Dynamic Speaker Electroacoustic Characteristics

Sound Pressure Level

93±3dB SPL @0.8, 1.0, 1.5 and 2.0KHz in average (0dB SPL=20μPa)
Measuring Condition: 0.1W (Sine wave) 10cm measured with baffler

Frequency Response Curve

As shown in Figure 2

Response Frequency

1000±20%Hz @ 1V. (without baffler)

Input Power (Nominal and Maximum)

Rated Noise Power: 0.5W
Short Term Max Power: 0.8W must be normal at a white noise (1W, F0 ~ 20KHz) for one minute

Operation Test

Must be free audible noise (buzzes and rattles)
300 ~ 8KHz frequency range, input level up to 2.0Vrms

Distortion

Less than 10% @1KHz, 0.1M, 0.5W frequency range, input level up to 2.0Vrms

General Specifications

Operating Temperature Range

-20°C~60°C

Standard Test Conditions

Temperature 17°C~25°C
Relative Humidity 45%~80%(RH)

AC Impedance

8±15%Ω (@ 1KHz 1V) without baffler

Dimension

Ø15.0x5.7mm WIRE 62mm (UL1571/AWG32#)

IP Level

IP50
Reliability Tests

The sound pressure as specified will neither deviate more than ±3dB from the initial value, nor have any significant damage after any of following testing.

High Temperature Test
- High Temperature: +60±2°C
- Duration: 96 hours

Low Temperature Test
- Low Temperature: -20±2°C
- Duration: 96 hours

Heat Shock Test
- High Temperature: +60±2°C
- Low Temperature: -20±2°C
- Changeover Time: <30 seconds
- Duration: 1 hour
- Cycle: 100

Humidity Test
- Temperature: +40±2°C
- Relative Humidity: 90%~95%
- Duration: 96 hours

Temperature Cycle Test
- Temperature: -20°C to +60°C
- Duration: 45 minutes
- Temperature gradient: 1~3°C/min
- Cycle: 25

Drop Test
- Mounted with dummy set mass: 100 g
- Height: 1.5 m
- Cycle: 6 (1 each plain) onto the concrete board

Load Test
- Speaker mode: White noise (EIA filter) for 96 hours @ 0.5W input power.
Measuring Method (Speaker Mode)

Standard Test Condition

- Temperature 15 ~ 35°C
- Relative humidity 45% ~ 85%
- Atmospheric pressure 860mbar to 1060mbar

Standard Test Fixture

- Input Power 0.1W (0.89V)
- Zero Level -dB
- Mode TSR
- Potentiometer Range 50dB
- Sweep Time 0.5sec

Standard Test Condition of Speaker (Fig. 1)
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SP DYNAMIC SPEAKER UNIT
Acoustic Product Specification

Product Number: SP-1504

Release | Revision: A/2016

No.  Part Name   Material                      Quantity
1    UL1571 AWG32# Wire Red/Black            2
2    PCB       Epoxy glass fiber + Copper     1
3    Frame     PBT                           1
4    Magnet    Nd Fe B-N38                   1
5    Plate     SPCC                          1
6    Voice Coil Copper                       1
7    Membrane  PEN                           1
8    Cap       SUS 304                       1
9    Screen Gasket Polyester fiber           1
10   Gasket    Polyester fiber + double faced adhesive tape 1
11   Damping net Non-woven fabrics          1

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