



## SPECIFICATION

FOR ELECTRO-MAGNET DYNAMIC MICROPHONE

TOTAL PAGE 07 [www.bestargroups.com](http://www.bestargroups.com) RoHS

|              |             |             |                    |
|--------------|-------------|-------------|--------------------|
| Customer     |             | Model Name  | BCM4013OSBCF-42 LF |
| Customer P/N |             | Product No. | 195109             |
| Date         | 17 Sep.2013 | Issue No.   | BS/TEM01.242A      |
| Page         | 01 of 07    | Issue Date  | 2013.09.17         |

### Approval:

- 1.Characteristics
- 2.Drawing
- 3.Measurement Circuit
- 4.Reliability Test
- 5.Packing
- 6.History change record

| Drawn by | Checked by | Approved by | Customer approved |
|----------|------------|-------------|-------------------|
|          |            |             |                   |

### **BESTAR ACOUSTICS CO.,LTD**

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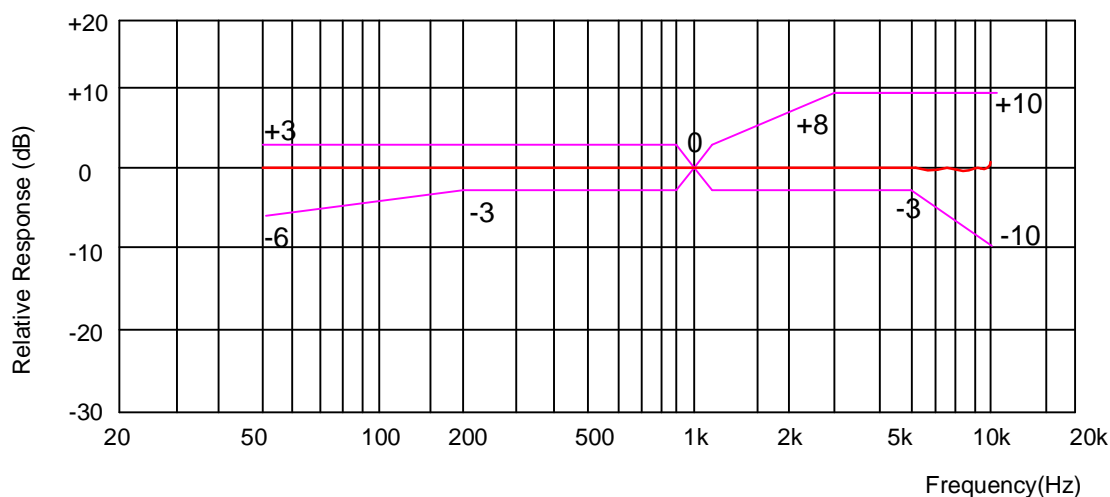
# BCM4013OSBCF-42 LF

## 1. Characteristics

Test Condition (Vs=2V RL=2.2K Ω Ta=20°C R.H.=65%)

| No. | Item                       | Specifications             |
|-----|----------------------------|----------------------------|
| 1   | Sensitivity                | - 42 ±3dB (0dB=1V/Pa,1kHz) |
| 2   | Impedance                  | 2.2 ±30%kohm               |
| 3   | Frequency Response         | 50-12kHz                   |
| 4   | Current Consumption        | 0.5mA Max.                 |
| 5   | Directional                | Omnidirectional            |
| 6   | S/N Ratio                  | more than 58dB             |
| 7   | Standard Operating Voltage | 2V                         |
| 8   | Operating Voltage          | 1V~12V                     |
| 9   | Sensitivity reduction      | within -3dB at 1.5V        |
| 10  | Storage Temperature        | -40 °C to +85 °C           |
| 11  | Operating Temperature      | -30 °C to +70 °C           |

### ★Frequency Resonse Curve

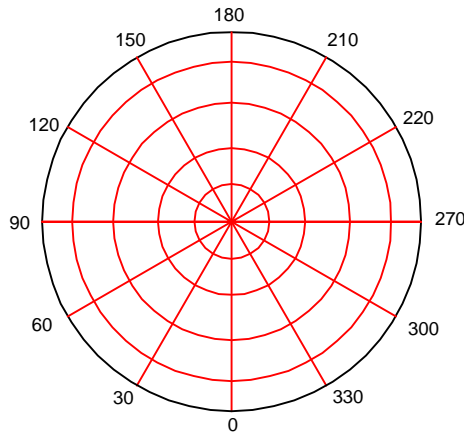


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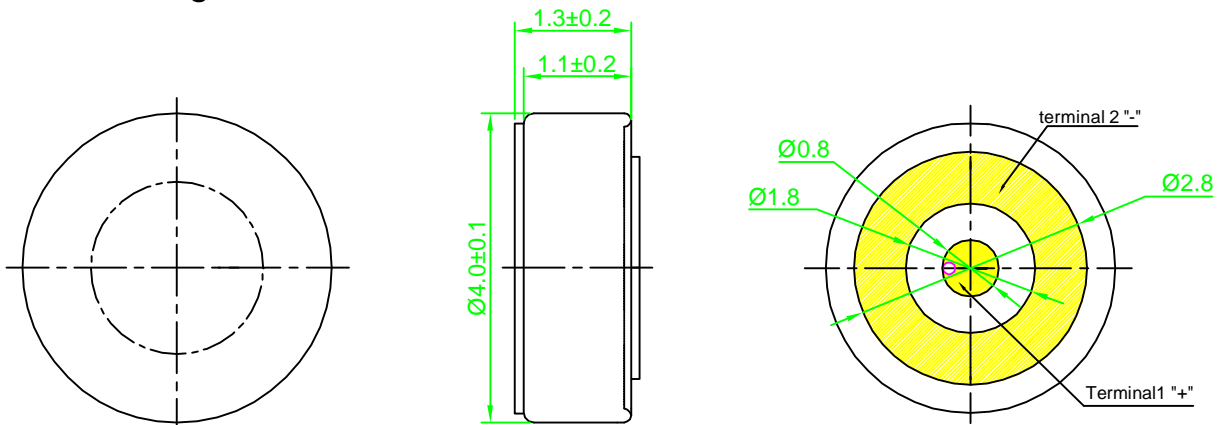
|                                     |            |       |      |              |            |                       |
|-------------------------------------|------------|-------|------|--------------|------------|-----------------------|
|                                     |            |       |      | Date:        | 2013.09.17 | BCM4013OSBCF-42 LF    |
|                                     |            |       |      | Drawn by:    | 王焕焕        |                       |
| A                                   | 2013.09.17 | 王焕焕   |      | Checked by:  | 徐波         | Microphone            |
| Rev.                                | Date       | Drawn | Note | Approved by: | 徐金国        |                       |
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# BCM4013OSBC-42 LF

## ★ Angular Response

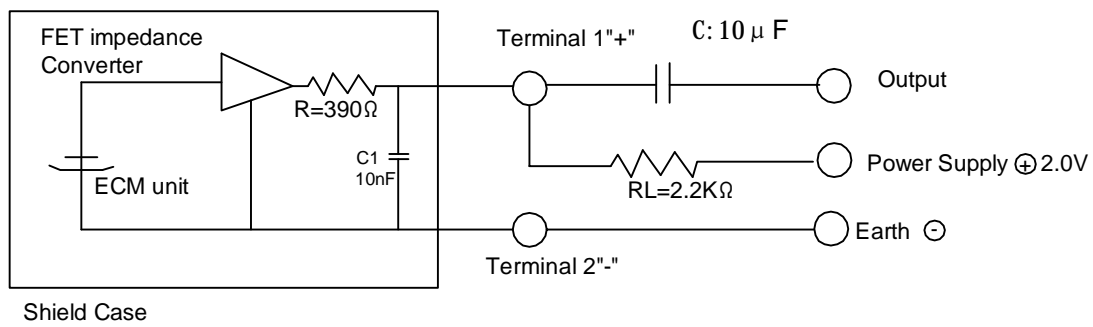


## 2. Drawing



Unit: mm

## 3. Measurement Circuit:



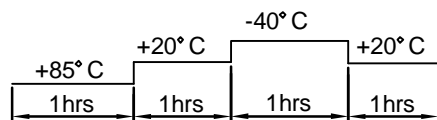
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# BCM4013OSBC-42 LF

## 4. Reliability Test

- 4.1 High temp.life test
  - Temperature +85 °C
  - Duration 100hrs
- 4.2 Low temp.life test
  - Temperature -40 °C
  - Duration 100hrs
- 4.3 Temperature cycle test
  - Cycles 10



- 4.4 Humidity Test
  - Temperature +40 °C
  - Relative Humidity 90~95%
  - Duration 48hrs

Tests above should be measured after leaving normal temperature for 6hrs.
- 4.5 Vibration Test
  - Vibration Frequency 10~55Hz
  - Amplitude 1.52mm/min
  - Direction 3(x.y&z)
  - Duration 2hrs each cycle(total 6 hrs)
- 4.6 Drop test
  - Height 1m
  - (Dropped to 20mm thick hardwood board without packing.)
  - Direction 3
- 4.7 Soldering Heat Shock
  - Temperature 260 ±5° c
  - Duration 2 ±0.5 sec
- 4.8 Terminal Mechanical Strength
  - Strength 1kg
  - Duration 1 min
- 4.9 Surface Mounting Condition

In automated mounting of The SMD Sound Transducers on printed circuit boards, any bending, expanding and pulling forces or shocks against the SMD Sound Transducers shall be kept to a minimum to prevent them from electrical failures and mechanical damages of the devices.

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# BCM4013OSBC-42 LF

## Soldering(Reflow)

(1)Soldering of The SMD Sound Transducers shall conform to the soldering conditions in the individual specifications.

(2)The SMD Sound Transducers are designed for "Reflow Soldering" under the recommended solder profile .

(3)SMD Sound Transducers which during the reflow soldering process are exposed to too high soldering temperatures and/or too large temperature gradient such as rapid heating or cooling may lead to electrical failures and mechanical damages of the devices.

Following soldering conditions are recommended; Refer to Fig.1

Temperature profile for a lead-free reflow process

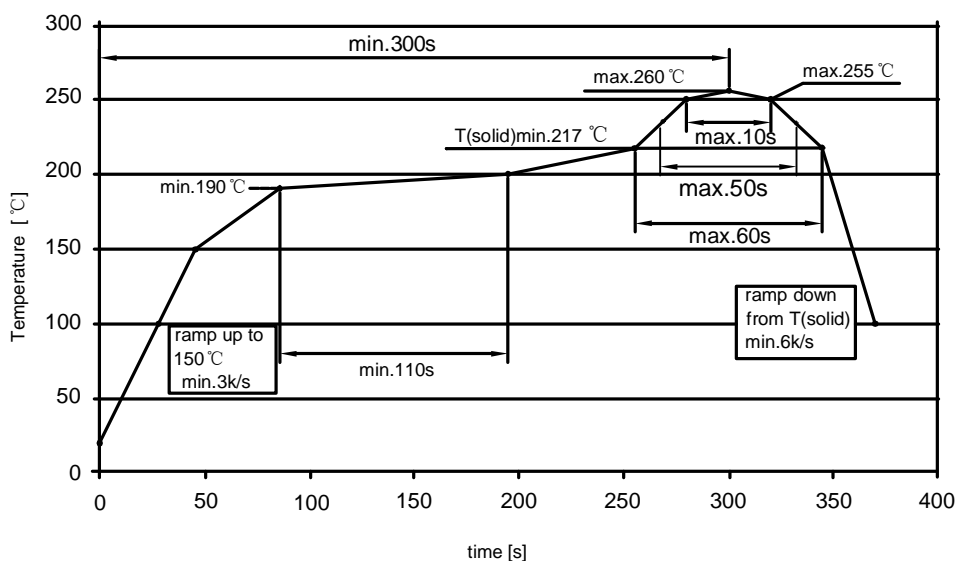


Fig. 1 Recommended soldering Temperature-Time profile (Reflow soldering)

**Notice:**

All specifications must be satisfied in this condition.

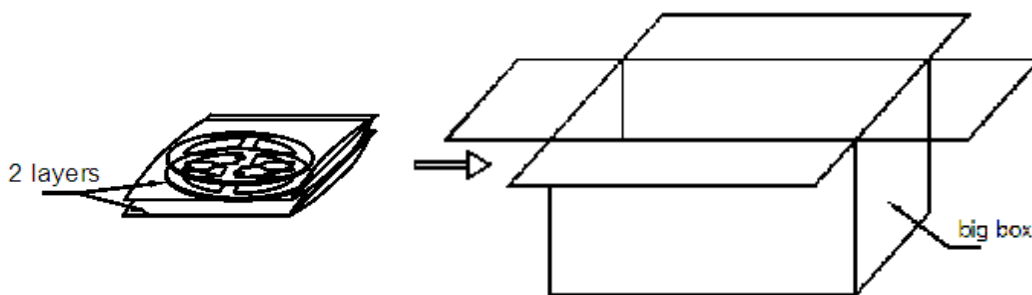
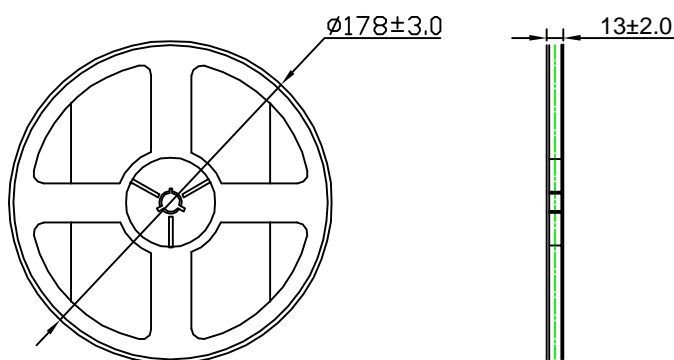
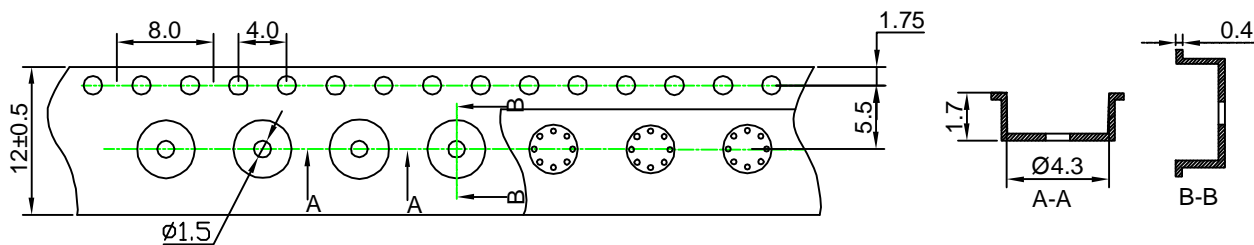
Sensitivity :Allowable deviation within  $\pm 3\text{dB}$  from initial sensitivity.

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| A   | REV. | 2013.09.17 | 王焕焕 | Checked by:  | 徐波         | Microphone            |
|   |      |            |     | Approved by: | 徐金国        |                       |
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# BCM4013OSBC-42 LF

## 5. Packing



Remark:  
 1000 pcs per tray  
 2 trays for unit, 10 units per carton  
 Total 20000pcs per carton  
 Size: 38×24×21(cm)

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# BCM4013OSBC-42 LF

## 6. History change record

| version No. | Change Items |                      | Date       | Drawn | Approved |
|-------------|--------------|----------------------|------------|-------|----------|
|             | Before       | After                |            |       |          |
| A           |              |                      | 2012.02.26 | 王焕焕   | 张秀琴      |
|             |              | Change the negatives | 2013.05.31 | 王焕焕   | 张秀琴      |
|             |              | Add the dimension    | 2013.06.04 | 王焕焕   | 张秀琴      |
|             |              | Add the Packing      | 2013.09.17 | 王焕焕   | 徐金国      |
|             |              |                      |            |       |          |
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