



EK SERIES

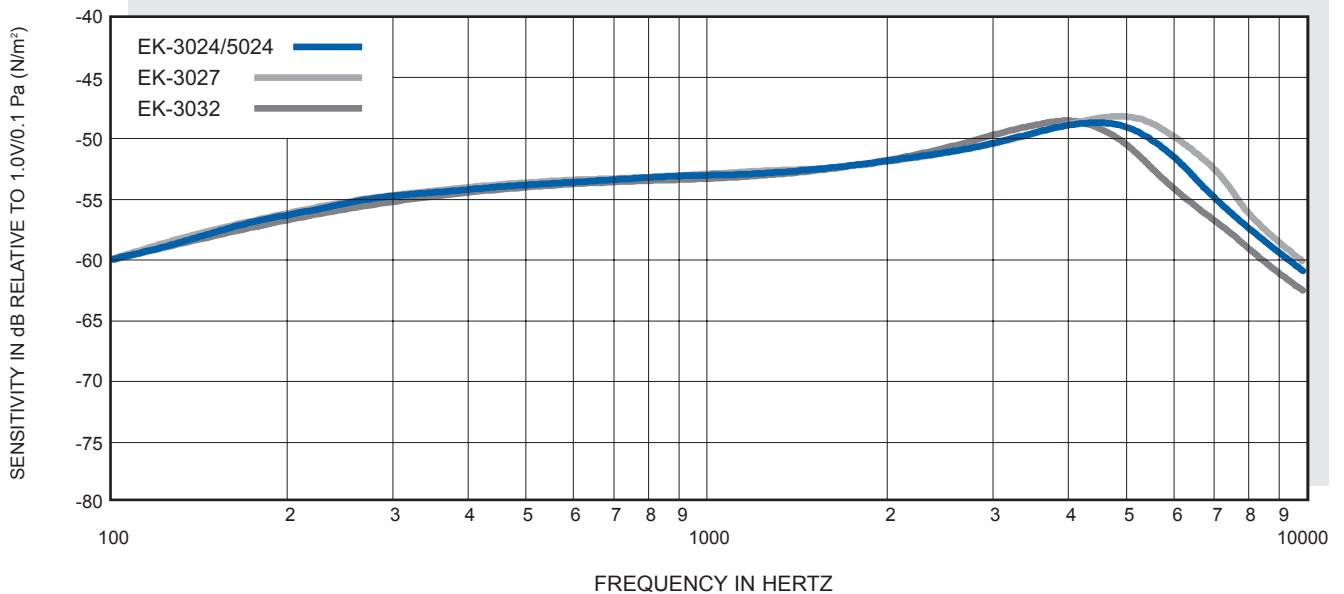


Actual Size

Features

- Electret condenser microphone
- Lowest noise Knowles microphone
- Rugged construction to withstand severe environmental conditions
- High electroacoustic sensitivity
- High resistance to mechanical shock
- Low vibration sensitivity
- Various responses available
- Available with RFI suppression

Standard Response



Open circuit sensitivity with 1.3VDC supply

Knowles

data sheet

Power Requirements

Supply Voltage (V_s)
 range: 0.9 to 10V_{DC}
 typical: 1.3V_{DC}

Quiescent Current Drain (@ $V_s = 1.3V_{DC}$)
 typical: 19 μ A
 maximum: 50 μ A

Performance

Response/Sensitivity
 see curves, pages 1, 4-6

Load Voltage (V_L)
 range: 0.2 to 0.9V_{DC}
 typical: 0.5V_{DC}

Sensitivity Range @ primary test frequency
 Ski Slope and Step responses: ± 3 dB
 all other responses: ± 2 dB

Output Noise Level
 (A-weighted)
 typical: -103dBV*
 maximum: -100dBV (Ski Slope models)

Low Supply Voltage Sensitivity Loss
 (V_s reduced from 1.3 to 0.9V_{DC})
 typical: 0.3dB
 maximum: 3.0dB

Input-Referred Noise Level*
 (A-weighted, 1kHz ref.)
 typical: 24dB SPL
 maximum: 26dB SPL

Humidity Coefficient of Sensitivity
 typical: 0.02dB per %RH
 (in the absence of condensation)

Input-Referred Vibration Sensitivity*
 (1g acceleration, 1kHz ref.)
 maximum: 62dB SPL

Output Impedance @ 1kHz
 range: 2.8 to 6.8k Ω
 nominal: 4.4k Ω

Temperature Range
 operating: -17°C to 63°C
 storage: -40°C to 63°C

Acoustic Polarity
 Increased pressure at sound inlet
 causes a positive going voltage to
 appear at the output terminal, relative
 to the negative terminal

ESD Tolerance
 MIL-STD-750 Class 1 rating
 EOS/ESD-S5.1-1993 Class 2 rating

Power Supply Feedthrough Attenuation
 typical: 14dB, output-referred

*For standard, damped, undamped, and broadband models only

Mechanical

Weight
 0.13 grams

Case Material
 Type 305 stainless steel

Dimensions
 See outline drawings, page 7

Solder Content
 Sn63Pb37

Optional Soldering Fixture

Base: ET-3042
 Nest Plate: ET-800
 Back Plate: ET-900

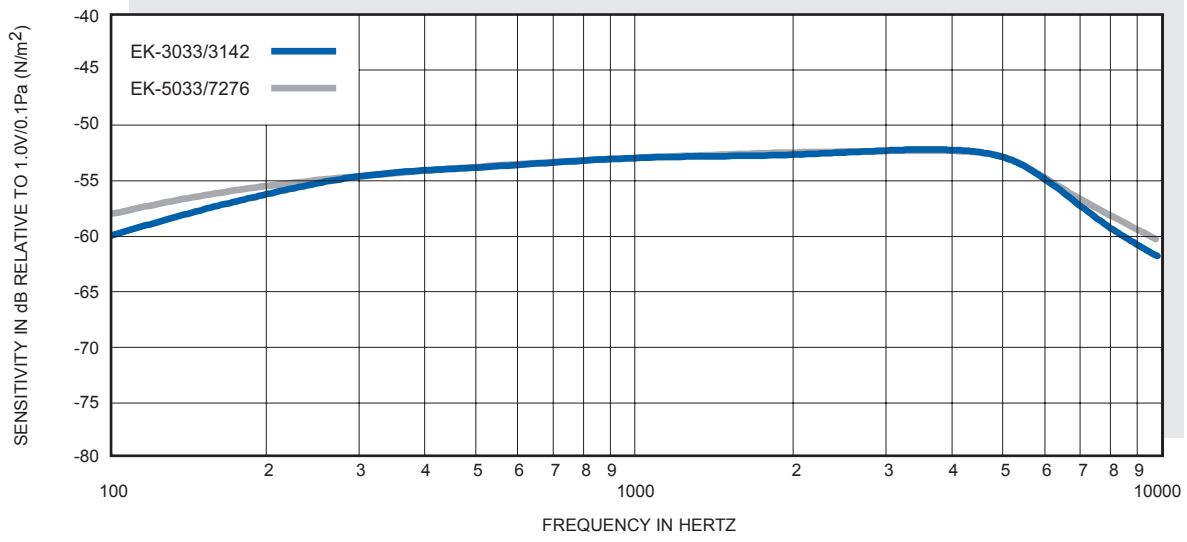
Model	Port	Response
EK-3024	12S	Standard
EK-3027	0KP	Standard
EK-3028	12S	6dB/octave Ski Slope
EK-3029	12S	12dB/octave Ski Slope
EK-3031	12S	Step
EK-3032	3S	Standard
EK-3033	12S	Damped Peak
EK-3091	0KP	12dB/octave Ski Slope
EK-3092	0KP	6dB/octave Ski Slope
EK-3103	0KPL	Broadband
EK-3115	12S	Step
EK-3132	Ka	Broadband
EK-3133	12SL	Broadband
EK-3142	0KP	Damped Peak
EK-5024	12S	Standard (Screenless)
EK-5033	12S	Damped Peak (Screenless)
EK-7136	12S	Undamped Peak
EK-7164	3S	Damped Peak
EK-7276	12S	Damped Peak
EK-9874	12S	12dB/octave Ski Slope

Microphones are also available with RFI suppression filters.

Other model variations available upon request. Contact Knowles Electronics for details.

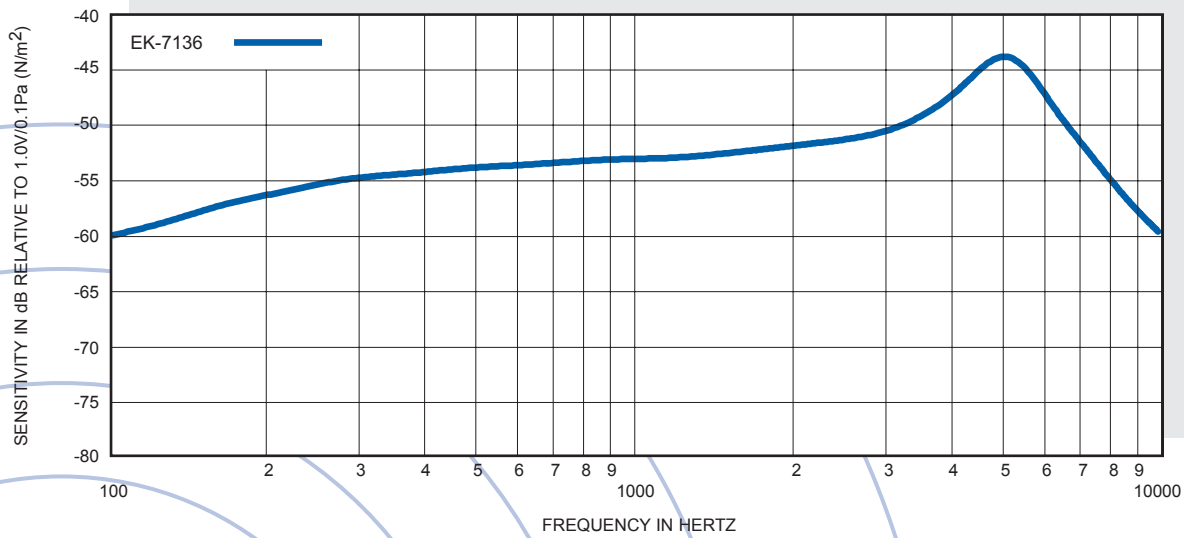


Damped Peak Response



Open circuit sensitivity with 1.3VDC supply

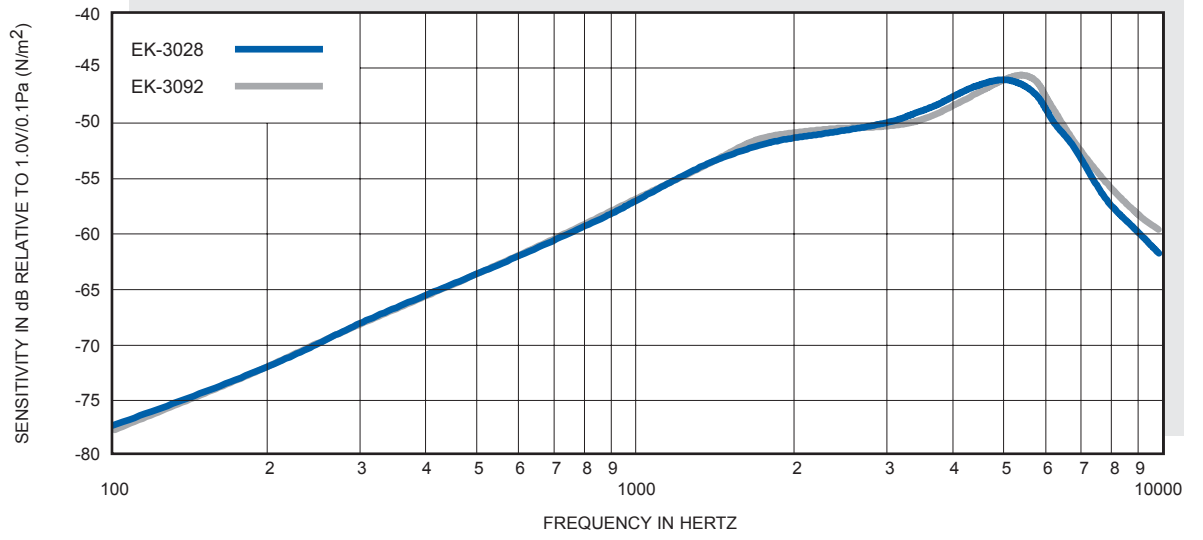
Undamped Peak Response



Open circuit sensitivity with 1.3VDC supply

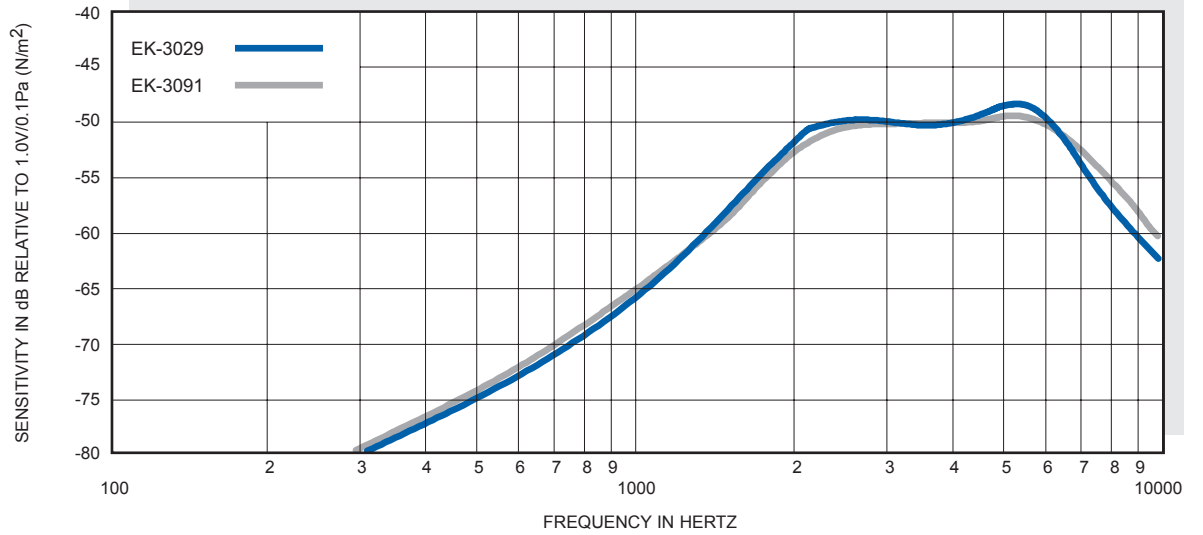


6dB/Octave Ski Slope Response



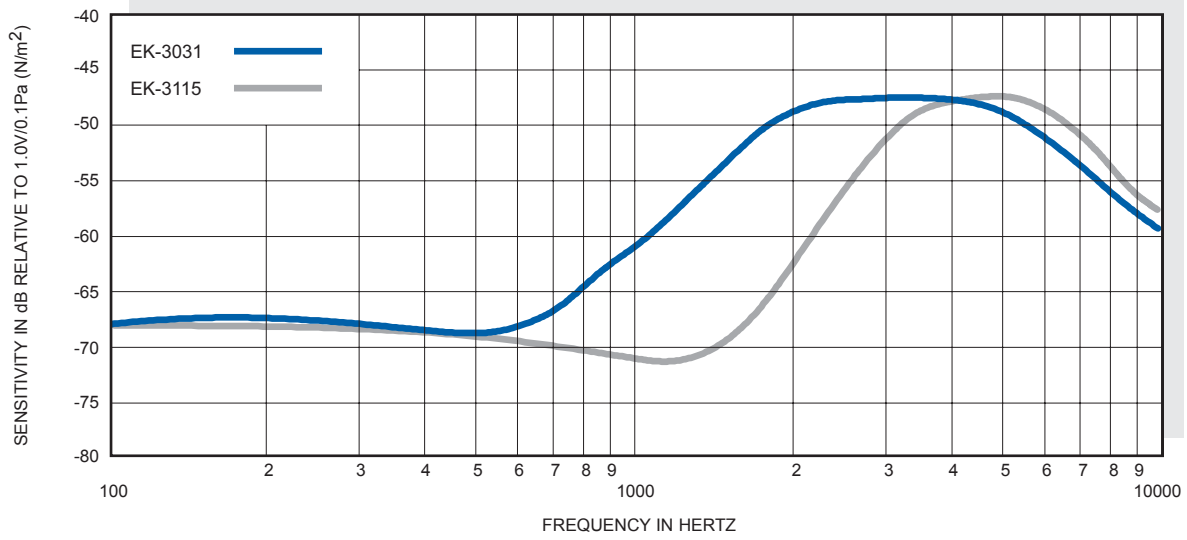
Open circuit sensitivity with 1.3VDC supply

12dB/Octave Ski Slope Response



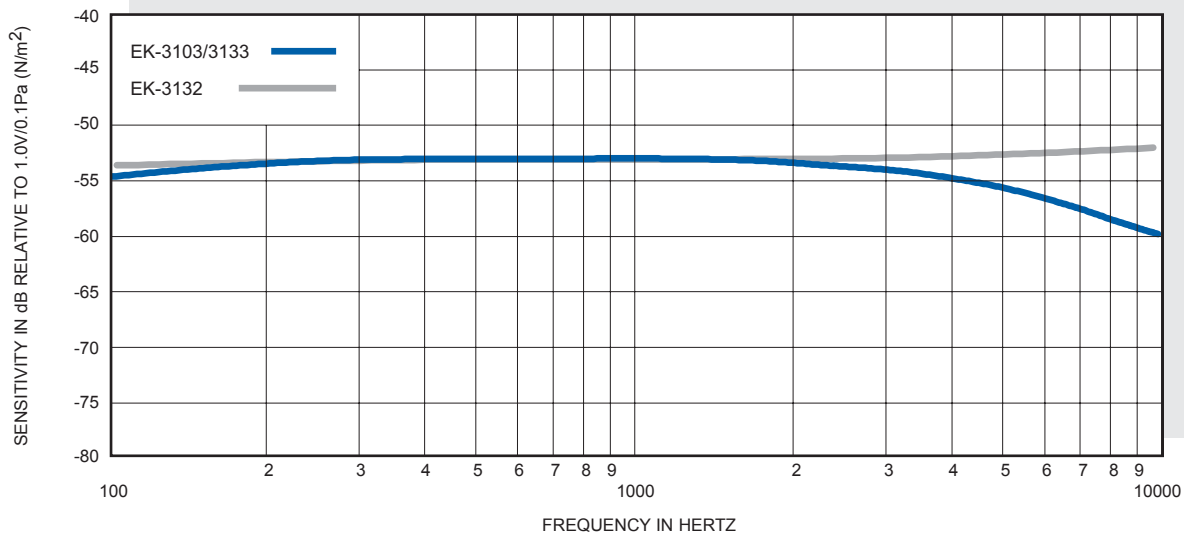
Open circuit sensitivity with 1.3VDC supply

Step Response



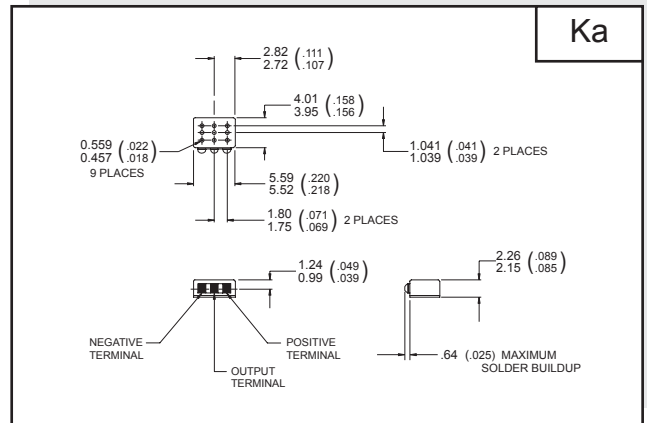
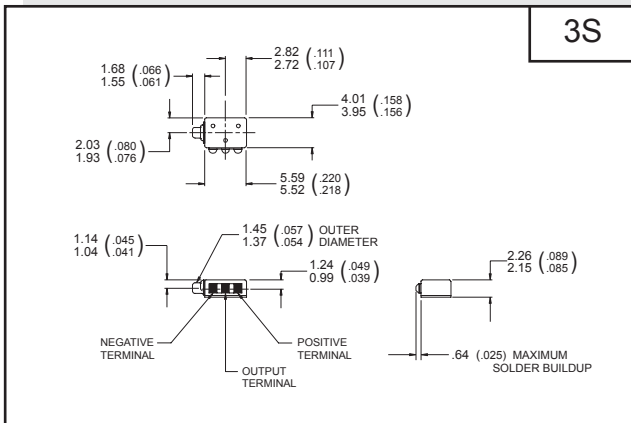
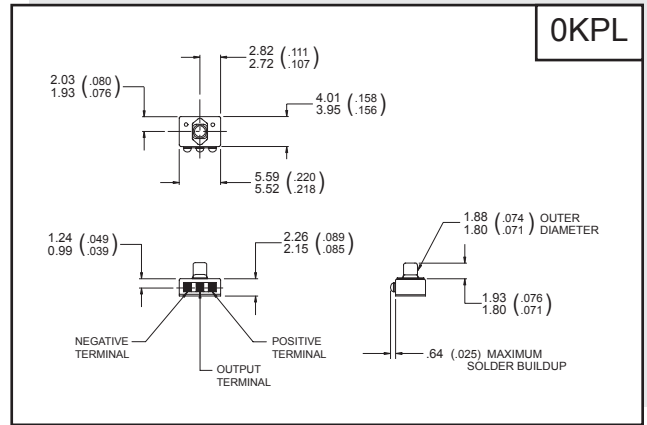
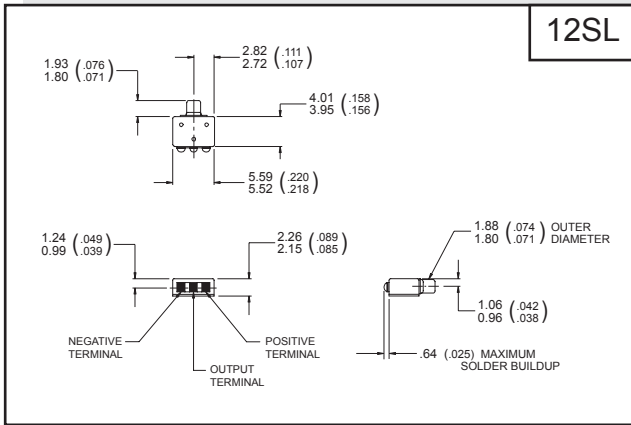
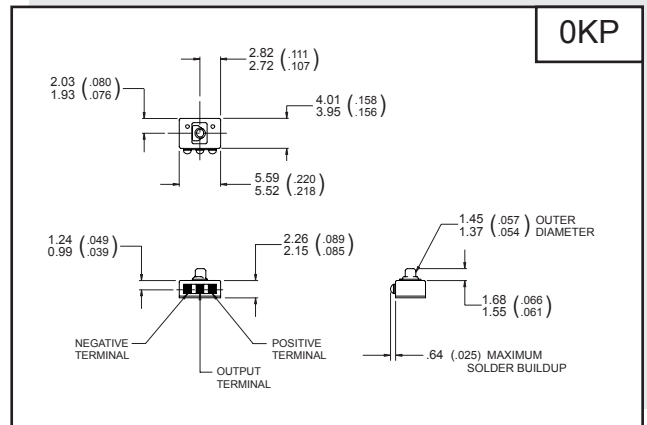
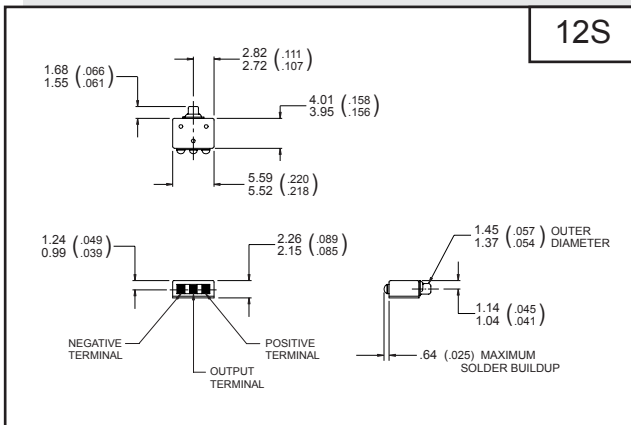
Open circuit sensitivity with 1.3VDC supply

Broadband Response



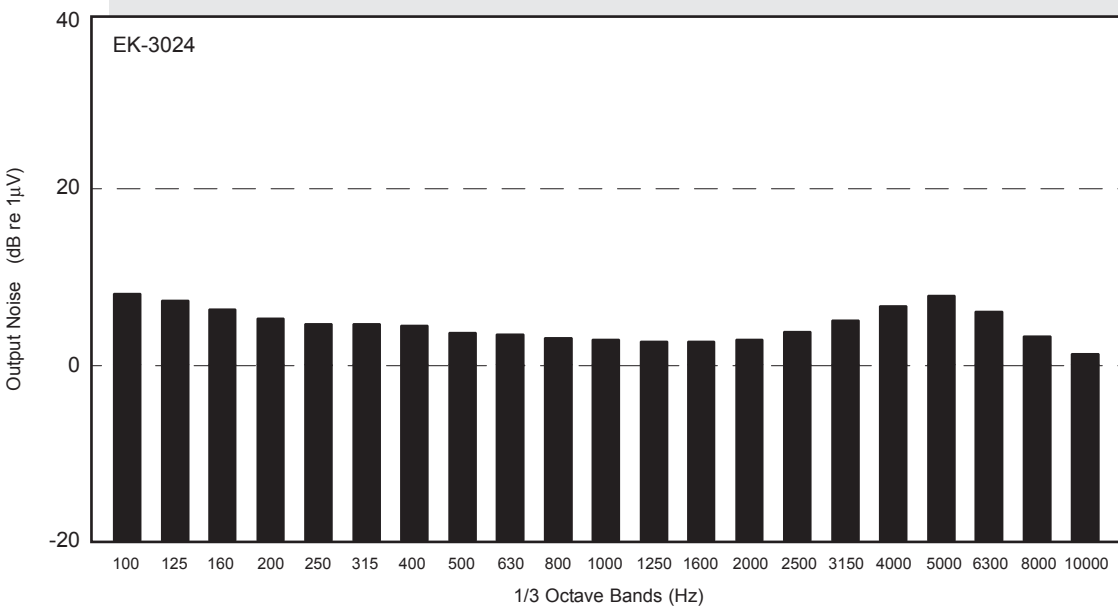
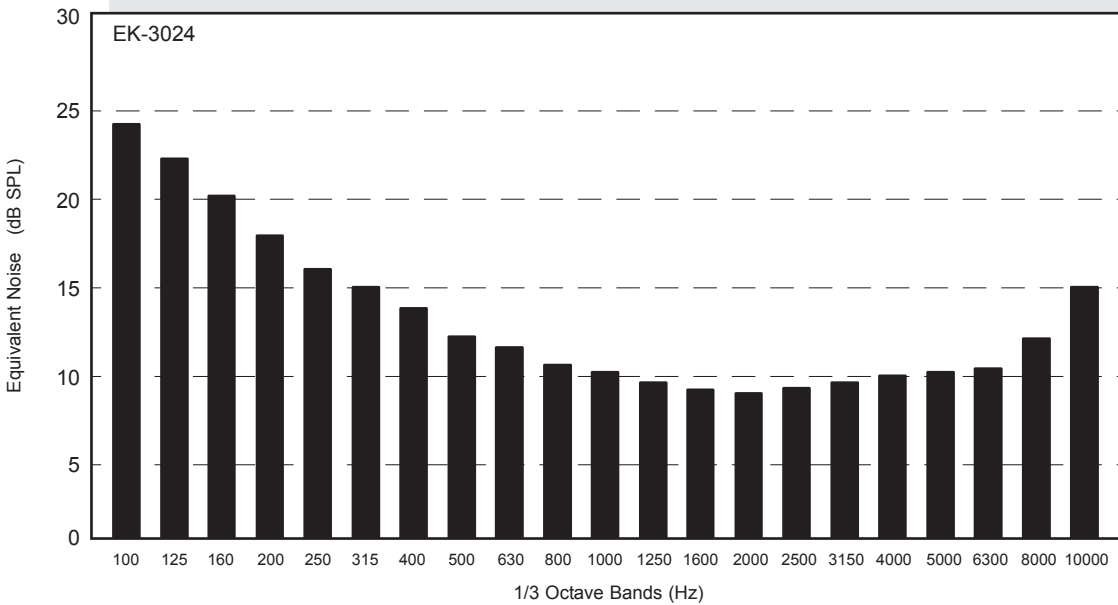
Open circuit sensitivity with 1.3VDC supply

Signal Port Locations



Dimensions in millimeters (inches)

1/3 Octave Equivalent Noise & Output Noise



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NOTE: Specifications are subject to change without notice. The information on this Data Sheet reflects typical applications. Specific test specifications defining each model are available by requesting Outline Drawing Sheets 1.1 and Performance Specifications Sheets 2.1 of that model number. Knowles' responsibility is limited to compliance with the Outline Drawing and the Performance Specification application to the subject model at time of manufacture.

Knowles Electronics, Inc.