New generation single backplate digital XENSIV™ MEMS microphones

www.infineon.com/mems

Content

Introduction

Our new generation of Digital SBP XENSIV™ MEMS Microphones

Our Digital SBP XENSIV™ MEMS Microphones represent a significant advancement in MEMS microphone technology. The bottom-port PDM microphones feature low power consumption, high SNR, extremely low audio signal distortions, compact form factor, IP57 rating and high robustness against stressors like air blows and drops.

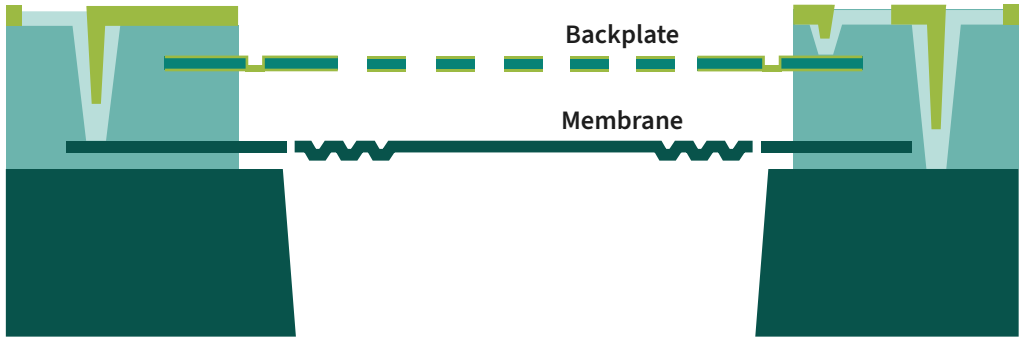
Selecting our SBP microphones ensures long-term durability, extended battery life, seamless integration, exceptional audio quality, and cost-effective access to advanced audio features.

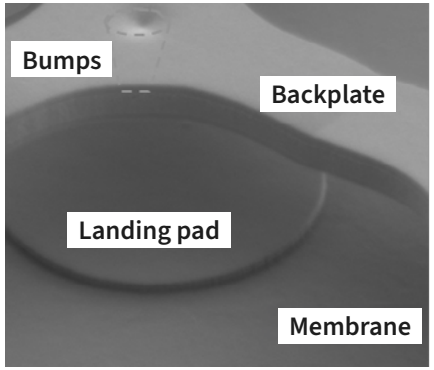
Our microphones are hence ideally suited for portable consumer devices, such as smartphones, TWS earbuds, headphones, laptops & tablets or smart speakers.

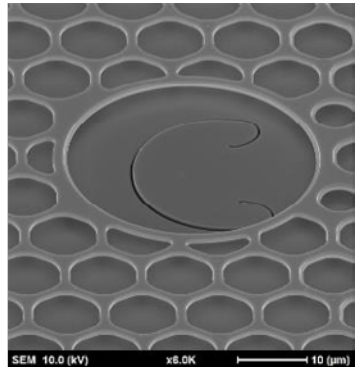
For additional information, visit our MEMS microphones for **consumer product page**.

In case of questions, reach out to **microphones@infineon.com**.

Single backplate technology (SBP)
Single Backplate technology (SBP) represents an industry standard for mid-end microphones with its simplicity and robustness. The SBP technology offers the best performance-to-cost ratio especially for small package sizes and SNR values up to 69 dB SNR.







Overview

New products in 2025

	IM68D121J	IM68D128B	IM66D132H	IM66D130M
				
	High SNR, high sensitivity & low IDD	High SNR & low IDD	High 1%/10% THD & low IDD	Small package & low IDD
Package size	3.50 mm x 2.65 mm x 0.98 mm	3.50 mm x 2.65 mm x 0.98 mm	3.50 mm x 2.65 mm x 0.98 mm	3.00 mm x 2.00 mm x 0.98 mm
SEN	-26 dBFS	-37 dBFS	-37 dBFS	-37 dBFS
1%/10% THD	118/121 dBSPL	122/128 dBSPL	128/132 dBSPL	124/130 dBSPL
SNR	68.0 dB(A)	67.5 dB(A)	66 dB(A)	66 dB(A)
IDD	580/190 µA	580/190 µA	580/190 µA	510/170 µA
CF	20 Hz	20 Hz	20 Hz	35 Hz

Typical applications

Our new Digital SBP XENSIV™ MEMS microphones combine high performance and reliability with low power consumption. The microphone family currently features 4 microphones that are each optimized for certain use cases. Due to their small size and low power consumption, they are perfectly suited for portable consumer applications such as smart phones, headphones, earphones, tablets & laptops, smart speakers, cameras, conference systems, wearables, automotive applications inside and outside the car, and other voice-enabled devices.

IM68D121J XENSIV™ MEMS microphone

High SNR, high sensitivity & low IDD

Key features

- Low 580 µA current consumption in always on mode
- Component level IP57 water and dust resistant
- 68.0 dB(A) Signal-to-noise ratio
- Acoustic overload point (AOP) of 121 dBSPL
- Tight sensitivity (-26/-26 ± 1 dB) tolerance
- 20 Hz low frequency roll-off

Key benefits

- Battery saving without compromising in acoustic performance
- Clear audio signals even for high sound pressure levels
- Highest precision of audio beams and algorithms

Typical applications

- Active Noise Cancellation (ANC): headphones and earphones
- Smartphones and mobile devices
- Hearing enhancement devices
- Voice User Interface (VUI): e.g. smart speaker, home automation, and IOT devices
- Power constrained applications

Reliable and robust:

- Qualified for industrial applications according to IEC 60747 and 60749 or JEDEC47/20/22 standards

Upgrade your audio experience today

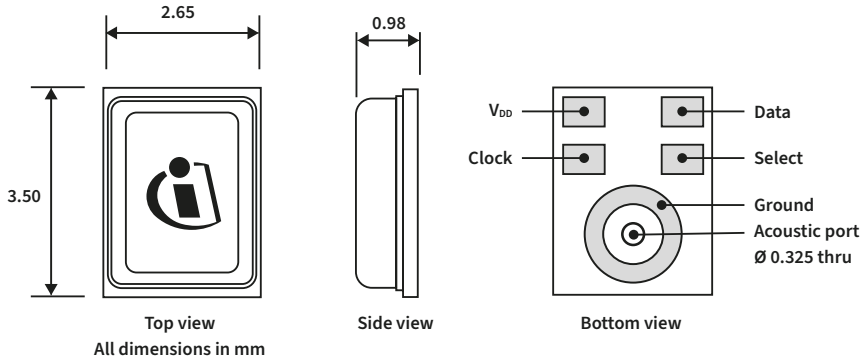
- The IM68D121J offers an impressive combination of power efficiency and audio quality, making it an excellent choice for a wide range of applications

Download product brief of IM68D121J

https://www.infineon.com/dgdl/Infineon-IM68D121J-ProductBrief-v01_00-EN.pdf?fileId=8ac78c8c956a0a470195b2bef8ad249d

Key parameters	Normal mode
Enviromental robustness	IP57
Sensitivity @ 1 kHz, 94 dBSPL	-26/-26 ± 1 dBFS (HPM/LPM)
Signal-to-noise ratio (SNR)	68.0 dB(A)
Current consumption	580/190 µA (HPM/LPM)
Acoustic overload point (1%/10% THD)	118 dBSPL/121 dBSPL (HPM)
Low frequency roll-off (LFRO)	20 Hz
Supply voltage	1.62 to 3.60 V
Interface	Digital PDM
Port location	Bottom port
Package dimension	3.5 mm x 2.65 mm x 0.98 mm

Package information:



IM68D128B XENSIV™ MEMS microphone

High SNR & low IDD

Key features

- Low 580 µA current consumption in always on mode
- Component level IP57 water and dust resistant
- 67.5 dB(A) Signal-to-noise ratio
- Acoustic overload point (AOP) of 128 dBSPL
- Tight sensitivity (-37/-37 ± 1 dB) tolerance
- 20 Hz low frequency roll-off

Key benefits

- Battery saving without compromising in acoustic performance
- Clear audio signals even for high sound pressure levels
- Highest precision of audio beams and algorithms

Typical applications

- Active Noise Cancellation (ANC): headphones and earphones
- Smartphones and mobile devices
- Hearing enhancement devices
- Voice User Interface (VUI): e.g. smart speaker, home automation, and IOT devices
- Power constrained applications

Reliable and robust:

- 100% back-end tested
- Qualified for industrial applications according to IEC 60747 and 60749 or JEDEC47/20/22 standards

Experience the future of audio technology today

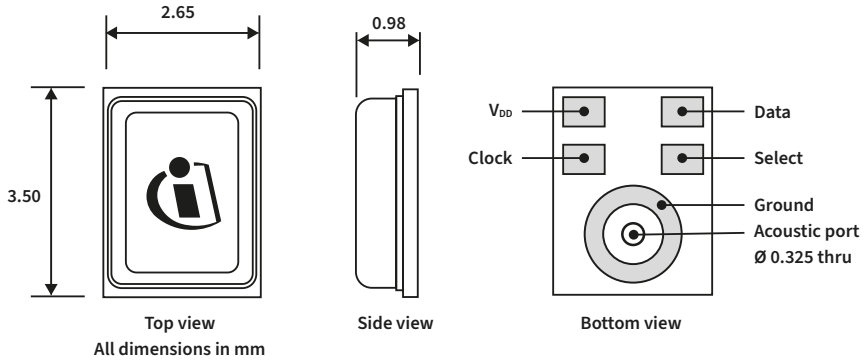
- The IM68D128B is the perfect solution for applications that demand exceptional audio quality, power efficiency, and compact design

Download product brief of IM69D122J

https://www.infineon.com/dgdl/Infineon-IM68D128B-ProductBrief-v01_00-EN.pdf?fileId=8ac78c8c956a0a470195b2bf021624a0

Key parameters	Normal mode
Enviromental robustness	IP57
Sensitivity @ 1 kHz, 94 dBSPL	-37/-37 ± 1 dBFS (HPM/LPM)
Signal-to-noise ratio (SNR)	67.5 dB(A)
Current consumption	580/190 µA (HPM/LPM)
Acoustic overload point (1%/10% THD)	122 dBSPL/128 dBSPL (HPM)
Low frequency roll-off (LFRO)	20 Hz
Supply voltage	1.62 to 3.60 V
Interface	Digital PDM
Port location	Bottom port
Package dimension	3.5 mm x 2.65 mm x 0.98 mm

Package information:



IM66D132H XENSIV™ MEMS microphone

High 1%/10% THD & low IDD

Key features

- Low 580 µA current consumption in always on mode
- Component level IP57 water and dust resistant
- 66 dB(A) Signal-to-noise ratio
- Acoustic overload point (AOP) of 132 dBSPL
- Tight sensitivity (-37/-37 ± 1 dB) tolerance
- 20 Hz low frequency roll-off

Key benefits

- Battery saving without compromising in acoustic performance
- Clear audio signals even for high sound pressure levels
- Highest precision of audio beams and algorithms

Typical applications

- Active Noise Cancellation (ANC): headphones and earphones
- Smartphones and mobile devices
- Hearing enhancement devices
- Voice User Interface (VUI): e.g. smart speaker, home automation, and IOT devices
- Power constrained applications

Reliable and robust:

- 100% back-end tested
- Qualified for industrial applications according to IEC 60747 and 60749 or JEDEC47/20/22 standards

Take your audio to the next level

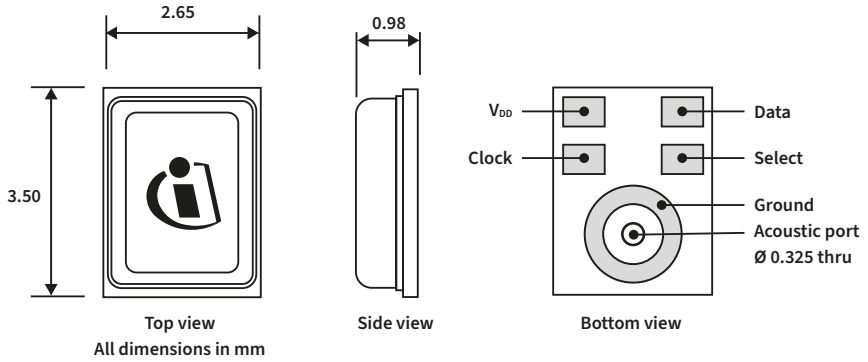
- With its exceptional performance, power efficiency, and compact design, the IM66D132H is the ideal choice for a wide range of applications

Download product brief of IM66D132H

https://www.infineon.com/dgdl/Infineon-IM66D132H-ProductBrief-v01_00-EN.pdf?fileId=8ac78c8c956a0a470195b2bf10d624a6

Key parameters	Normal mode
Enviromental robustness	IP57
Sensitivity @ 1 kHz, 94 dBSPL	-37/-21 ± 1 dBFS (HPM/LPM)
Signal-to-noise ratio (SNR)	66 dB(A)
Current consumption	580/190 µA (HPM/LPM)
Acoustic overload point (1%/10% THD)	128 dBSPL/132 dBSPL (HPM)
Low frequency roll-off (LFRO)	20 Hz
Supply voltage	1.62 to 3.60 V
Interface	Digital PDM
Port location	Bottom port
Package dimension	3.5 mm x 2.65 mm x 0.98 mm

Package information:



IM66D130M XENSIV™ MEMS microphone

Small package & low IDD

Key features

- Ultra-low 510 µA current consumption in always-on mode
- Component level IP57 water and dust resistant
- 66 dB(A) Signal-to-noise ratio
- Acoustic overload point (AOP) of 130 dBSPL
- Tight sensitivity (-37/-37 ± 1 dB) tolerances
- 35 Hz low frequency roll-off

Key benefits

- Strong acoustic performance with small footprint and low current consumption
- Clear audio signals even for high sound pressure levels
- Performance across wide frequency range for audio beams and algorithms

Typical applications

- Active Noise Cancellation (ANC): headphones and earphones
- Smartphones and mobile devices
- Hearing enhancement devices
- Voice User Interface (VUI): e.g. smart speaker, home automation, and IOT devices
- Power constrained applications

Reliable and robust:

- 100% back-end tested
- Qualified for industrial applications according to IEC 60747 and 60749 or JEDEC47/20/22 standards

Transform your audio applications with the IM66D130M

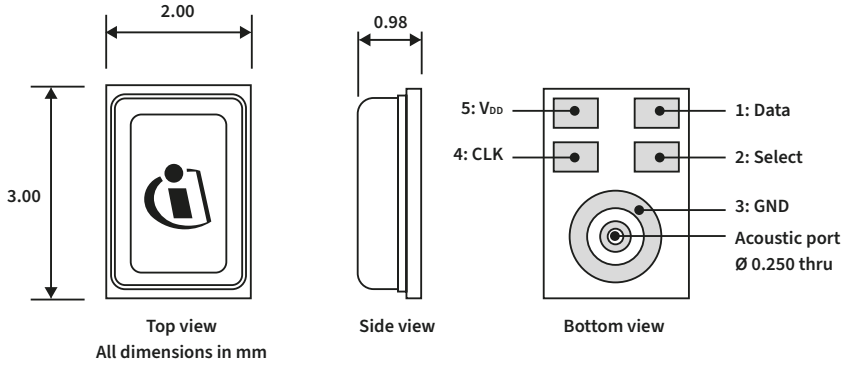
- With its exceptional power efficiency, outstanding audio quality, and compact design, the IM66D130M is the perfect solution for a wide range of applications

Download product brief of IM66D130M

https://www.infineon.com/dgdl/Infineon-IM66D130M-ProductBrief-v01_00-EN.pdf?fileId=8ac78c8c956a0a470195b2bf096d24a3

Key parameters	Normal mode
Enviromental robustness	IP57
Sensitivity @ 1 kHz, 94 dBSPL	-37/-37 ± 1 dBFS (HPM/LPM)
Signal-to-noise ratio (SNR)	66 dB(A)
Current consumption	510/170 µA (HPM/LPM)
Acoustic overload point (1%/10% THD)	124 dBSPL/130 dBSPL (HPM)
Low frequency roll-off (LFRO)	35 Hz
Supply voltage	1.62 to 3.60 V
Interface	Digital PDM
Port location	Bottom port
Package dimension	3.0 mm x 2.0 mm x 0.98 mm

Package information:



Support

For more information on the best microphone for your design, contact us at **microphones@infineon.com**

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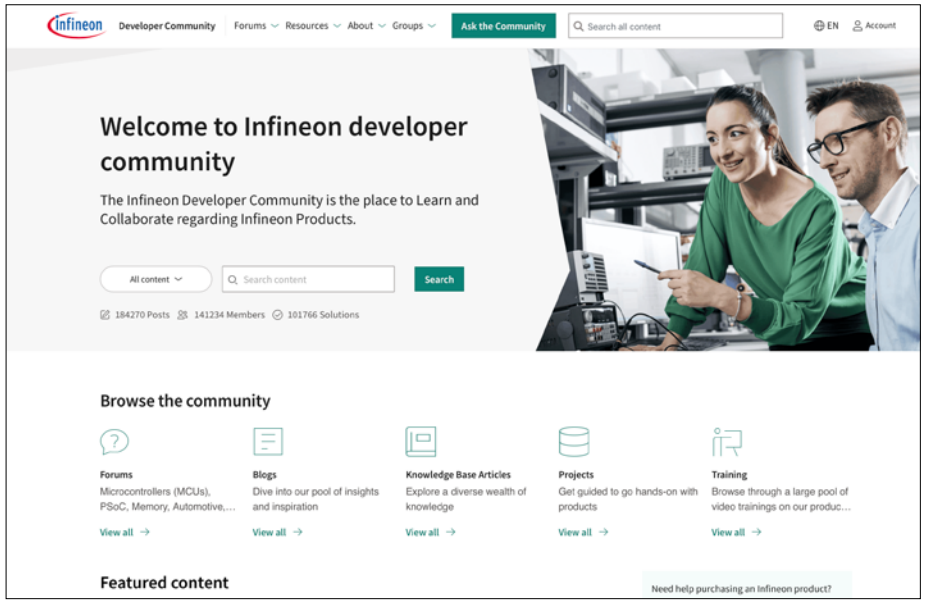

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From Noise to Nuance: MEMS Microphones and the Evolution of AI Understanding

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AI-driven interactions powered by high-SNR MEMS microphones

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Speaker Diarization: The Evolution of AI Understanding with High SNR MEMS Microphones

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