

APPROVAL SHEET



FHD ELECTRONICS CORPORATION

CUSTOMER NAME : _____

COMMODITY : Mylar Speaker

FHD PART NO. : MS28R054-8T10

CUSTOMER PART NO. : _____



| | | | |
|-------------|-------|-------------|---------|
| Approved by | Y. J. | Prepared by | HY Shen |
|-------------|-------|-------------|---------|

| | | | |
|-------------------|--|----------|--|
| Customer Approval | | | |
| Approved | | Rejected | |
| | | | |

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FHD ELECTRONICS CORPORATION

REVISIONS

PRODUCT PART NO. : MS28R054-8T10

| DATE | REVISER | REV. | DESCRIPTION | REMARK |
|-----------|---------|------|-----------------|--------|
| 2023/7/27 | HY SHEN | 1 | Initial edition | |
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A. PART NO.: MS28R054-8T10**B. SPECIFICATION**

Test condition: Temperature: 15~35℃ Related Humidity:25~75% (GB/T9396-1966)

| No. | Item | Specification | Condition |
|-----|------------------------------------|---|---|
| 1 | Dimension | Dia. 28 x H5.4mm | |
| 2 | Weight | grams | |
| 3 | Rated Impedance | 8Ω ± 15% | At 2000Hz |
| 4 | Resonant Frequency | 580Hz ± 20% | without baffle |
| 5 | Output Sound Pressure Level S.P.L. | 87±3db (0.1M / 0.1W) | At 1.0, 1.5, 2.0, 3.0KHz (0dB SPL=20uPa) |
| 6 | Frequency Range | F0---20000Hz | |
| 7 | Distortion | 10% Maximum | At1.0kHz |
| 8 | Magnet | NdFeB | |
| 9 | Power Rating | Normal: 1.0 Watts Maximum: 1.5 Watts | Sine Wave |
| 10 | Operating Temp. | - 20 ~ + 50℃ | |
| 11 | Storage Temp. | - 30 ~ + 60℃ | |
| 12 | Audible Noise | The input power shall be set at rated noise power (1.0W). Using an audio oscillator sweep from F0 to 10000HZ in free air. There shall be no buzzes and rattles and nor spurious noises. | Sine Wave |
| 13 | Polarity | When a positive D.C current is applied to the voice coil terminal marked (+). The diaphragm shall move forward. | |
| 14 | RoHS | The Speaker is RoHS compliant. | |

C. ENVIRONMENTAL TEST

| No. | Item | Condition | Evaluation standard |
|-----|------------------|---|--|
| 1 | High Temperature | After being placed in a chamber at +60℃±5℃ for 96 hours | Being placed for 6 hours at room temperature, speaker shall be |

| | | | |
|----|------------------------|---|---|
| 2 | Low Temperature | After being placed in a chamber at $-30^{\circ}\text{C}\pm 5^{\circ}\text{C}$ for 96 hours. | measured. SPL should not deviate by ± 3 db, and resonant frequency should not deviate by ± 80 Hz, compare with pre-test measurement. |
| 3 | Humidity Test | After being placed in a chamber at $+40\pm 5^{\circ}\text{C}$ and 90~96%(RH) Relative Humidity for 96 hours. | |
| 4. | Temperature Cycle Test | Temperature: $-30^{\circ}\text{C} \longleftrightarrow 60^{\circ}\text{C}$ Duration: 2hrs 2hrs Cycle: 5 cycles | |

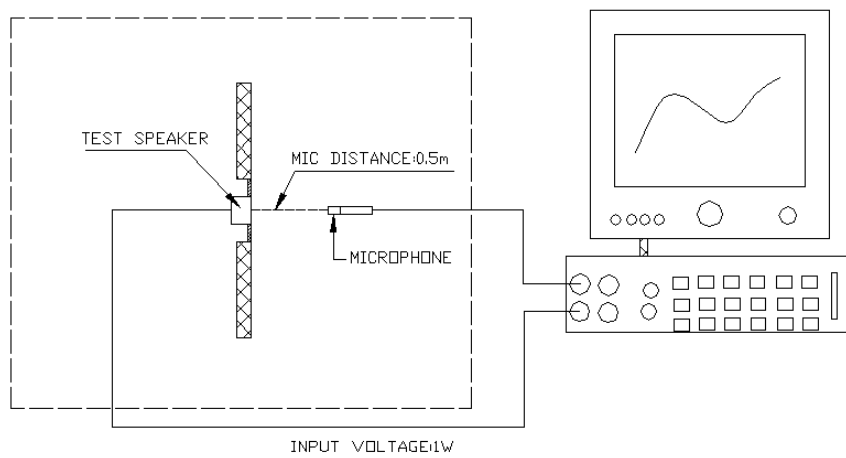
D. MECHANICAL AND VIBRATION TEST

| No. | Item | Test condition | Evaluation standard |
|-----|----------------|---|--|
| 1 | Drop Test | Drop from 1.0m height onto concrete floor 6 times | SPL shall not deviate by ± 3 db from pre-test measurement. |
| 2 | Vibration Test | Vibration: 10Hz~55Hz Amplitude: 1.5mm or acceleration : 50m/s ² Duration : 2h per axis=10cycles ; 3 axis | |

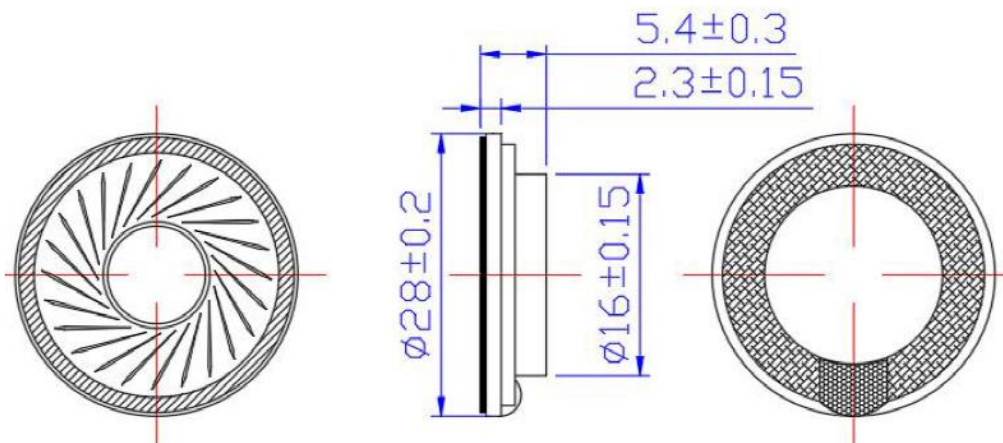
E. RELIABILITY TEST

| No. | Item | Test conditions | Evaluation standard |
|-----|-----------|---|--|
| 1 | Load Test | 1.0W White noise is applied for 96hours | Speaker should not fail after apply 20 ~ 20K Hz White noise rated power input (RMS), 100 hours. After test, SPL shall not deviate by ± 3 db from pre-test measurement, |

F. MEASUREMENT CIRCUIT



G. DRAWING *Unit: mm; Tolerance: $\pm 0.5\text{mm}$ Except Specified

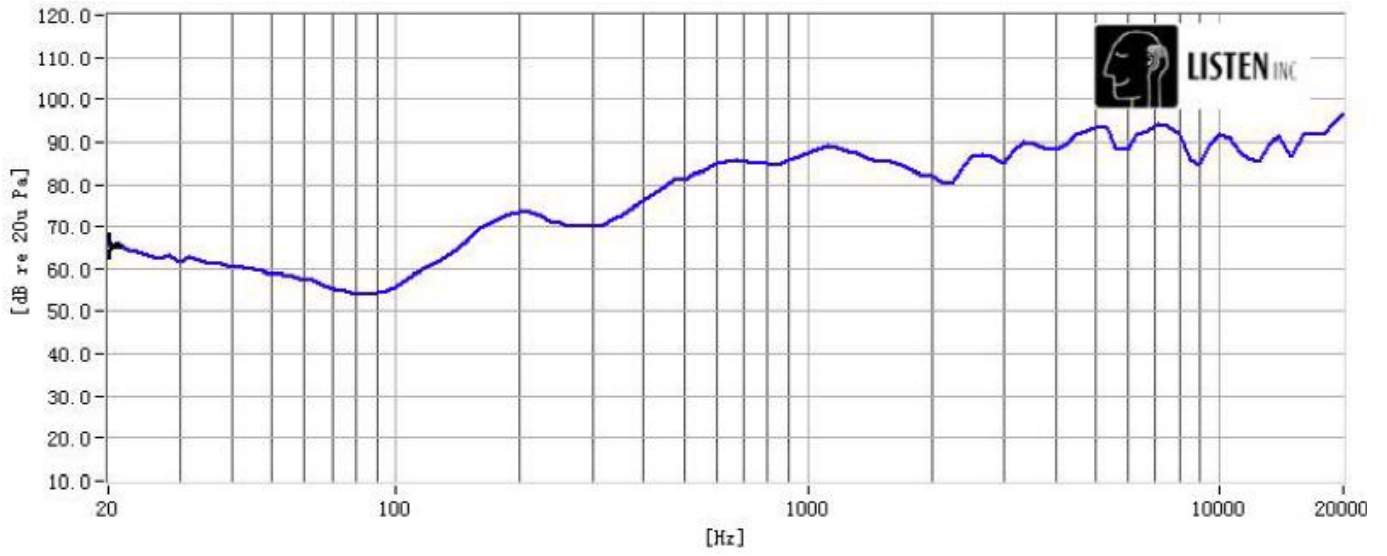


Remark:

| PART NO. | PART NAME 名稱 | MATERIAL 材質 |
|----------|---------------|-------------|
| 1 | Frame 支架 | SPCC |
| 2 | Plate 華司 | SPCC |
| 3 | Magnet 磁鐵 | Nd Fe B |
| 4 | Voice Coil 音圈 | Copper+Cu |
| 5 | Terminal 接線板 | Glass Epoxy |
| 6 | Diaphragm 音膜 | PET |
| | | |

Note: Accord with RoHS2.0 standard

H. SOUND PRESSURE CURVE



I. PACKING INFORMATION (TBD)