



MP251 1/2-inch Pressure-field Microphone

Features:

- 1/2-inch pressure-field microphone
- Sensitivity (@250 Hz) :12.5 mV/Pa (-38 dB re 1V/Pa)
- Frequency response: 5 Hz ~ 8 kHz (± 1 dB)
3.15 Hz ~ 20 kHz (± 2 dB)
- Dynamic range: 22 dBA ~ 160 dB
- Polarization voltage: 0V (prepolarized)
- Pressure equalization: side-vented
- Suitable for 1/2-inch preamplifier with ICCP power supply
- Optional TEDS (IEEE.1451.4)



Applications:

- High-precision common acoustic measurements.
- Reference microphone for sound calibration.

Introduction

MP251 is the 1/2-inch pressure-field microphone developed by BSWA. It is suitable for pressure-field environments such as in cavity, near a hard reflective surface, or installed flush with a hard surface. It is prepolarized microphone without external polarization voltage, and suitable for ICCP powered MA231 preamplifier (optional TEDS).

MP251 is side-vented and can measure the sound pressure level up to 160 dB in the frequency range of 3.15 Hz ~ 20 kHz.

MP251 has a redesigned microphone structure with nickel metal diaphragm and high nickel alloy housing with the same expansion coefficient, which can effectively improve the temperature stability of the microphone and have excellent corrosion resistance.

MP251 can choose a preamplifier with TEDS to support data acquisition equipment to read microphone information directly, including microphone model, serial number, sensitivity, etc. BSWA microphone supports the IEEE 1451.4 standard. The v0.9 version is used by default to be compatible with more data acquisition equipment. The v1.0 version can also be selected according to user's requirements.

Each MP251 is supplied with an individual calibration data chart including sensitivity, frequency response and so on.

Specifications

Sound Field	Pressure-field
Diameter	1/2"
Open-circuit Sensitivity@250 Hz (mV/Pa) (± 2 dB)	12.5 (-38 dB re 1V/Pa)
Polarization Voltage	0 V (Prepolarized)
Frequency Response (Hz)	5 ~ 8 k (± 1 dB), 3.15 ~ 20k (± 2 dB)
Dynamic Range (dBA ~ dB) ¹	22 ~ 160
Cartridge Thermal Noise (dBA)	22



Maximum Sound Pressure Level (dB) (3% distortion) ¹	160	
Capacitance (pF)	10	
Equivalent Air Volume@250 Hz (mm ³)	9	
Pressure Equalization Vent	Side-vented	
Operating Temperature Range (°C)	-30 ~ 80	
Operating Humidity Range (%RH)	0 ~ 98	
Temperature Coefficient (250 Hz) (dB/°C)	-0.02	
Pressure Coefficient (250 Hz) (dB/kPa)	-0.01	
Influence of Humidity (dB)	<0.1	
Standard	IEC 61094-4 Type WS2P	
Dimensions (mm)	with Grid	Ø13.2 × 13.7
	without Grid	Ø12.7 × 12.6
Mounting Thread for Preamplifier	11.7 mm-60UNS	
Weight (g)	6.1	
Suitable Preamplifier	MA231	
TEDS	Optional, IEEE 1451.4 compliant (default v0.9, optional v1.0)	

Note 1: the maximum sound pressure level will reduce to 147 dB with MA231 preamplifier.

Typical Frequency Response

