

CEL-252 1/2" measurement microphone capsule

Introduction

The **CEL-252** microphone is the best choice for use in ANSI and IEC61672 Class 2 Sound Level Meters and other noise measurements requiring Class 2 (or general purpose) accuracy. It is a 1/2" prepolarized free-field measurement microphone designed for high quality and reasonable cost for noise meters that can accept standard screw on microphones.



CEL-252 microphone capsule

Key benefits

- ❑ Pre polarized design does not require 200Vdc supply bias voltage
- ❑ Frequency range 20 Hz to 12.5 kHz \pm 2 dB
- ❑ Free-field response
- ❑ Rugged design for long trouble free operating life
- ❑ Standard WS2 thread size for interchangeability with many popular measurement instruments
- ❑ Measurements up to 140 dB
- ❑ Low noise floor for quiet background measurements

Applications

The **CEL-251** is manufactured to exacting standards along with rigorous mechanical and acoustic testing to ensure its high quality, reliability, and extreme stability in all kinds of environments. Its performance stems from its polymer diaphragm using the latest diaphragm coating technology. The **CEL-251** microphone housing is made from the same copper to ensure small temperature coefficients within the tolerances allowed by the standards.

Production quality control for the **CEL-252** uses sophisticated techniques to ensure that the frequency response tolerances allowed by ANSI/IEC61672 Class 2 devices are still met. The figure shows the typical free-field frequency response curve of the **CEL-252** family of microphones. This ensures that the sound level meter or measurement system that is connected to the microphone will remain inside the allowed tolerances for general-purpose Class 2 noise meters.

The stability and versatility of every **CEL-252** microphone capsule has been proven in many fields of acoustic measurements. The capsule uses the international standard thread 60 UNS which ensures compatibility with a wide range of microphone preamplifiers and noise instruments such as the CEL-400 series of noise analyzers. The **CEL-252** is fitted to the CEL-430.A2 model as the standard microphone when it is ordered as part of a standard kit.

Ordering information

CEL-252

1/2" pre polarized measurement microphone capsule

Recommended calibrators

CEL-110/2

Single level acoustic calibrator Class 1 (114 dB at 1 kHz)

or

CEL-284

Single level acoustic calibrator Class 1 (114 dB at 1 kHz)

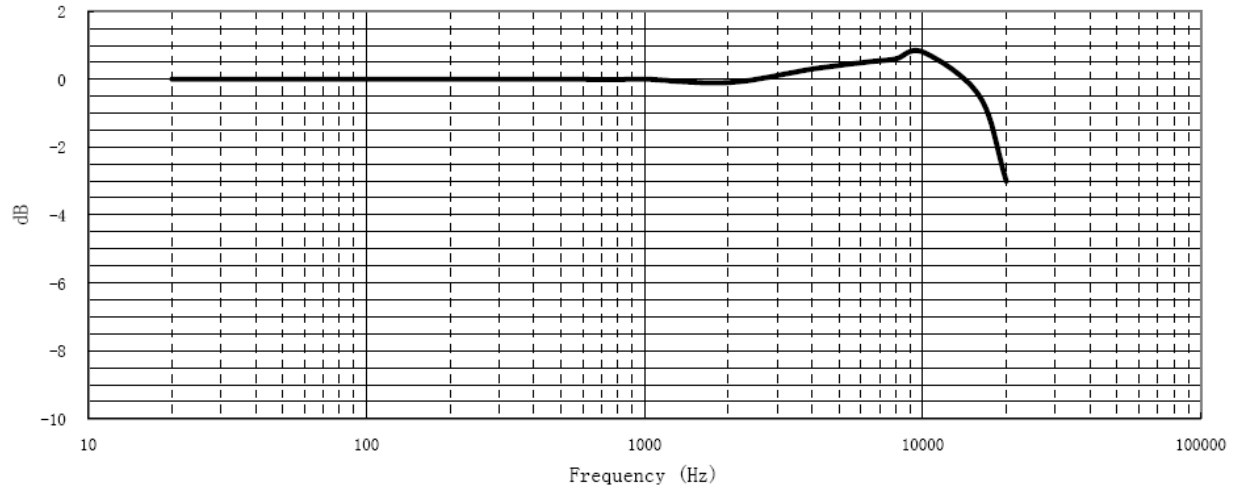


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Technical Specifications

Transducer type	Capacitive pressure transducer
Frequency range (free-field response)	20 Hz ... 12.5 kHz (± 2 dB)
Sensitivity at 1 kHz (nominal)	32 mV/Pa*
Max. SPL for THD $\leq 3\%$ at 1 kHz	135 dB
Inherent 'A' weighted noise level with CEL-400 sound level meter	<23 dB
Polarization voltage used	Back-electret (200 V dc not required)
Pressure equalization venting	Rear vented
Polarized cartridge capacitance (at 1 kHz)	$\sim 20 - 30$ pF*
Operating temperature range	32°F - 104°F (-0 ... +40 °C)
Main ambient temperature coefficient	≤ 0.05 dB/°C
Main ambient pressure coefficient	-0.05 dB/kPa
Main ambient humidity coefficient	-0.02 dB/%RH
Diameter (with fixed protection grid)	0.5 in (13.2 \pm 0.02 mm)
Height	0.67 in (17 mm)
Weight	0.3 oz (9 g)
Preamplifier thread	11,7 mm 60 UNS

Typical frequency response



frequency response curve of a typical CEL-252 microphone