

Infiniteon®-SMM310™ Silicon MEMS Microphone

INFINITEON introduces the new product line Silicon Microphone. The microphone sensors are based on the new semiconductor MEMS (Micro Electro Mechanical Systems) technology in contrast to conventional microphones, which typically rely on the electret condenser technology.

Application Focus

Infiniteon SMM310 is optimized for consumer applications with special focus on mobile phones. Further application fields are notebooks and cameras. The microphones are also suitable for automotive, industrial or medical applications, where microphones are directly assembled onto the PCB and where size as well as temperature immunity matter.

Customer Values

- Enhanced and cost-reduced manufacturability due to reflow soldering capability
- Excellent reliability and no degradation at high temperature, humidity, shock and vibration
- Small size and low current consumption
- Good and long-term stable audio quality
- High power supply rejection ratio
- Roadmap to smaller size and enhanced audio performance
- Roadmap to further integration of application specific interfaces

Technology

The Silicon Microphone consists of two chips combined in a single package. The MEMS chip is a capacitor made up of a stiff and perforated backplate and a flexible membrane on a Silicon substrate. It transfers the sound waves into capacity variations. The ASIC chip converts the capacity variations into an electrical signal.

Product Offer

Type	Characteristics typ. Values				
	Sensitivity 1 kHz, 94 dB SPL	Signal to Noise 1 Pa, A-weighted	Maximum Sound Pressure Level Total Harmonic Distortion < 3%	Supply Voltage	Current Consumption
SMM310	-42 dBV/Pa	59 dB(A)	110 dB SPL	1.5 – 3.3 V	70 µA



Package

- Size: 4.72 x 3.76 x 1.25 mm
- Automated surface mount assembly
- Reflow soldering at 260°C
- Lead free and halogen free package

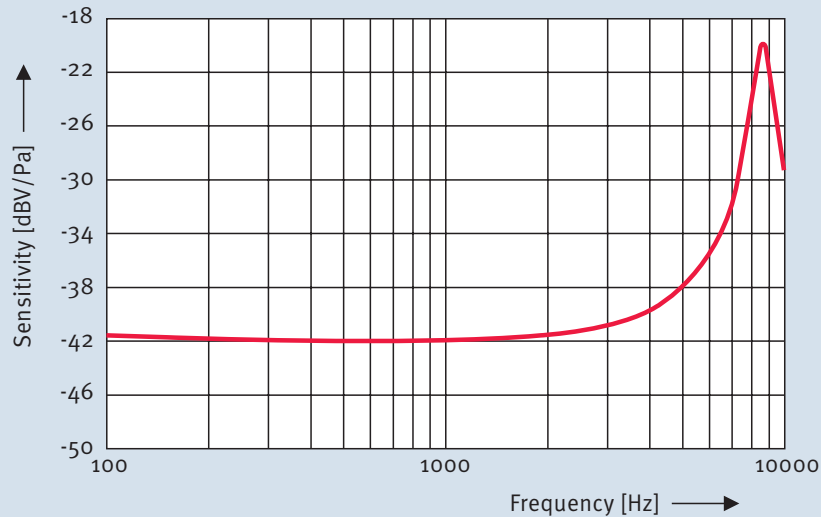
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Small Signal Discretes



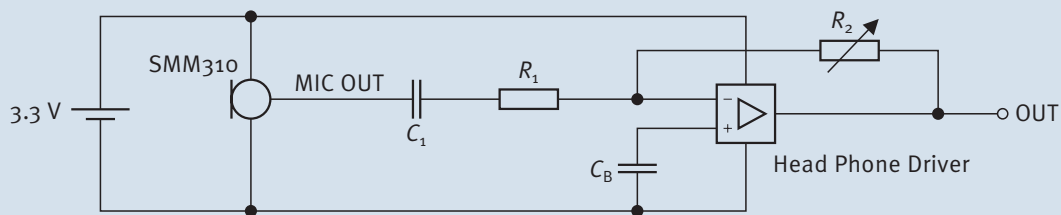
Never stop thinking

Sensitivity Diagram

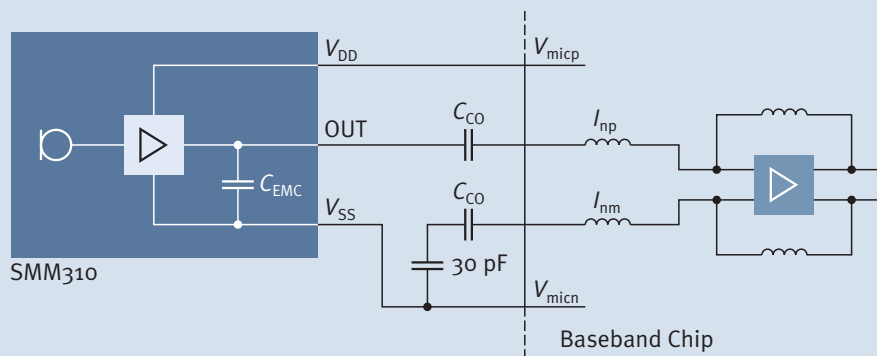


SMM 310 Silicon Microphone Application Examples

Microphone Demonstrator Application Example



Mobile Phone Application Example



Product information and datasheets: www.infineon.com/microphone

How to reach us:
<http://www.infineon.com>

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Information

For further information on technology, delivery terms and conditions and prices, please contact the nearest Infineon Technologies Office (www.infineon.com).

Warnings

Due to technical requirements, components may contain dangerous substances. For information on the types in question, please contact the nearest Infineon Technologies Office.

Infineon Technologies components may be used in life-support devices or systems only with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.