



MP451S 1/4-inch Pressure-field Microphone

Features:

- 1/4-inch pressure-field microphone
- Sensitivity (@250 Hz): 1.6 mV/Pa (-56 dB re 1V/Pa)
- Frequency response: 8 Hz ~ 70 kHz (± 2 dB)
- Dynamic range: 38 dBA ~ 168 dB
- Polarization voltage: 0V (prepolarized)
- Pressure equalization: side-vented
- Suitable for 1/4-inch preamplifier with ICCP power supply
- Optional TEDS (IEEE.1451.4)



Applications:

- High sound pressure measurements
- High frequency noise measurements

Introduction

MP451S is the 1/4-inch pressure-field microphone developed by BSWA. It is suitable for the pressure field environments such as in a 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 MA411A/B preamplifier (optional TEDS).

MP451S is side-vented and can measure the sound pressure level up to 168 dB in the frequency range of 8 Hz ~ 70 kHz.

MP451S 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.

MP451S 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 MP451S is supplied with an individual calibration data chart including sensitivity, frequency response and so on.

Specifications

Sound Field	Pressure-field
Diameter	1/4"
Open-circuit Sensitivity@250 Hz (mV/Pa) (± 3 dB)	1.6 (-56 dB re 1V/Pa)
Polarization Voltage	0 V (Prepolarized)
Frequency Response (Hz)	8 ~70 k (± 2 dB)
Dynamic Range (dBA ~ dB)	38 ~ 168
Cartridge Thermal Noise (dBA)	38



Maximum Sound Pressure Level (dB) (3% distortion)	168
Capacitance (pF)	6
Equivalent Air Volume@250 Hz (mm ³)	0.3
Pressure Equalization Vent	Side-vented
Operating Temperature Range (°C)	-30 ~ 80
Operating Humidity Range (%RH)	0 ~ 95
Temperature Coefficient (250Hz) (dB/°C)	-0.02
Pressure Coefficient (250Hz) (dB/kPa)	-0.01
Influence of Humidity (dB)	<0.1
Dimensions (mm) with Grid	Ø7 × 10.2
Dimensions (mm) without Grid	Ø6.35 × 9.4
Mounting Thread for Preamplifier	5.7 mm-60UNS
Weight (g)	1.7
Suitable Preamplifier	MA411A/B
TEDS	Optional, IEEE 1451.4 compliant (default v0.9, optional v1.0)