



Circle type Analog  
Electret Condenser Microphone

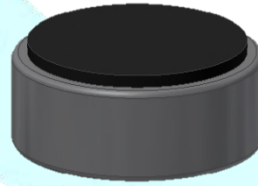
DATA SHEET

OBE-415L40-RC10(R)-L H/F

OBE-415L40-RC10(R)-L H/F

Φ4, Lead Wire Type

OMNI-DIRECTIONAL



Best sound electronics

Value no1. Micro sound provider

Creative technology starts from respecting of life  
of the individuals

Creative technologies to respect human life

Best sound electronics

Value no1. Micro sound provider

We offer you happiness with our excellent technology  
beyond an ordinary sound what you expect

Superior technology to deliver happiness

Best sound electronics

Value no1. Micro sound provider

Keep basic fundamentals to fill sound with  
new innovations

Creative technologies to respect human life

## 1. INTRODUCTION

- Analog Electret Condenser Microphone
- Circle Type
- Single & Differential Mode
- Sensitivity is Typical -40dBV/Pa
- Omni-directional
- RF Shielded
- Compatible with Sn/Pb and Halogen-free solder process
- RoHS compliant

## 2. APPLICATIONS

- Smartphones
- Ear-sets, Bluetooth Headsets
- Tablet Computers
- Wearable Devices
- Electrical Appliances
- Voice Recognition Systems of Appliances

## 3. MODEL NO.

**OBE-415L40-RC10(R)-L H/F**

## 4. GENERAL MICROPHONE SPECIFICATIONS

Test Condition : 23 ± 2°C, Room Humidity = 55 ± 20 %, V<sub>CC</sub>=2.0V, unless otherwise noticed.

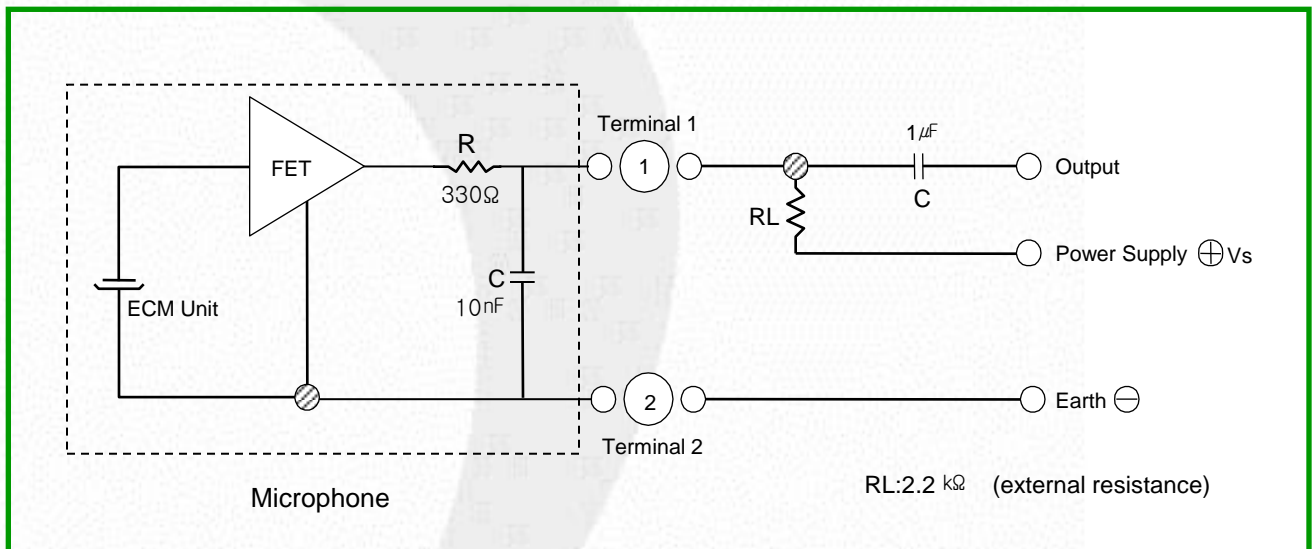
Parameter	Conditions	Min	Typ	Max	Units
<b>Directivity</b>		<b>Omni-directional</b>			
<b>Operating Voltage</b>		<b>1.5</b>	-	<b>10</b>	V
<b>Sensitivity Change across Voltage</b>	ΔS-VS, V <sub>CC</sub> =2.0V to 1.5V	-	-	<b>-3</b>	dB

## 5. ELECTRO-ACOUSTIC CHARACTERISTICS

Test Condition :  $23 \pm 2^\circ\text{C}$ , Room Humidity =  $55 \pm 20\%$ ,  $V_{CC}=2.0\text{V}$ , unless otherwise noticed.

Parameter	Conditions	Min	Typ	Max	Units
<b>Sensitivity (S)</b>	94dB SPL at 1kHz, $0\text{dB}=1\text{V}/\text{Pa}$	<b>-43</b>	<b>-40</b>	<b>-37</b>	dBV/Pa
<b>Output Impedance (<math>Z_{out}</math>)</b>	94dB SPL at 1kHz	-	-	<b>2.2</b>	$\text{k}\Omega$
<b>Current Consumption</b>	$V_{CC}=2.0\text{V}$ , $R_L = 2.2\text{k}\Omega$	-	-	<b>500</b>	$\mu\text{A}$
<b>Signal to Noise Ratio (SNR)</b>	94dB SPL at 1kHz, A-weighted (20Hz~20kHz)	<b>61</b>	<b>63</b>	-	dB(A)
<b>Equivalent Input Noise (EIN)</b>	94dB SPL at 1kHz, A-weighted (20Hz~20kHz)	-	<b>31</b>	-	dB(A)SPL
<b>Total Harmonic Distortion (THD)</b>	94dB SPL at 1kHz	-	-	<b>0.3</b>	%
	104dB SPL at 1kHz	-	-	<b>1.0</b>	
	113.5dB SPL at 1kHz	-	-	<b>3.0</b>	
	118.dB SPL at 1kHz	-	-	<b>5.0</b>	
<b>Acoustic Overload Point (AOP)</b>	THD>10% at 1kHz	<b>126.5</b>	<b>127.5</b>	-	dB SPL

## 6. MEASUREMENT CIRCUIT



## 7. TYPICAL FREQUENCY RESPONSE CURVE(FAR FIELD)

### Far Field Measurement Condition

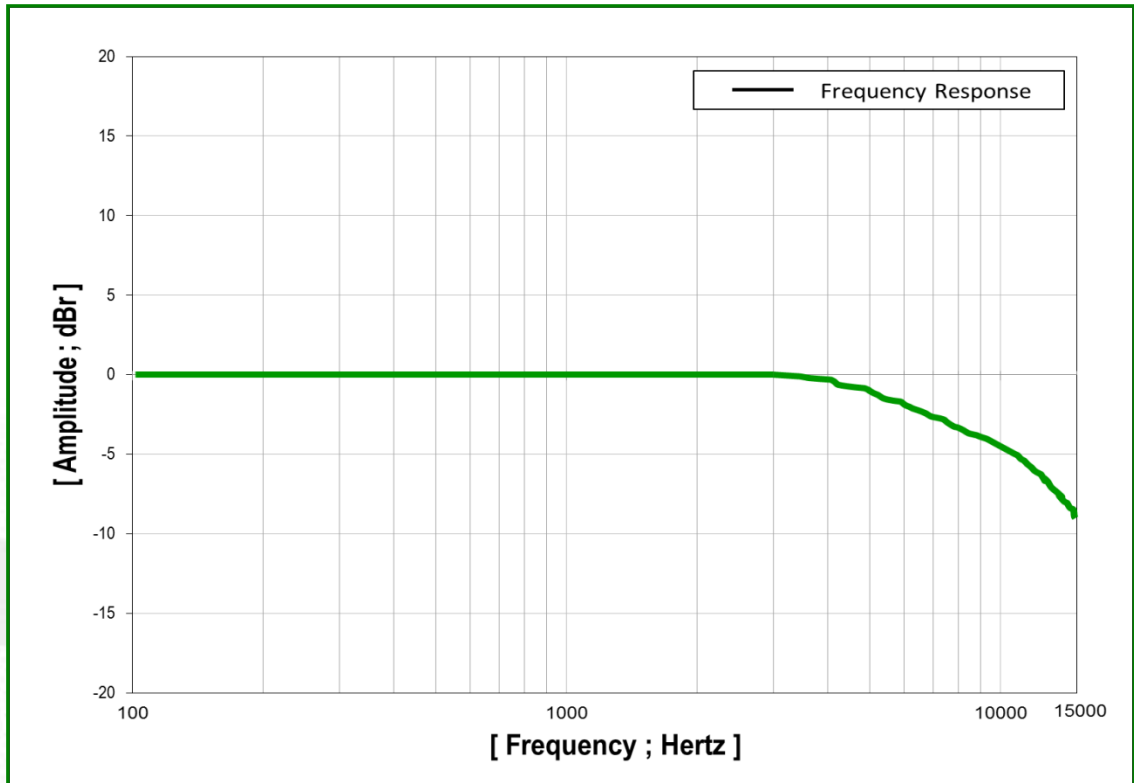
**Temperature :** 23 ± 2 °C

**Supply Voltage :** 2.0V

**Acoustic stimulus :** 1Pa ( 94dB SPL at 1kHz ) at 50 cm from the loud-speaker.

The loud-speaker must be calibrated to make a flat frequency response input signal.

**Position :** The frequency response of microphone unit measured at 50cm from the loud-speaker.



## 8. MECHANICAL CHARACTERISTICS

※ PCB design & Pin size can be changed by model No.

### ■ Lead Wire Type

