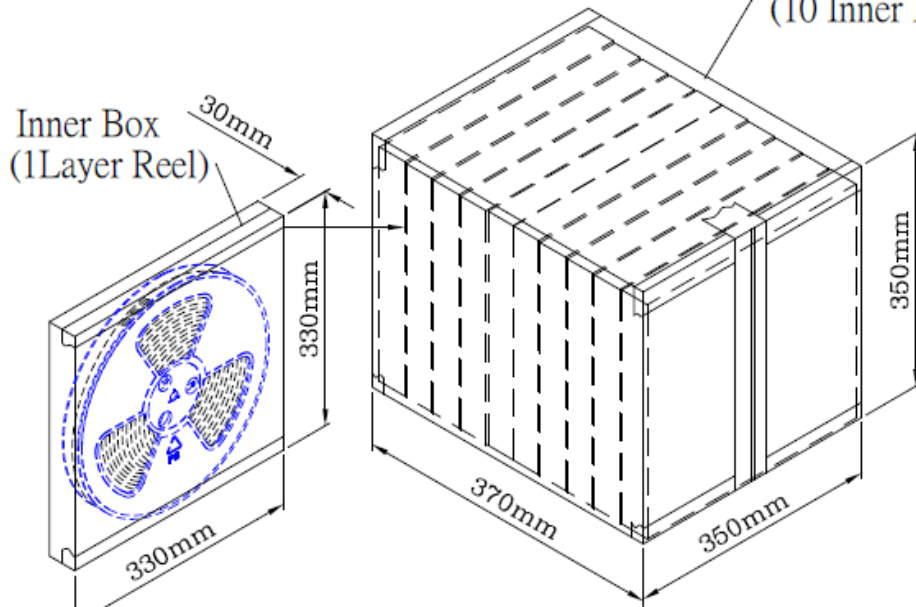
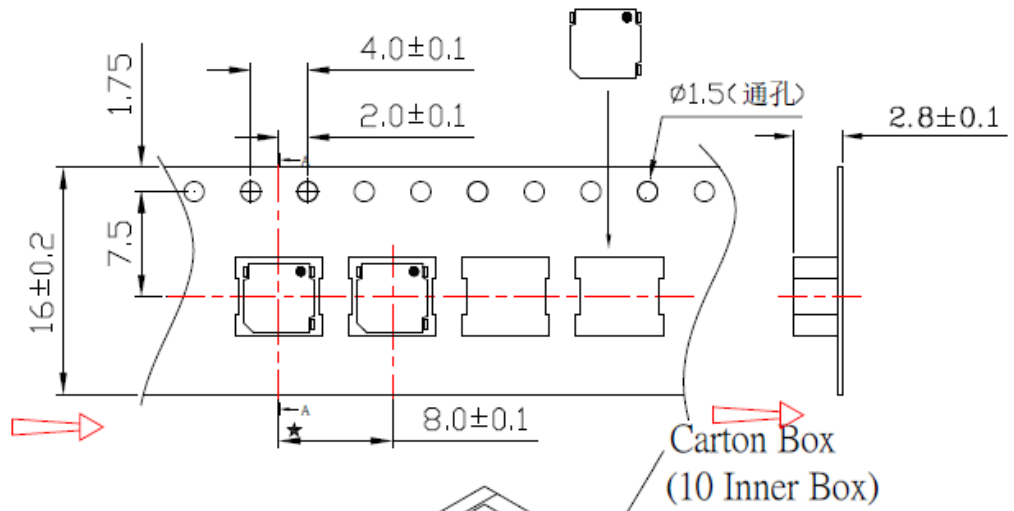
| | |
|----|--|
| 01 | <p>As this product is not protected from foreign material entering, please make sure that any foreign materials do not enter this product in your production processes. (e.g. magnetic powder, washing solvent, flux, corrosive gas)</p> <p>由於本產品不能防止異物進入，請確保任何異物不會在生產過程中進入本產品。 (例如磁粉，洗滌溶劑，焊劑，腐蝕性氣體)</p> |
| 02 | <p>The functional degradation may occur if foreign material enter it. (e.g. SPL down)</p> <p>如果外來物質進入，則可能發生功能退化。(例如 SPL 下降)</p> |
| 03 | <p>Washing of the component is not acceptable. Because it is not seal.</p> <p>不可水洗的部件，因為它非密封。</p> |
| 04 | <p>After solder bath, the cooling time must be longer than 2 hours before function test.</p> <p>測試功能前，必須在過完錫爐後並冷卻 2 小時以上。</p> |
| 05 | <p>Soldering profile Soldering into solder bath: $260 \pm 5^\circ\text{C}$, 3~5 Sec. 爐溫曲線 錫爐溫度: $260 \pm 5^\circ\text{C}$, 3~5 Sec.</p>  <p>The graph shows a temperature profile for soldering. The temperature starts at 150°C, rises to 180°C, then to 225°C, and finally to a peak of 260°C. The time spent at 260°C is limited to a maximum of 10 seconds. The total time spent at 225°C and above is limited to a maximum of 60 seconds. The time spent at 180°C and above is limited to 90-120 seconds.</p> |

| | |
|----|---|
| 06 | <p>Soldering with iron Hand Soldering : $360\pm 10^{\circ}\text{C}$ / ≤ 2 Sec.</p> <p>Recommend using constant searing-iron 焊接 手焊: $360\pm 10^{\circ}\text{C}$ / ≤ 2 Sec. 建議使用烙鐵</p> |
| 07 | <p>AATC reserves the right to change product material without prior notice, guaranteeing the same specification. Materials are subject to change due to environmental regulations, sourcing, and process improvements.</p> <p>材料可能由於環境法規，物料及製程工藝精進而發生變動，AATC 保證相同的規格，並有權保留更改產品材料的權利，恕不另行通知。</p> |
| 08 | <p>If you need more information, please contact our technology department, thank you</p> <p>如您需要更多信息，請聯繫我們的技術部門，謝謝。</p> |

5.PACKING



1 Reel : 2500PCS



| | | |
|------------|-------------------|----------------------|
| Inner Box | 330mmx330mmx30mm | 1x2500PCS=2500PCS |
| Carton Box | 350mmx350mmx370mm | 10x2500PCS=25,000PCS |