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# SPECIFICATION FOR APPROVAL

|                   |                               |
|-------------------|-------------------------------|
| Product           | ELECTRET CONDENSER MICROPHONE |
| Part No.          | AM-U140A45-NT                 |
| Customer Approval |                               |

|             |            |         |
|-------------|------------|---------|
| Approved By | Checked By | Made By |
|             |            |         |



**A & B Components**

**<http://www.speaker-tw.com>**

## 1. SPECIFICATIONS

AM-U140A45-NT

|    |                            |   |
|----|----------------------------|---|
| 01 | Electret Type              | BACK type                                 |
| 02 | Sensitivity                | -45±3dB (0dB=1V/Pa,1KHz)                  |
| 03 | Output Impedance (Max)     | 6.8KΩ                                     |
| 04 | Directivity                | Unidirectional                            |
| 05 | Frequency Range            | 70-20,000Hz                               |
| 06 | Max.Operation Voltage      | 10V                                       |
| 07 | Standard Operation Voltage | 1.5V                                      |
| 08 | Current Consumption        | Max.0.5mA                                 |
| 09 | Sensitivity Reduction      | Within -3dB 0dB=1V/Pa,1KHz Vs=1.5 to 1.0V |
| 10 | S/N Ratio                  | > 66dB                                    |
| 11 | Operating Temperature      | -25~+70°C                                 |
| 12 | Storage Temperature        | -40~+70°C                                 |

## 2. MEASURING METHOD

### 2-1. Test Condition

Standard Conditions:

Generally Temperature 15~35°C

Generally Humidity 45~85%

Generally Atmospheric Pressure 860~1060hpa

Basic Test Conditions:

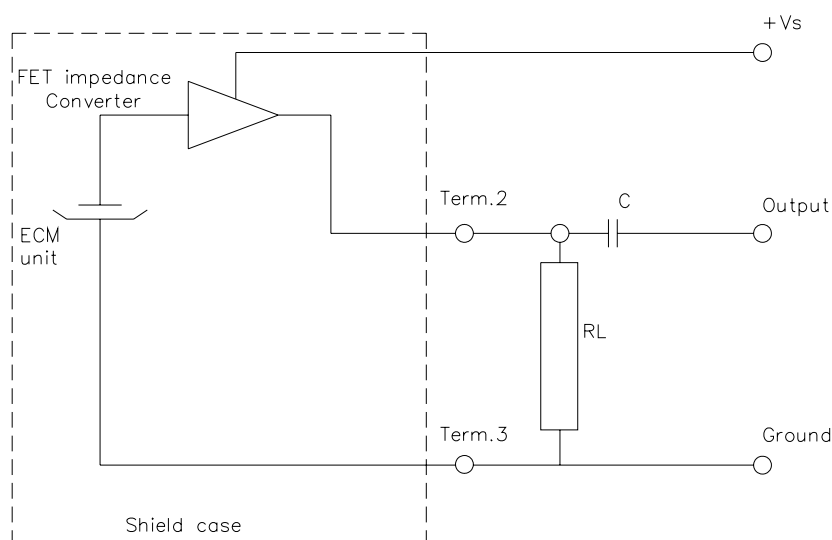
Temperature 20±2°C

Humidity 60~70%

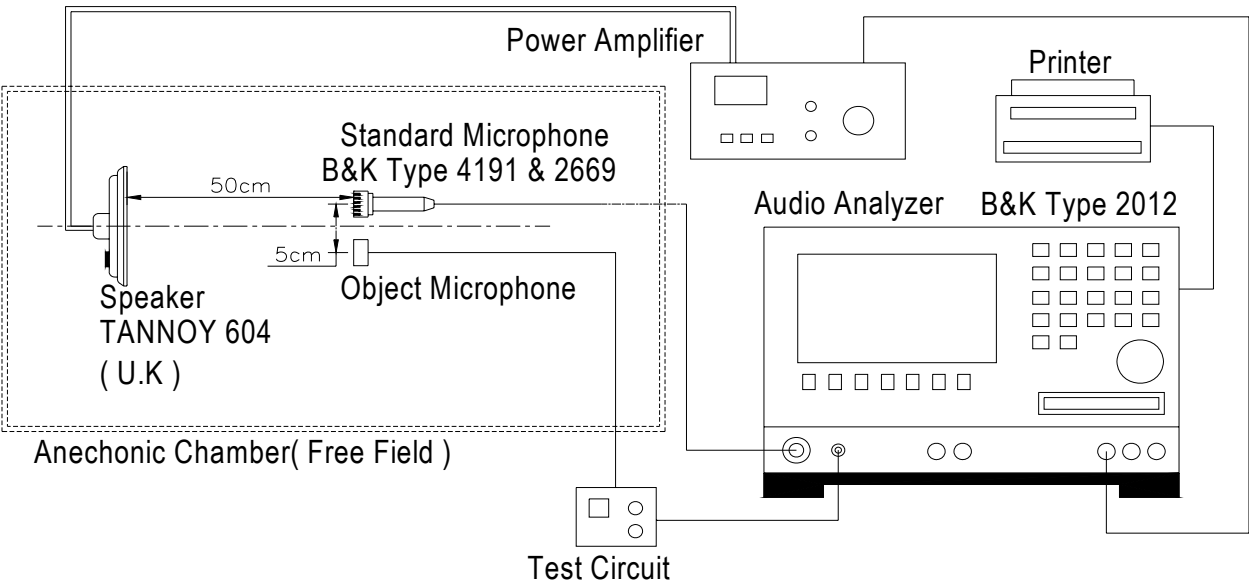
Generally Atmospheric Pressure 860~1060hpa

### 2-2. Standard Test Circuit

Vs= 1.5V RL= 6.8KΩ Te=20°C R.H.=60%

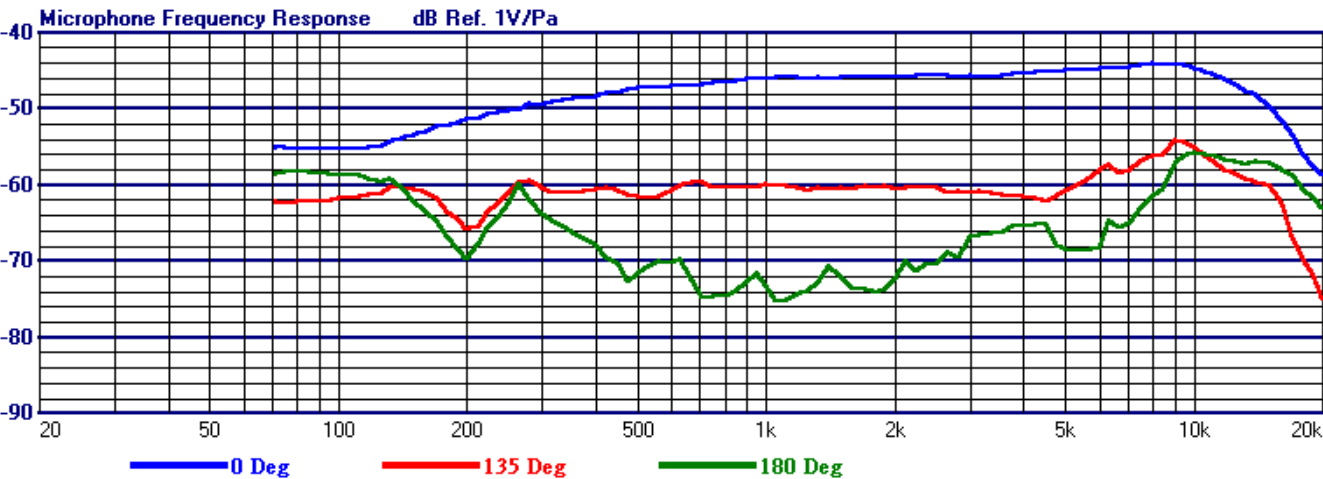


2-3. Standard Test Fixture



2-4. Frequency Response Curve

X : 1000 Hz      Y : -46.0 dBV/Pa      Y : -59.8 dBV/Pa      Y : -73.1 dBV/Pa  
Y : -43.8 dBm/Pa      Y : -57.6 dBm/Pa      Y : -70.9 dBm/Pa  
D : 0.0 dB      D : 0.0 dB      D : 0.0 dB  
Z : -13.9 dB      Z : -27.1 dB

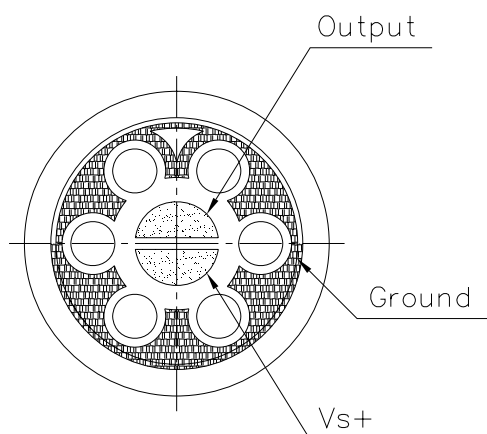
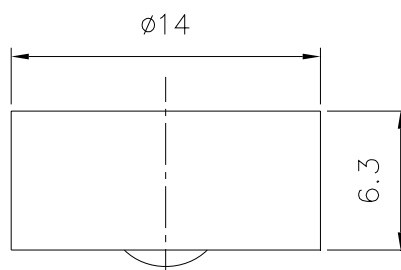
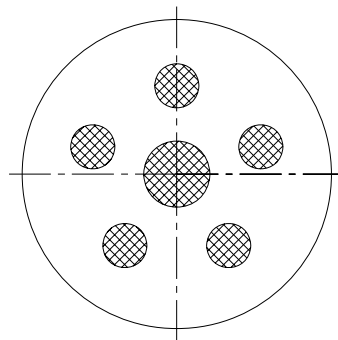


REV NO.

REVISION NOTE

APPROVAL

DATE



|                        |     |   |                           |                             |              |
|------------------------|-----|---|---------------------------|-----------------------------|--------------|
| TITLE: MICROPHONE      |     | 1 | DRAWN: Richard 11/08/2004 | SCALE: 3:1                  | SHEET: 1 : 1 |
| PART NO. AM-U140A45-NT | REV |   | DESIGNED: R & D DEP.      | UNITS: mm                   |              |
| DWG NO. DTP-1009       |     |   | CHECKED:                  | TOLERANCE ± 0.2             |              |
|                        |     |   | APPROVAL:                 | UNLESS OTHERWISE SPECIFIED: |              |
|                        |     |   | MATERIAL:                 | ONE PLACE DECIMAL ± ***     |              |
|                        |     |   |                           | TWO PLACE DECIMAL ± ***     |              |
|                        |     |   |                           | THREE PLACE DECIMAL ± ***   |              |

A &amp; B Components

## 4. RELIABILITY TEST

| Item |                    | Test Conditions   | Evaluation Standard   |
|------|--------------------|---|---|
| 01   | High Temp. Test    | After exposure at 70°C for 200 hours  | After any tests , the sensitivity to be within $\pm 3\text{dB}$ of initial sensitivity after 3 hours of conditioning at 20°C and shall keep their initial operation and appearance. |
| 02   | Low Temp. Test     | After exposure at -25°C for 200 hours   |   |
| 03   | Temp. Cycle Test   | After exposure at 70°C for 30 minutes, at room temp. for 10 minutes, at -25°C for 30 minutes, at room temp. for 10 minutes, at 5 cycles       |   |
| 04   | Humidity Test      | After exposure at 40°C and 90 $\pm$ 5% relative humidity for 200 hours.   |   |
| 05   | Vibration Test     | 10~50Hz for 1minute full amplitude 1.52mm ,for 2 horous at three axes .   |   |
| 06   | Drop test          | The microphone unit without packaged must be subjected to each 3 drops at three axes from the height of 1 meter to 20mm thick hardwood.       |   |
| 07   | Pull Strength Test | The microphone assembly shall suffer no change from a pull strength of 0.5 kg for 3 seconds applied between the connector and the microphone. |   |

## 5. SOLDERING CONDITION

Every Mic. has installed FET., The FET. is easy broken by strong heat and static electricity, so when you working on, pls be attention that :

- Recommend using constant branding iron in 15 ~ 30W, and in temperature range 240 ~ 270°C.
- Soldering time not over 3 seconds.
- Don't stay any hole or dust when soldering.
- To avoid the Mic. be broken by static electricity, the people and working station should install prevent static electricity equipment.