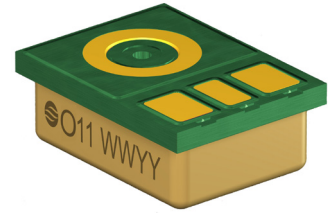


## Description

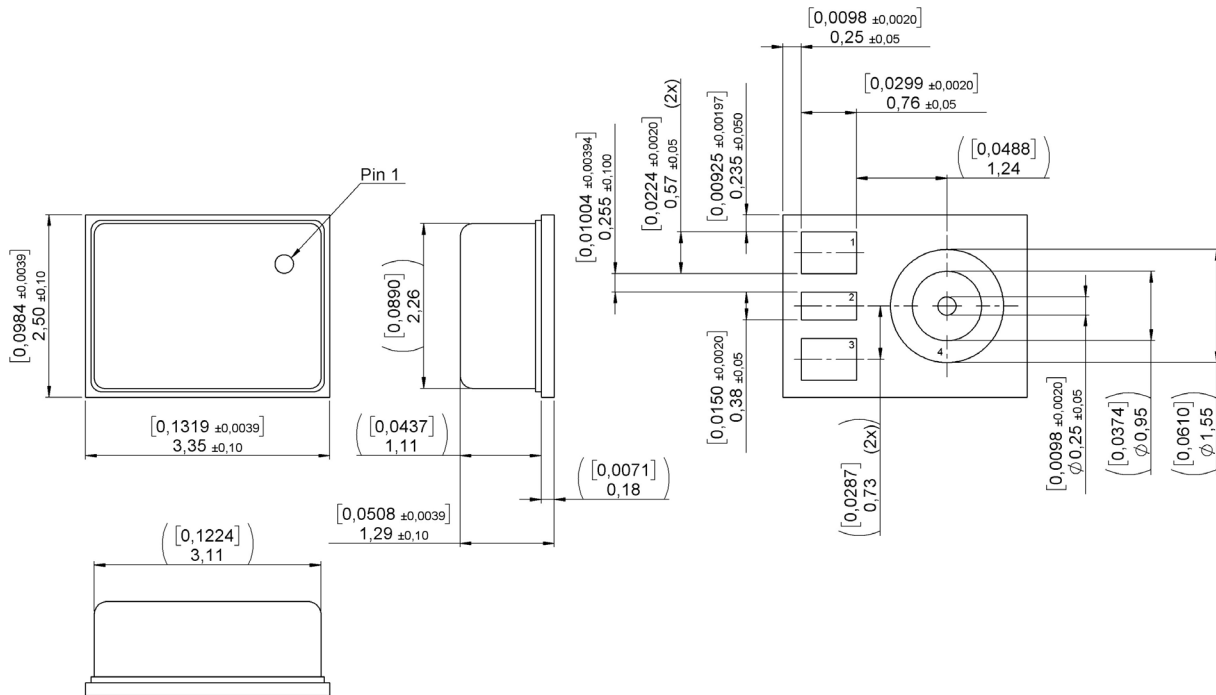
The O11AC03 is a high performance MEMS microphone with a unique combination of very low self-noise, tiny package volume (10.8 mm<sup>3</sup>), and low power consumption. These features, combined with the benefits of MEMS technology, reflow solder compatibility, and a highly stable response over time and temperature, make the O11AC03 an ideal microphone choice for hearing aids.



## Features

- Small surface-mount package: 3.35x2.50x1.29 mm
- Reflow compatibility
- Stable response curve with humidity
- Non-inverting transfer
- Compatibility with p2i nanocoating process

## Product drawing - Dimensions in mm [inch]



## Pin configuration

1. Output: Analog output signal
2. GND: Ground\*
3. VDD: Power supply
4. GND: Ground\*

\* Pin 2 and Pin 4 should both be grounded

Sonion reserves the right to make changes at any time to improve reliability, function or design, in order to provide the best product possible.

## Specifications

All parameters are specified at 0.9 V and 1 MOhm // <200pF load impedance, AC coupled with 1μF, unless specified otherwise. Environmental conditions: 23°C (73.4F), 50% RH.

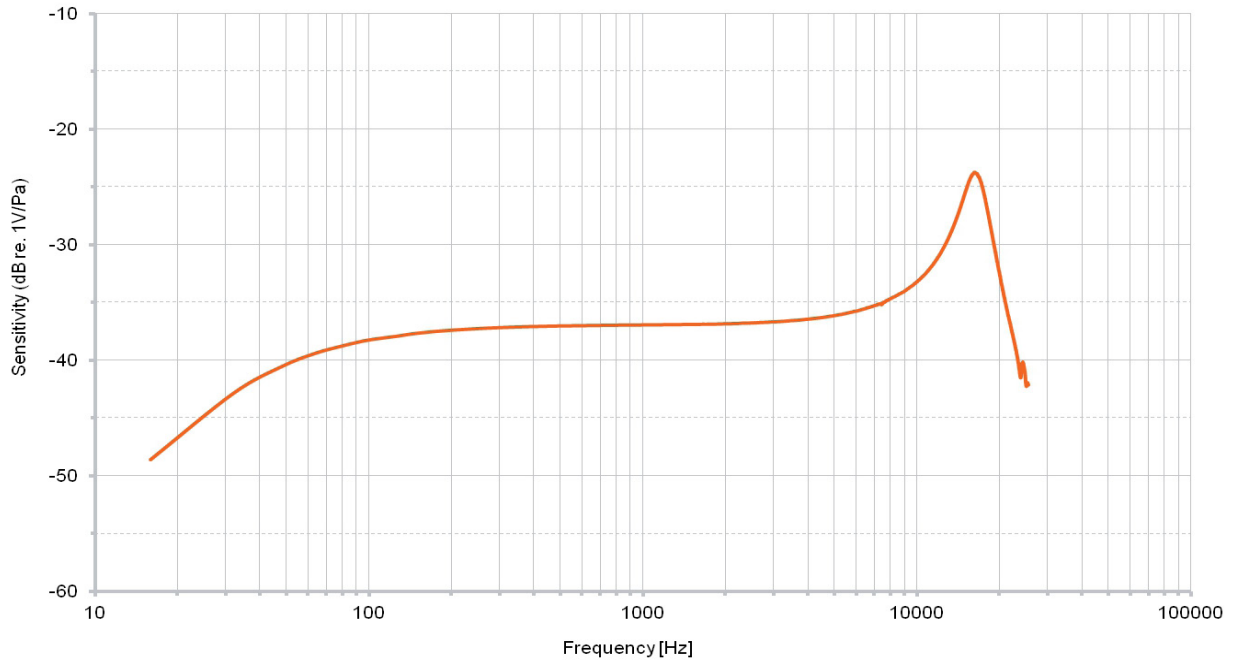
Acoustic parameters	Min	Typ	Max	Unit	Comments	
Sensitivity	@ 50 Hz	-5	-3	-2	dB	re. 1 kHz value
	@ 1 kHz	-38	-37	-36	dBV/Pa	
	@ 10 kHz	3	4	5	dB	re. 1 kHz value
	@ 25 kHz	-4	-2.5	-2	dB	re. 1 kHz value
	@ 32 kHz	-10	-9	-8	dB	re. 1 kHz value
Resonant peak	frequency	15.2	16.2	17.2	kHz	
	amplitude		13	14.5	dB	re. 1 kHz value
Equivalent noise (A-weighted)	10 Hz- 8 kHz		24.5	25.5	dB SPL	
	10 Hz-20 kHz		28	29	dB SPL	
1/3 Octave equivalent input noise		11.5	13.5	dB SPL	@ 1 kHz	
Power supply feedthrough		-42	-35	dB		
Battery voltage range	0.88	0.9	1.4	VDC	absolute maximum 2.1 VDC	
Battery drain		31	35	μA		
Output impedance	3	4.5	5.5	kOhm	with integrated 4.7nF cap.	
DC output voltage	350	450	550	mV		
Maximum input level @ 1 kHz	118	119		dB SPL	5% THD	
Startup time		0.25	1	sec	to within 0.5 dB of final sens.	
			5	sec	to within 0.1 dB of final sens.	
Peak battery drain at startup		150		μA	for ~2.5μs duration *	
Recovery time from overload			1	sec	to within 0.5 dB of final sens.	
			5	sec	to within 0.1 dB of final sens.	
Input-referred vibration sensitivity		65	67	dB SPL/g	@ 1 kHz	
Humidity coefficient of sensitivity			0.005	dB/%RH		
Input-referred EMI noise	0.7-0.96 Ghz		25	dB SPL	according to IEC 60118-13 Ed 4.0 and with pin 4 grounded	
	1.4-2.0 GHz		25	dB SPL		
	2.0-2.7 GHz		25	dB SPL		
Operating temperature range	-10		40	°C		
Storage temperature range	-55		150	°C		
ESD protection level: Class 2 according to MIL-STD-750D, test method 1020,2						
Apply protection in accordance with IEC 61340-5-1 and 61340-5-2.						
* Details in application note: Sonion Microphone O&P Startup Behavior - AN rev0xx						

## Mechanical data

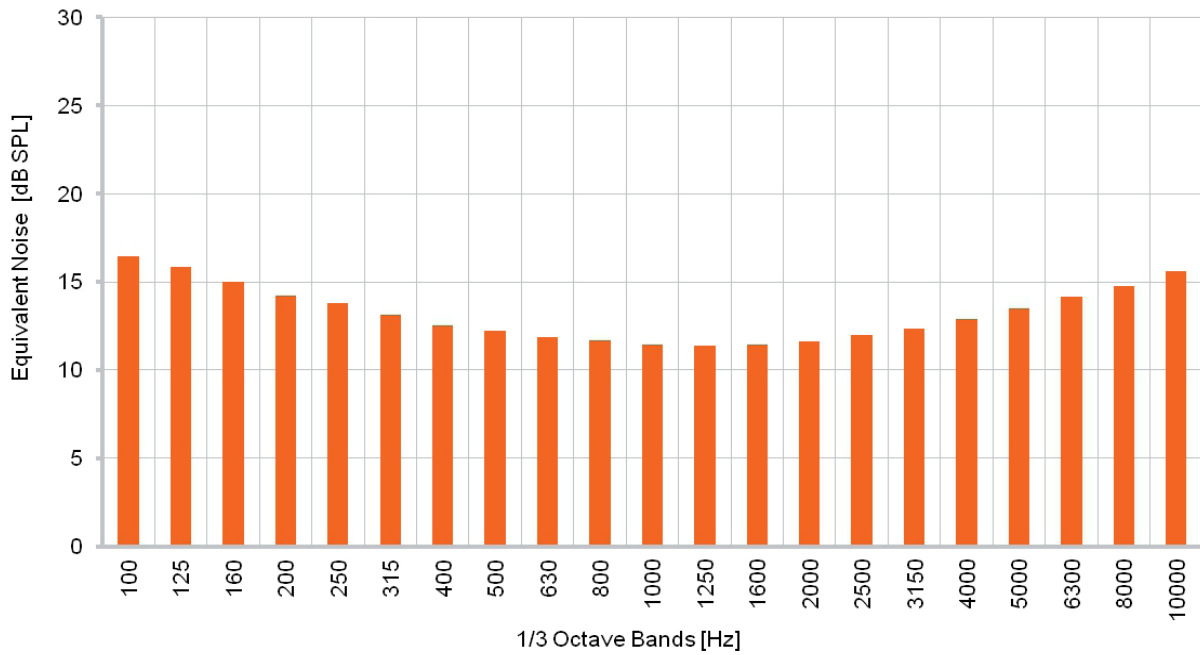
Weight	0.018 gr.
Package type	4-Terminal LGA + Metal lid
Lid	Ni/Au, SS304
Substrate	Ni/Au, 4L RC
Solder pad content	Cu/Ni/Au

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### Typical response curve



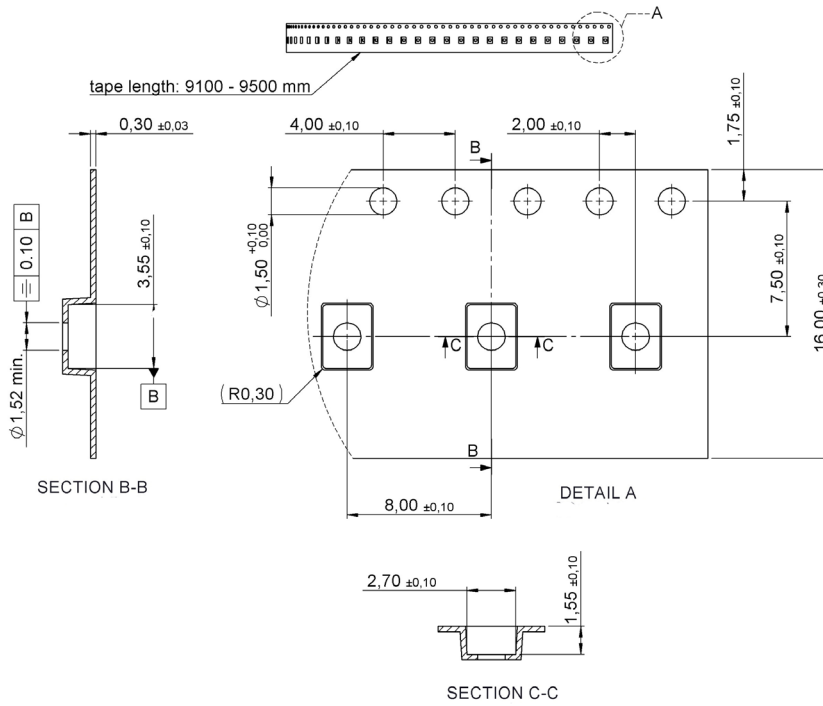
### Typical 1/3 octave equivalent noise



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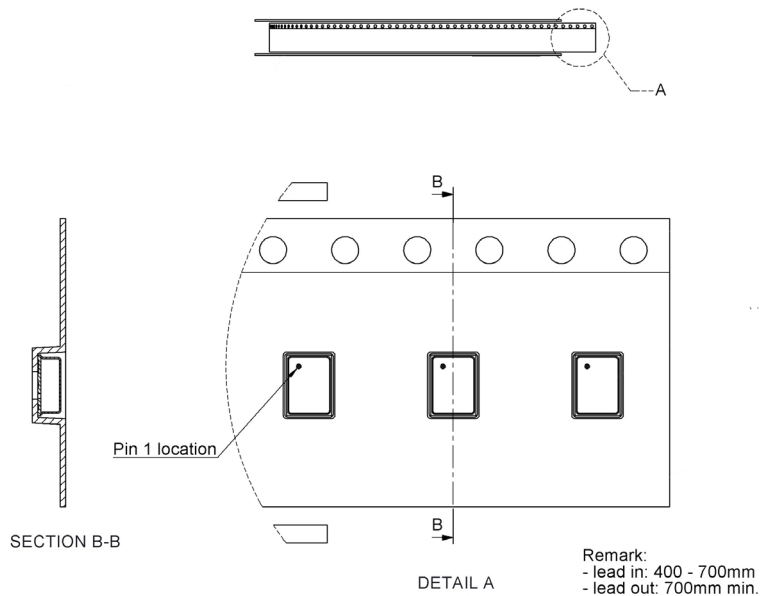
## Packaging - Dimensions in mm

Reel diameter 180 mm (7 inch)



## Packaging - Product orientation

Quantity per reel 1000



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