



MPA466 1/4-inch Free-field Microphone

Features:

- 1/4-inch free-field microphone
- Sensitivity (@250 Hz): 50 mV/Pa (-26 dB re 1V/Pa)
- Frequency response: 20 Hz ~ 20 kHz (± 3 dB)
- Dynamic range: 29 dBA ~ 127 dB
- Polarization Voltage: 0V (prepolarized)
- Pressure equalization: front-vented
- Optional phase-matching
- Built-in preamplifier with ICCP power supply
- Built-in TEDS (IEEE 1451.4)



Applications:

- Low-cost microphone
- Acoustic characteristics measurement of materials in impedance tube
- Array applications such as near-field acoustic holography (NAH), beamforming, etc.
- Product quality inspection of production line
- Multichannel acoustic measurement

Introduction

MPA466 is 1/4-inch high sensitivity free-field microphone developed by BSWA and suitable for measurement in free-field and semi free-field without reflection. It is prepolarized microphone without external polarization voltage, and equipped with built-in ICCP power supply preamplifier.

MPA466 is front-vent with a frequency range of 20 Hz ~ 20 kHz. It is widely used in impedance tube, acoustic array, electroacoustic and common acoustic measurements, especially for applications which need a large number of microphones with critical cost requirements.

BSWA can perform phase-matching of microphones before delivery for the users who have phase requirements. If the phase is not required when ordering, the microphone phase will not be tested and matched.

Moreover, the microphone type with TEDS function is MPA466 which performance as same as the MPA416. The TEDS function 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 requirements.

Each MPA466 is supplied with an individual calibration data chart including sensitivity, frequency response and so on.

Specifications

Sound Field	Free-field
Diameter	1/4"
Class (IEC 61672)	Class 1
Sensitivity@250 Hz (mV/Pa) (± 3 dB)	50 (-26 dB re 1V/Pa)
Polarization Voltage	0 V (prepolarized)
Frequency Response (Hz)	20 ~ 20 k (± 3 dB)
Dynamic Range (dBA ~ dB)	29 ~ 127
Self-generated Noise (dBA)	29

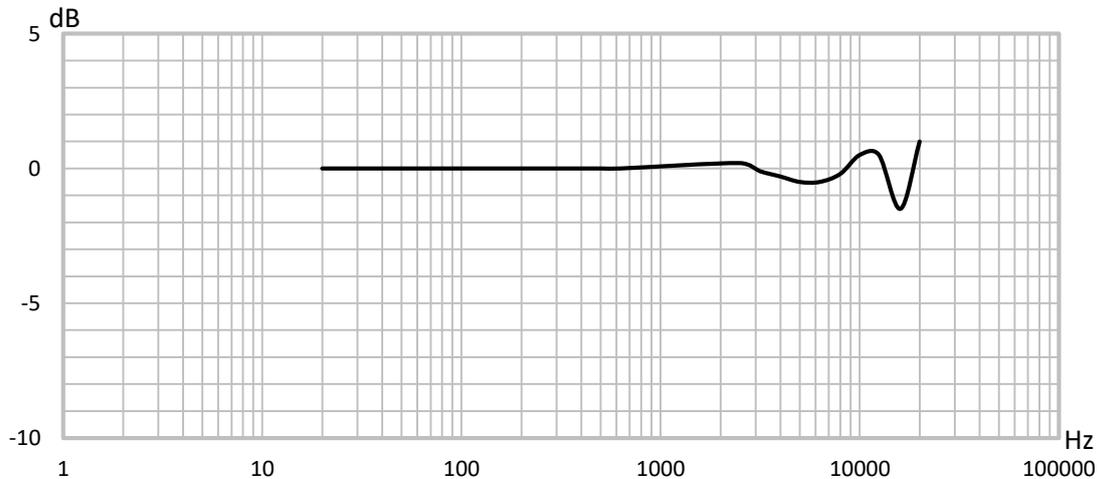


Maximum Sound Pressure Level (dB)	127 (3% distortion)
Phase-matching ¹	100 Hz ~ 3 kHz: $\pm 3^\circ$ 3 kHz ~ 5 kHz: $\pm 5^\circ$ 5 kHz ~ 10 kHz: $\pm 10^\circ$
Pressure Equalization Vent	Front-vented
Preamplifier	Built-in
Maximum Output Voltage (V _{peak}) ²	± 3.16
Output Impedance (Ω)	<110
Power Supply	ICCP (2mA ~ 20mA, 4mA typical)
Operating Temperature Range ($^\circ\text{C}$)	-10 ~ 50
Operating Humidity Range (%RH)	0 ~ 90
Dimension (mm)	$\varnothing 7 \times 61$
Output Connector	SMB
Weight (g)	8.7
TEDS	IEEE 1451.4 compliant (default v0.9, optional v1.0)

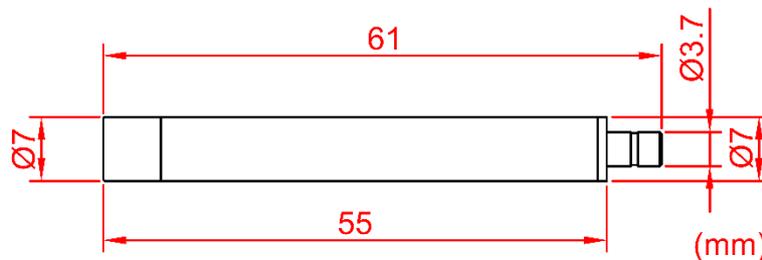
Note 1: phase-matching is only performing for the microphone ordered with phase requirements.

Note 2: guaranteed by the circuit design, the actual maximum output voltage is determined by the sensitivity and the maximum sound pressure level.

Typical Free-field Frequency Response



Dimension



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