

規格承認書

PECIFICATION FOR APPROVAL

客戶

CUSTOMER : 立創

項目

ITEM : 腔体喇叭

型號

TYPE : GSPK2810BOX-4R3W-L100S-2.0T

描述

DESCRIPTION : L28*W28 *H10MM 4Ω 1-3W 焊线 S.P.L: 99dB+/- 3dB

客戶料號

CUSTOMER NO. :

規格書號

SPECIFICATION NO.:

版本

EDITION NO. : V1.0

日期

DATE : 2024-5-24

客戶承認

CUSTOMER CONFIRM AND SIGN

| 檢查 TESTED BY | 審核 CHECKED BY | 承認 APPROVED BY |
|-----------------|------------------|-------------------|
| | | |

東莞市贏海電子有限公司

DONGUAN INGHAI ELECTRONICS CO.,LTD

| 製作 ISSUED BY | 審查 CHECKED BY | 確認 APPROVED BY |
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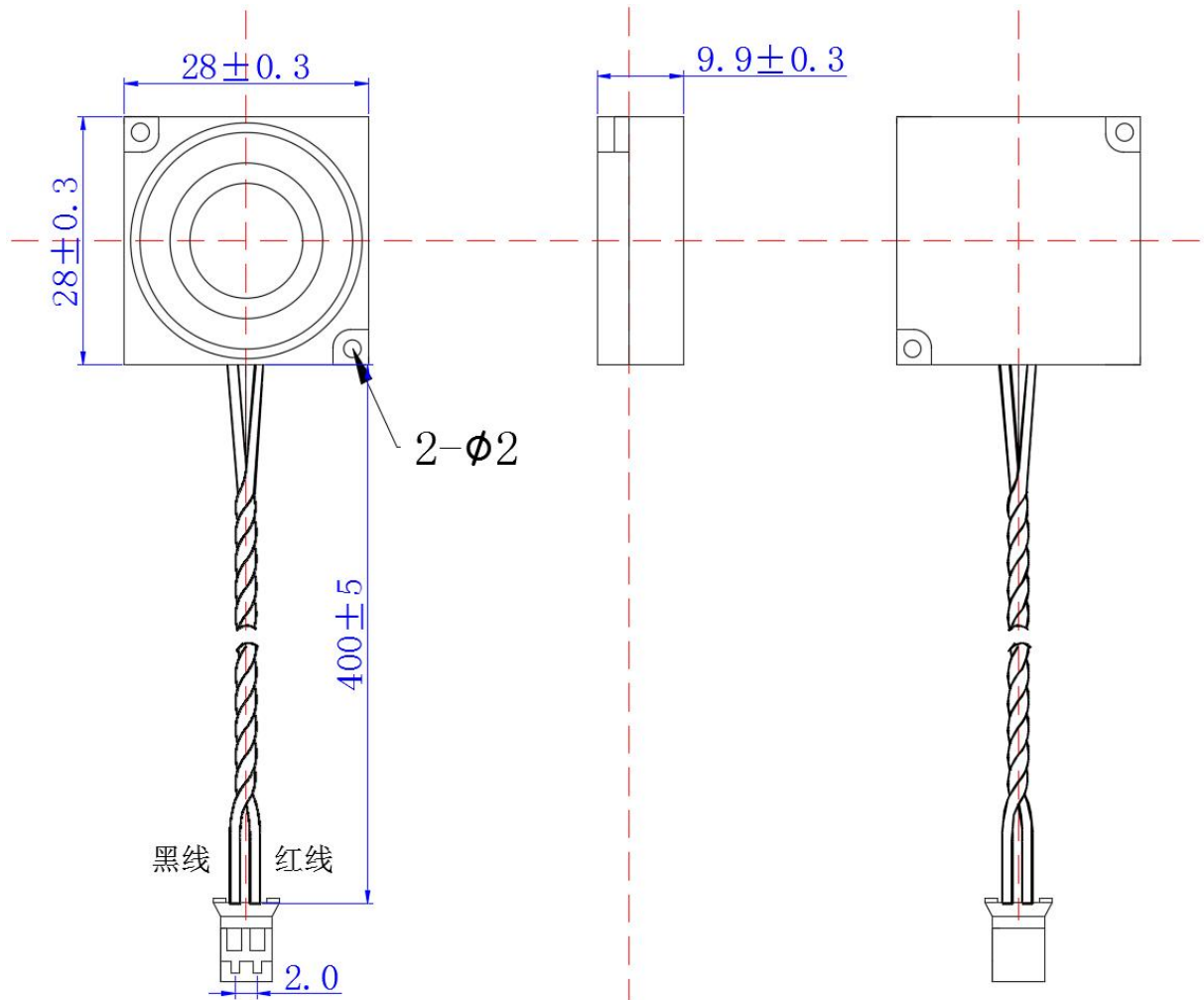
1.电气特性 *Electrical Characteristics*

| 项目 <i>Item</i> | 规格 <i>Specification</i> |
|---|--|
| 型号 <i>Type</i> | 音箱 282810-4Ω 3W |
| 外观尺寸 <i>Dimension</i> | <i>Shown As Mechanical Drawings</i> |
| 标示 <i>Marking</i> | <i>Shown As Mechanical Drawings</i> |
| 膜片厚度 <i>Mylar Thickness</i> | <i>mm</i> |
| 磁铁 <i>Magnet</i> | 12.5*1.5 |
| 音圈 <i>Voice Coil</i> | |
| 阻抗 <i>Nominal Impedance</i> | $4\ \Omega \pm 15\%$ At 1.0KHz |
| 额定输入功率 <i>Rated Input Power</i> | 1.0W |
| 最大输入功率 <i>Max. Input Power</i> | 3.0W |
| 输出音压 <i>Mean Sound Pressure Level(S.P.L)</i> | $99 \pm 3\text{dB}$ By 0.1W/0.1M at 0.8, 1.0, 1.2, 1.5KHz AVG. |
| 有效频宽 <i>Frequency Range</i> | 200~3000Hz |
| 失真率 <i>Distortion</i> | 5%Maximum At 0.89V Rated Input At 1.0KHz/Nom Power |
| 异常音试验电压 <i>Buzzes&Rattles</i> | 4.0V |
| 最低共振频率 <i>Lowest Resonanve Frequency(F0)</i> | $500\text{Hz} \pm 15\%$ |
| 负载测试 <i>Load Test</i> | White Noise 0.2W, 24Hrs |
| 净重量 <i>Net Weight</i> | 7.9g |
| 工作温度 <i>Operation Temperature</i> | $-20\ ^\circ\text{C} \sim +50\ ^\circ\text{C}$ |
| 存储温度 <i>Storage Temperature</i> | $-25\ ^\circ\text{C} \sim +60\ ^\circ\text{C}$ |
| 极性 <i>Polarity</i> | <i>Diaphragm Shall Move Forward When Applies A Positive DC. Current To The "+" Or Marked On Terminal</i> |

2.产品外观 *Product Outside View*

单位 *Unit*:mm

公差 *Tolerance*: ± 0.5 mm



| NO. | 材料 <i>PARTAME</i> | 材质 <i>MATERIAL</i> | 数量 <i>QTY</i> |
|-----|-----------------------|--------------------|---------------|
| 1 | 铁壳 <i>Frame</i> | SPCC | 1 |
| 2 | 磁铁 <i>Magnet</i> | Nd-Fe-B | 1 |
| 3 | 华司 <i>Washer</i> | SPCC | 1 |
| 4 | PCB 板 <i>Terminal</i> | FR-4 | 1 |
| 5 | 音圈 <i>Voice Coil</i> | Cu | 1 |
| 6 | 振动膜 <i>Diaphragm</i> | ZHI | 1 |
| 7 | 垫圈 <i>Gasket</i> | PAPER | 1 |
| 8 | 引线 <i>Wire</i> | UL1007#26# | 1 |
| 9 | 端子 | 2.0T/2P | 1 |

3.可靠性试验 *RELIABILITY TEST*

| 试验项目 <i>ITEM</i> | 测试方法 <i>METHOD OF TEST</i> | 标准 <i>STANDARD</i> |
|--------------------------------------|---|--|
| 高温试验 <i>Dry Heat Test</i> | +55°C ± 2°C, 96h, 恢复 2 小时后测量 <i>After being placed in a chamber with +55 ± 2 °C for 96 hours and then being placed in natural condition for 2 hours, sounder shall be measured.</i> | 试验后所有指标都符合要求 <i>All specification must be satisfied after the test.</i> |
| 低温试验 <i>Cold Test</i> | -25°C ± 2°C, 96h, 恢复 2 小时后测量 <i>After being placed in a chamber with -25 ± 2 °C for 96 hours and then being placed in natural condition for 2 hours, sounder shall be measured.</i> | 试验后所有指标都符合要求 <i>All specification must be satisfied after the test.</i> |
| 恒定湿热试验 <i>Humidity Test</i> | 将产品置于+40°C ± 5°C, 相对湿度保持在 95%中的环境中放置 96h, 恢复 2 小时后测量。 (见图 FIG.1) <i>After being placed in a chamber with, 95%R.H. at +40 °C ± 5 °C for 96 hours and then being placed in natural condition for 2 hours, sounder shall be measured.</i> <i>(Attached FIG.1)</i> | 试验后所有指标都符合要求 <i>All specification must be satisfied after the test.</i> |
| 温度循环试验 <i>Temperature Cycle Test</i> | 产品在-25°C的试验箱和温度为+55°C的试验箱各放置 30 分钟, 为一次温度循环。产品承受 5 次温度循环后, 放置 2h 后进行测量(见图 FIG.2) <i>After being placed in a chamber at -25 °C ± 5 °C for 30 minutes, sounder shall be placed at room temperature(+20 °C). After 15 minutes at this temperature, sounder shall be placed in a chamber at +55 °C ± 5 °C. After 30 minutes at this temperature, sounder shall be returned to room temperature(+20 °C) for 15 minutes. After 5 above cycles, sounder shall be measured after being placed in natural condition for 2 hours. (Attached FIG.2)</i> | 试验后所有指标都符合要求 <i>All specification must be satisfied after the test</i> |
| 振动试验 <i>Vibration Test</i> | 频率 10-55-10(Hz), 单振幅: 1.5 (mm) 扫频时间 1min ,X,Y,Z 各方向 2 小时 (共 6 小时) (见图 FIG.3) <i>Sounder shall be measured after being applied vibration of amplitude of 1.5mm with 10-55Hz band of vibration frequency . Make this text for directions of X,Y,Z for 2Hrs each (Total 6Hrs)Sweep time is 1 minute. (Attached FIG.3)</i> | 试验后所有指标都符合要求 <i>All specification must be satisfied after the test.</i> |
| 跌落试验 <i>Drop Test</i> | 於水泥地面上高度 1 公尺处, 依包装实体一角三棱作自由落体试验, 试验结束后包装外观无大改变, 内部喇叭外观和电性能符合要求。 <i>The speaker inside the packing must be OK after text.</i> <i>Direction of drop:1 corner,3 edges and 6 faces.</i> <i>Height:1 meter.</i> | 试验后所有指标都符合要求 <i>All specification must be satisfied after the test.</i> |
| 负载试验 <i>Load Test</i> | 白噪音 0.2W, 连续 24 小时, 恢复 2 小时后外观、电性能符合要求 <i>Noise: White noise(EIA filter)</i> <i>Power: 3W</i> <i>Duration: 24hours</i> | 试验后所有指标都符合要求 <i>All specification must be satisfied after the test.</i> |

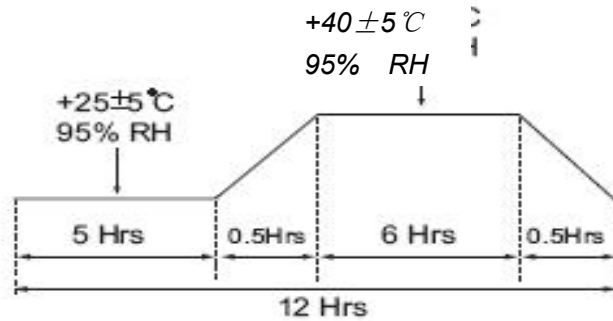


FIG.1

将产品置于+40°C ± 5°C，相对湿度保持在 95%中的环境中放置 96h，恢复 2 小时后测量。

After being placed in a chamber with, 95%R.H. at +40 °C ± 5 °C for 96h and then being placed in natural condition for 2 hours, sounder shall be measured.

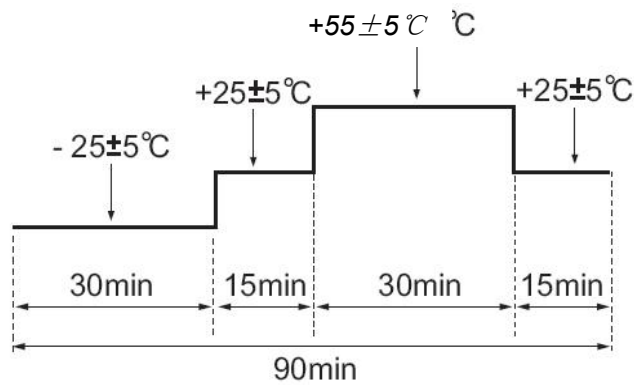


FIG.2

产品在-25°C的试验箱和温度为+55°C的试验箱各放置30分钟，为一次温度循环。产品承受5次温度循环后，放置2h后进行测量

After being placed in a chamber at -25 °C ± 5 °C for 30 minutes, sounder shall be placed at room temperature(+20 °C). After 15 minutes at this temperature, sounder shall be placed in a chamber at +55 °C ± 5 °C. After 30 minutes at this temperature, sounder shall be returned to room temperature(+20 °C) for 15 minutes. After 5 above cycles, sounder shall be measured after being placed in natural condition for 2 hours.

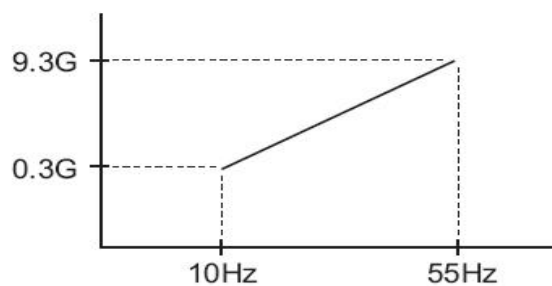
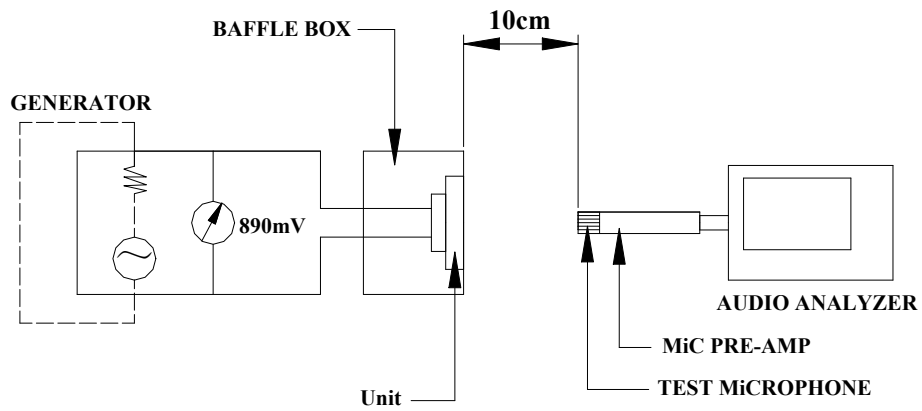


FIG.3

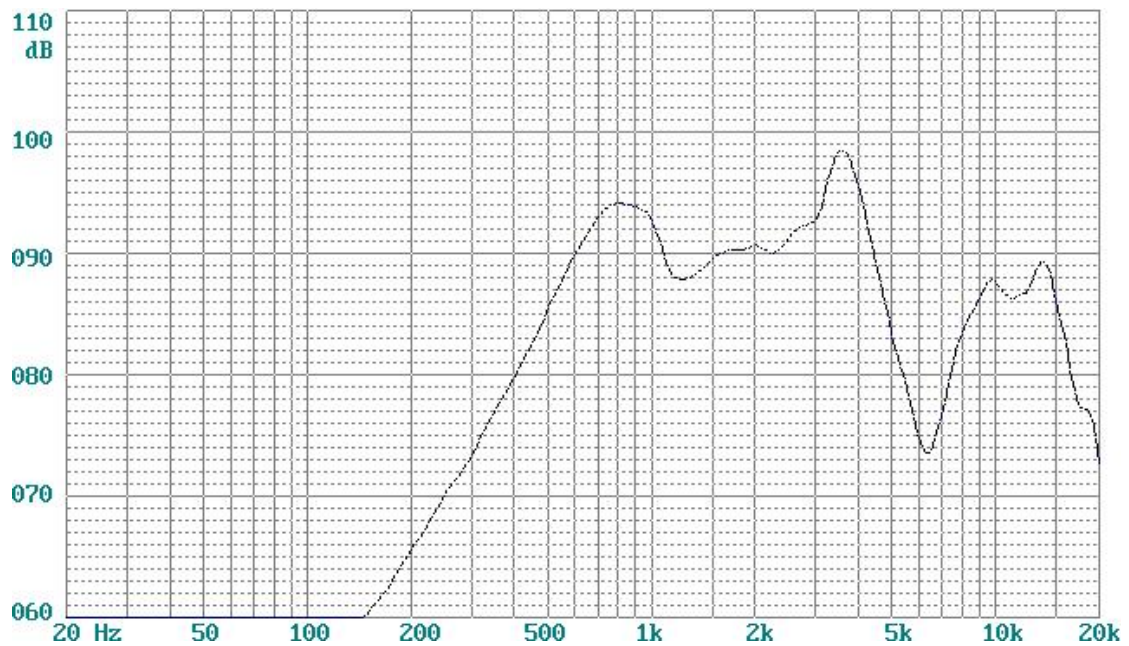
频率10-55-10 (Hz)，单振幅：1.5 (mm) 扫频时间1min，X, Y, Z各方向2小时（共6小时）

Sounder shall be measured after being applied vibration of amplitude of 1.5mm with 10-55Hz band of vibration frequency. Make this text for directions of X, Y, Z for 2Hrs each (Total 6Hrs) Sweep time is 1 minute.

4.测试原理图 *Measuring Circuit*



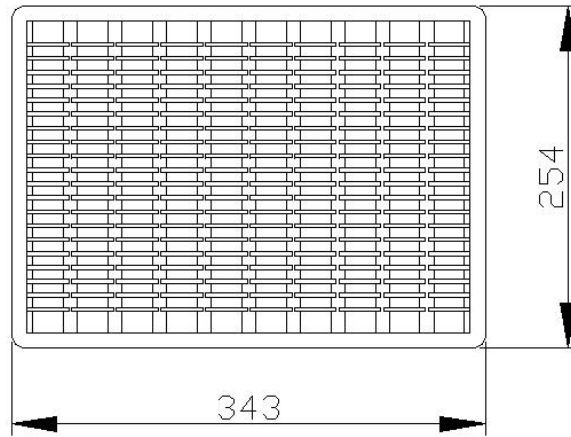
5.频响曲线 *Frequency Response Curve*



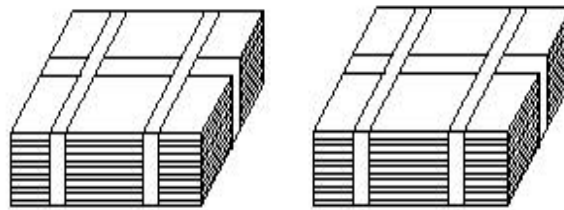
6.正常测试条件 *Normal Test Conditions*

温度 *Temperature*: $17^{\circ}\text{C} \sim 25^{\circ}\text{C}$
 湿度 *Relative Humidity*: $45\% \sim 85\%(\text{RH})$
 气压 *Air Pressure*: $86\text{KPa} \sim 106\text{KPa}$
 判断测试条件 *Judgment Test Conditions*
 温度 *Temperature*: $20 \pm 2^{\circ}\text{C}$
 湿度 *Relative Humidity*: $60\% \sim 70\%(\text{RH})$
 气压 *Air Pressure*: $86\text{KPa} \sim 106\text{Kpa}$

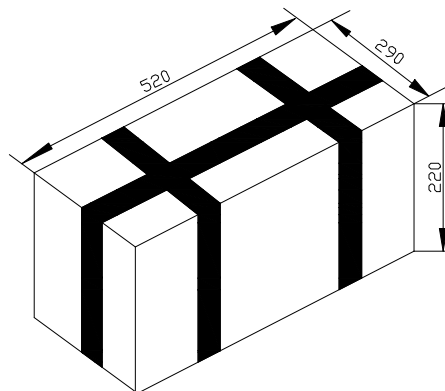
7. 包装方法 *Packing Method*



100PCS speaker in per tray



2000 PCS speaker



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[FS26NS0820-H4.9-R01](#) [FS5835DS0850-H19.4-R01](#) [FS2011NB0807-H3.9-R01](#) [FS28DS0820-H9.4-R01](#) [FS40DS0830-H11.2-P2.0-L100](#)
[FS28DS0830-H15.3](#) [FS5035NB0820-H26.8-R01](#) [FS3915NB0808-H11.5-R01](#) [FS3020NB0808-H4.0-R01](#) [FS3616NB0808-H10-R01](#)
[FS40DS0450-H18.3](#) [FS3411P04-H4.0](#) [FS50DS0830-H12.7 PEI](#) [FS7033NB0430-H15.5-R01](#) [FS3020NB0805-H4.1-R01](#) [FS4020NB0410-](#)
[H6.6-R01](#) [FS23DS0420-H10.2-P1.25-L60](#) [FS50DS0830-H13.3-R24](#) [FS66DS0850-H16.2-R01](#) [FS3511NB0808-H5.2-R01](#) [FS87W16120-H32](#)
[FS9050W0850-H38.5](#) [FS2015NB0808-H8.0-R01](#) [FS2217NB0810-H8-R01](#)