

Representative Silicon MEMS Microphones, Commercially Available or Under Development

Company and model number	Performance parameters	Dimensions	Comments/availability
AAC Acoustic Technologies Holdings Ltd. www.aacacoustic.com SM0301BL-423-G02 and SM0102-423-G02	± 30 -dB sensitivity; < 100 - Ω output impedance; > 5 -dB SNR; $< 3\%$ distortion; 1.5- to 3.6-V supply and < 250 - μ A drain; -40 °C to 85 °C temperature range	N/A	No published distinction data is available between the two models; availability unknown
Akustica Inc. www.akustica.com AKU1126 (Napoli)	Analog output; -42 -dB sensitivity; 58-dB SNR; $< 5\%$ THD; > 40 -dB PSRR; 1.65- to 3.6-V supply and 150- μ A drain	1- by 1-mm die; 2- by 2- by 1.25-mm package	In production
AKU2002C (Shadyside)	Digital output; 56-dB SNR; 5-Hz to 22-kHz frequency range; -57 -dB PSRR; 3-V supply and 750- μ A drain (70- μ A quiescent)	1- by 1-mm die; 3.76- by 4.72- by 1.76-mm package	Limited production; full production first quarter 2009
Analog Devices Inc. www.analog.com ADMP421	Digital output; -26 -dB sensitivity; 62-dB SNR; 80-dB PSRR; 100-Hz to 12-kHz frequency range; 1.5- to 3.6-V supply and < 650 - μ A drain; -40 °C to 85 °C operating range	4.0- by 3.0- by 1.00-mm package	Engineering samples
ADMP401	Analog output; -37 -dB sensitivity; 62-dB SNR; > 50 -dB PSRR; 3.6-V supply and < 200 - μ A drain; 100-Hz to 12-kHz frequency range; -40 °C to 85 °C operating range	4.72- by 3.76- by 1.0-mm package	Engineering samples
Infineon Technologies AG* www.infineon.com SMM310	Analog output; -42 -dB sensitivity; 64.5-dB SNR; 0.1% THD; -55 -dB PSRR; 1.5- to 3.3-V supply and 80- μ A drain; -40 °C to 85 °C operating range	4.72- by 3.76- by 1.25-mm package	In production
Knowles Acoustics Inc. www.knowles.com SP0204LE5, SP0208LE5, SPM0204HD5, SPM0204HE5, SPM0205HD4, SPM0206HE3, SPM0208HD5, SPM0208HE5 SiSonic family	Digital output (SPM0205HD4) and analog output (all others); -42 -dB sensitivity (SP0204LE5/SPM0204HD5/SPM0204HE5, -22 -dBm for others); 10-kHz peak frequency (LE5) and 14-kHz (all others); 59-dB SNR (all models except SPM0205HD4, 56 dB); 39-dB noise; > 40 -dB PSRR; 1.5- to 3.6-V and 100- to 200- μ A drain	6.15- by 3.76- by 1.25-mm package (LE) 4.72- by 3.76- by 1.25-mm package (HD and HE)	In production
MEMSensing Microsystems Technology Co. Ltd. N/A (model number)	-42 -dB ± 3 -dB sensitivity; ± 3 -dB frequency	N/A	Availability unknown
Memstech Bhd www.memstech.com MSM1C/2C/3C-S3035/3540/4045	-20 -dB to -45 -dB sensitivity range; 70-Hz to 15-kHz frequency range; > 58 -dB SNR	6.15- by 3.76- by 1.45-mm and 1.25-mm packages; 4.5- by 4.5- by 1.45-mm packages; 4.72- by 3.76- by 1.25-mm packages. Top-mount (1C, 2C, 3C), reverse-mount (2C-RM, 3C-RM), phase-to-phase (2C-PP) and differential 2C-DP versions available	In production
Omron Electronic Components www.omron.com N/A (model number)	Analog output; -42 -dB sensitivity; 58-dB SNR; 100-Hz to 10-kHz frequency range	N/A	Availability unknown
Panasonic (Matsushita Electronic Industrial Co. Ltd www.panasonic.net N/A (model number)	1.05-mm height is the only known specification	N/A	Availability unknown
Pulse Engineering, Sonion MEMS Division www.pulseeng.com/mems TC200A SiMic	Analog output; -40 -dB sensitivity; 20-Hz to 20-kHz frequency range; 61-dB SNR; 1% max THD; 60-dB PSRR; 1.8-V and 330- μ A drain; -30 °C to 70 °C operating range	2.33- by 1.60-mm die	In production
TC100E DigiSiMic	Digital output; -26 -dB sensitivity; 20-Hz to 20-kHz frequency range; 60-dB SNR; 1% max THD; 1.8-V and 600- μ A drain; -30 °C to 70 °C operating range	2.60- by 1.60-mm die	In production
Wolfson Microelectronics www.wolfsonmicro.com WM7110/7110E	Analog output; -42 -dB sensitivity $\pm 3\%$ ($\pm 1\%$ E version); 59-dB SNR; 0.5% THD; 1.5- to 3.7-V and 160- μ A drain	4.72- by 3.76- by 1.5-mm package	Engineering samples
WM7120/7120E	Same as above	3.76- by 2.95- by 1.1-mm package	Engineering samples
Yamaha Corp. www.yamaha.co.jp YAM551/552	Analog output; -42 -dB sensitivity; 55-dB SNR; 1.5 to 3.6 V; YAM551 has no internal amplifier; YAM552 has internal amplifier that can be set between 0 and 20 dB using an external resistor and capacitor	4.3- by 3.4- by 1.28-mm four-pin ceramic small-outline non-leaded package	Availability unknown