



EK SERIES



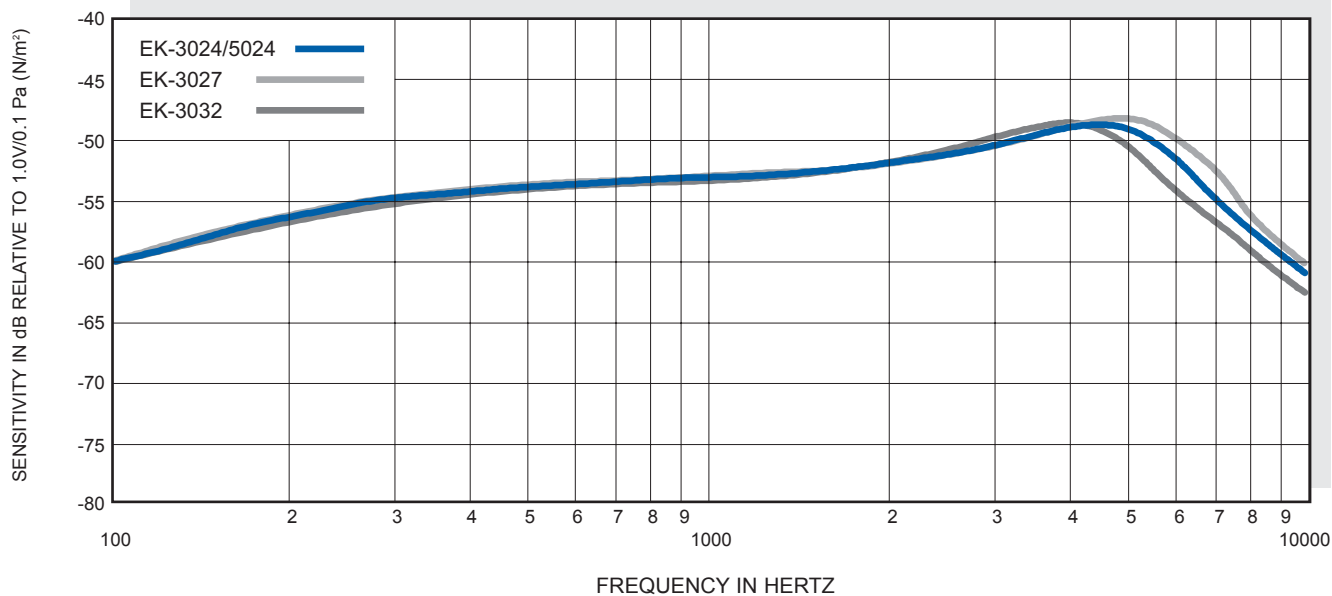
Actual Size

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: 19μA

maximum: 50μA

Performance

Response/Sensitivity

see curves, pages 1, 4-6

Sensitivity Range @ primary test frequency

Ski Slope and Step responses: ±3dB

all other responses: ±2dB

Low Supply Voltage Sensitivity Loss

(V_s reduced from 1.3 to 0.9V_{DC})

typical: 0.3dB

maximum: 3.0dB

Humidity Coefficient of Sensitivity

typical: 0.02dB per %RH

(in the absence of condensation)

Output Impedance @ 1kHz

range: 2.8 to 6.8kΩ

nominal: 4.4kΩ

Acoustic Polarity

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

Power Supply Feedthrough Attenuation

typical: 14dB, output-referred

Load Voltage (V_L)

range: 0.2 to 0.9V_{DC}

typical: 0.5V_{DC}

Output Noise Level

(A-weighted)

typical: -103dBV*

maximum: -100dBV (Ski Slope models)

Input-Referred Noise Level*

(A-weighted, 1kHz ref.)

typical: 24dB SPL

maximum: 26dB SPL

Input-Referred Vibration Sensitivity*

(1g acceleration, 1kHz ref.)

maximum: 62dB SPL

Temperature Range

operating: -17°C to 63°C

storage: -40°C to 63°C

ESD Tolerance

MIL-STD-750 Class 1 rating

EOS/ESD-S5.1-1993 Class 2 rating

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

Mechanical

Weight

0.13 grams

Dimensions

See outline drawings, page 7

Case Material

Type 305 stainless steel

Solder Content

Sn63Pb37

Optional Soldering Fixture

Base: ET-3042

Nest Plate: ET-800

Back Plate: ET-900

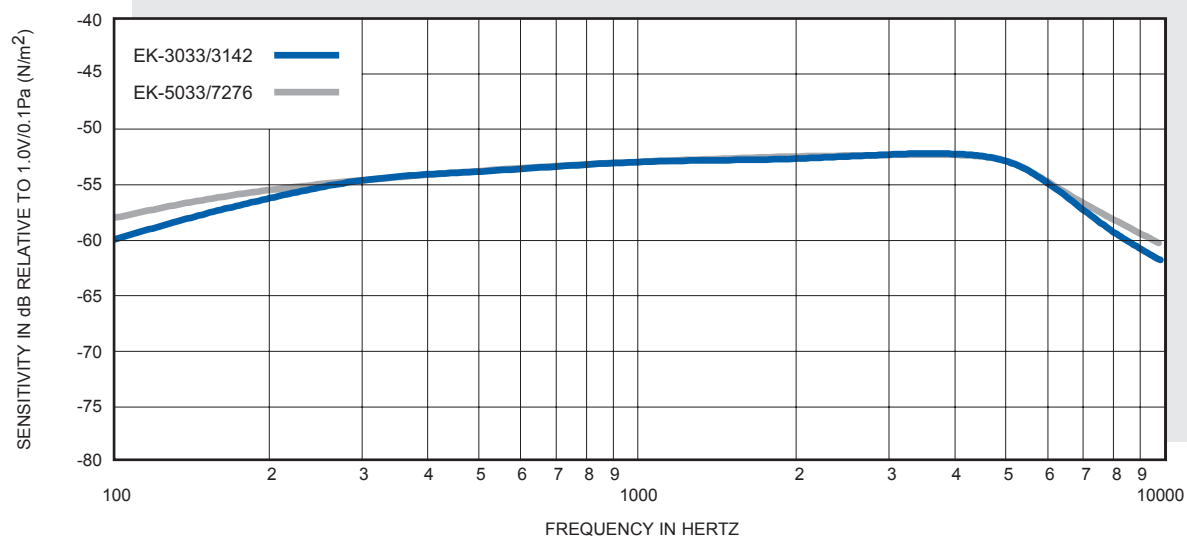
Model	Port	Response
EK-3024	12S	Standard
EK-3027	0KP	Standard
EK-3028	12S	6dB/octave Ski Slope
EK-3029	12S	12dB/octave Ski Slope
EK-3031	12S	Step
EK-3032	3S	Standard
EK-3033	12S	Damped Peak
EK-3091	0KP	12dB/octave Ski Slope
EK-3092	0KP	6dB/octave Ski Slope
EK-3103	0KPL	Broadband
EK-3115	12S	Step
EK-3132	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.

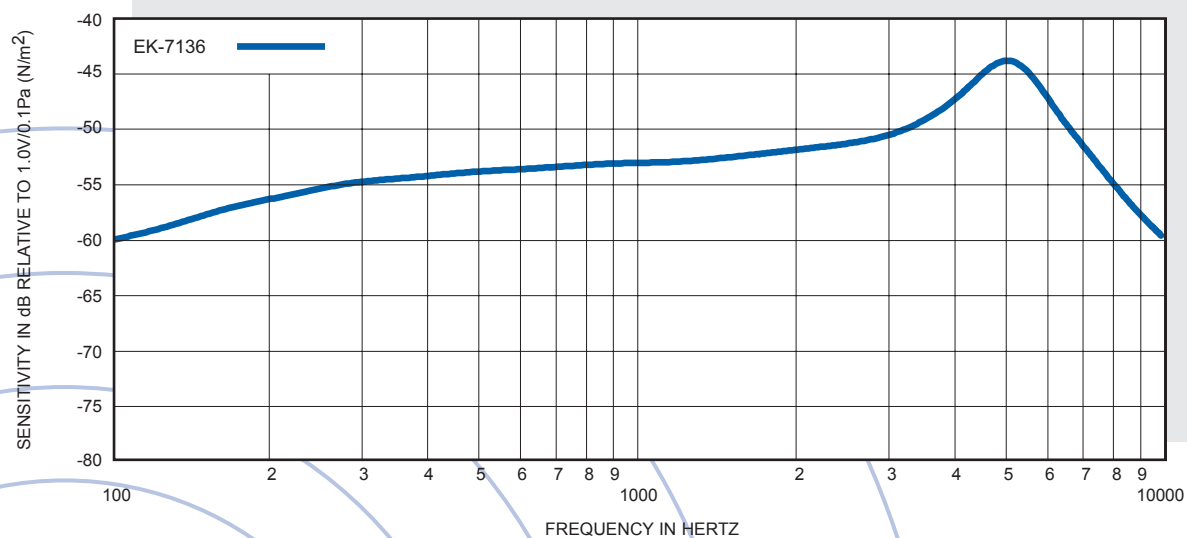


Damped Peak Response



Open circuit sensitivity with 1.3VDC supply

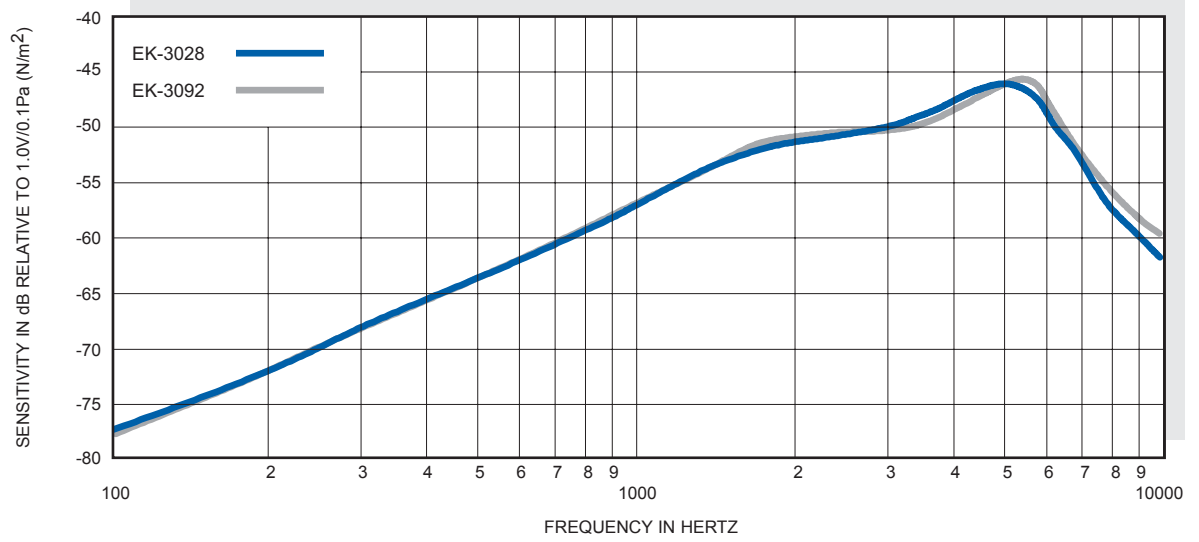
Undamped Peak Response



Open circuit sensitivity with 1.3VDC supply

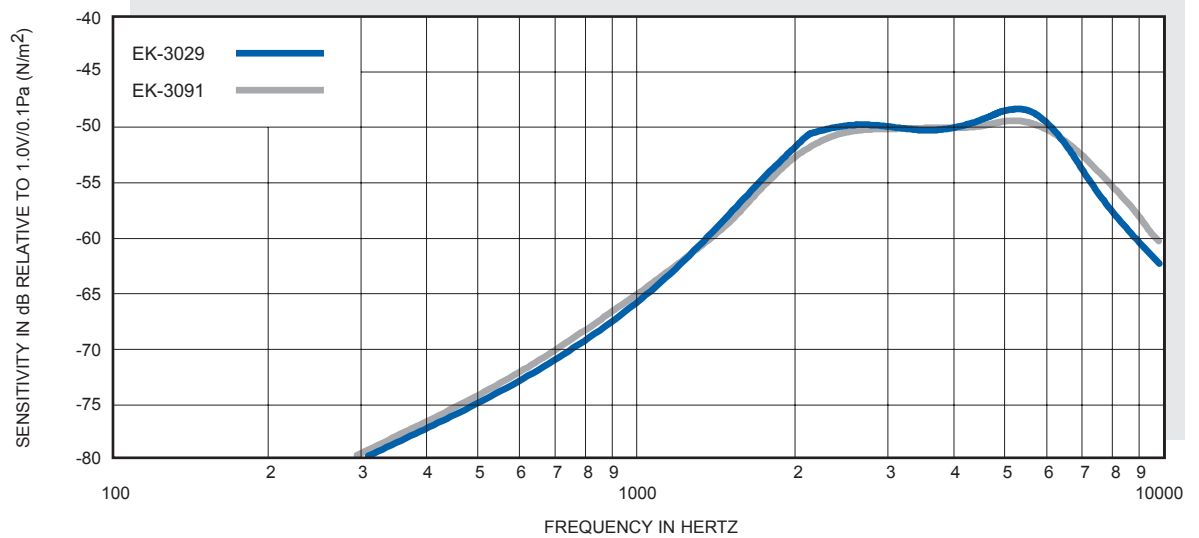


6dB/Octave Ski Slope Response



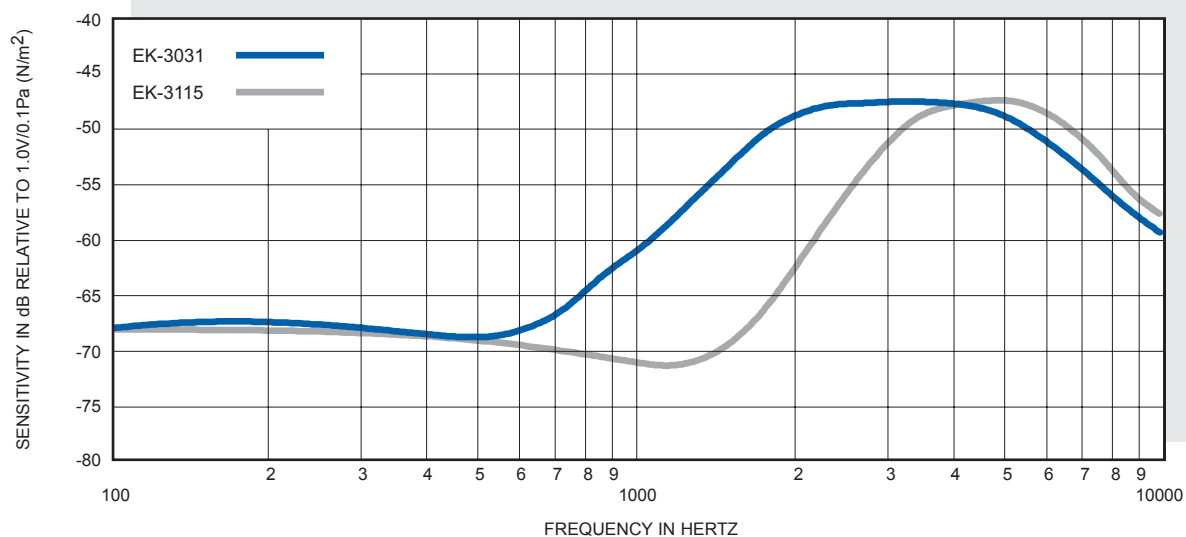
Open circuit sensitivity with 1.3VDC supply

12dB/Octave Ski Slope Response



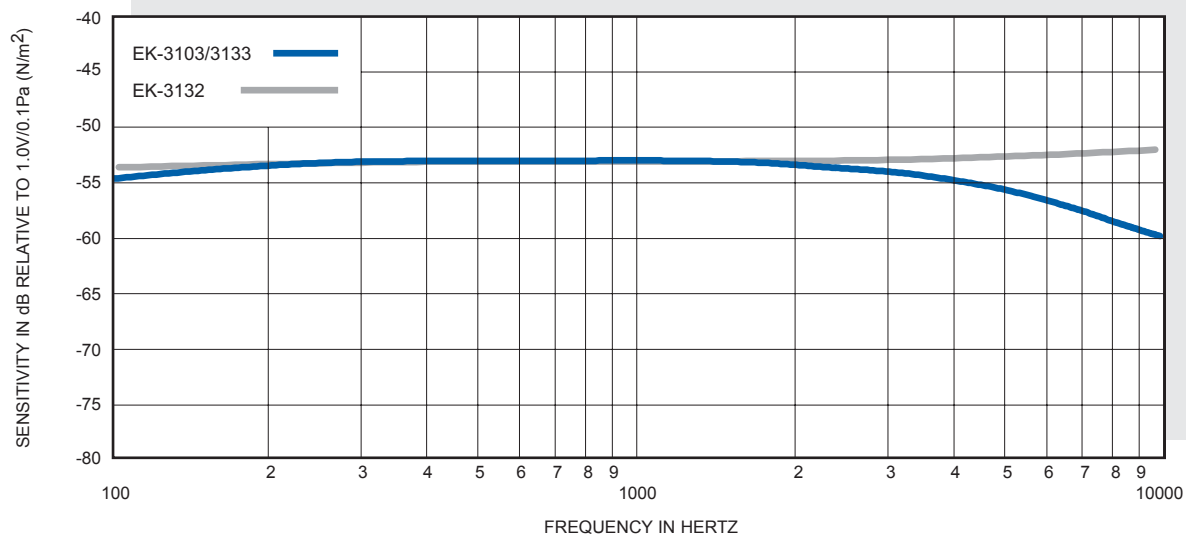
Open circuit sensitivity with 1.3VDC supply

Step Response



Open circuit sensitivity with 1.3VDC supply

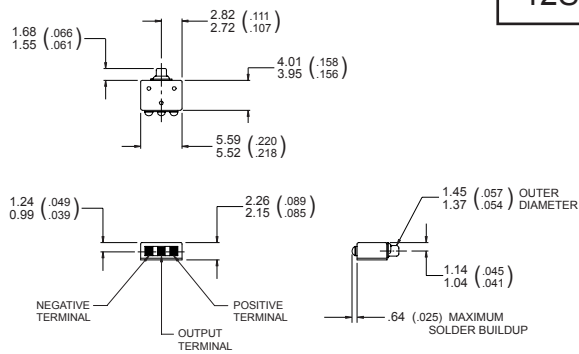
Broadband Response



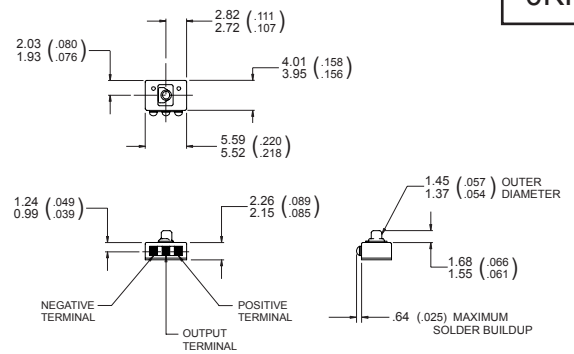
Open circuit sensitivity with 1.3VDC supply

Signal Port Locations

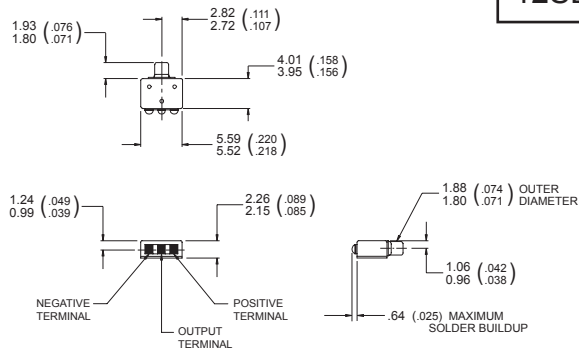
12S



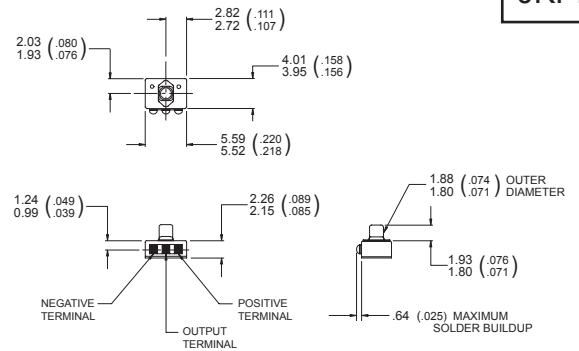
OKP



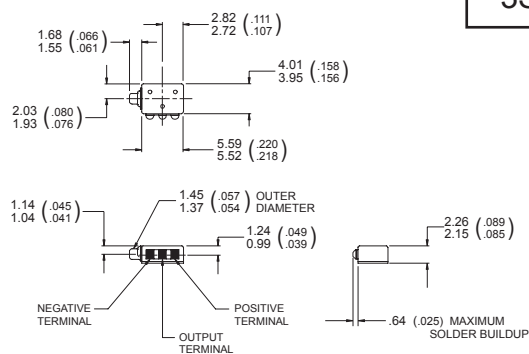
12SL



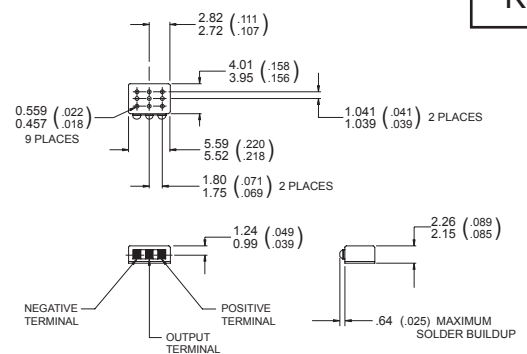
OKPL



3S

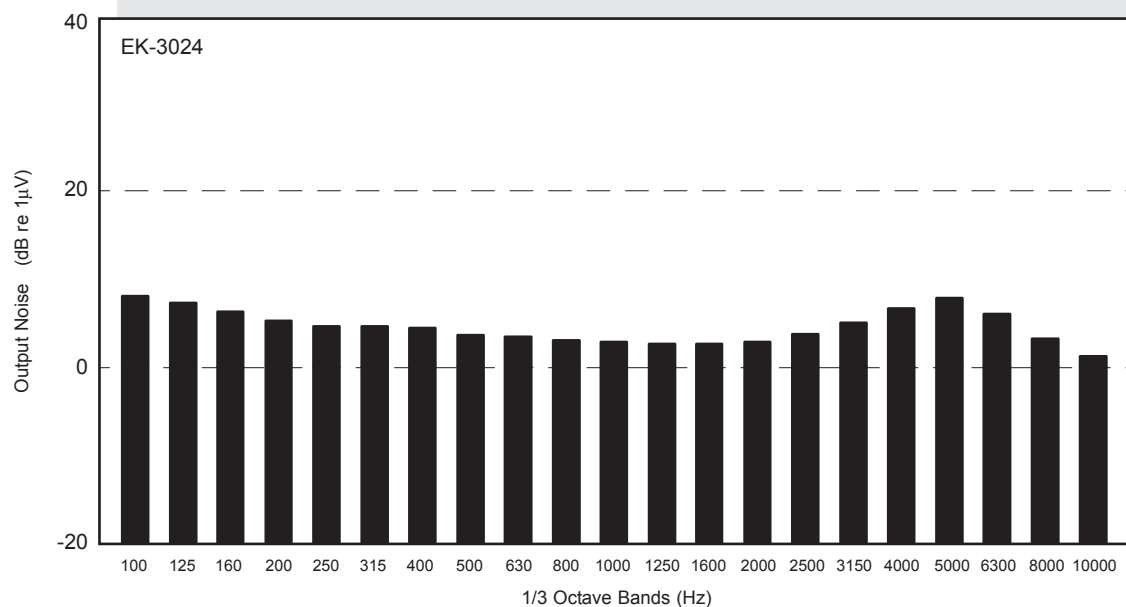
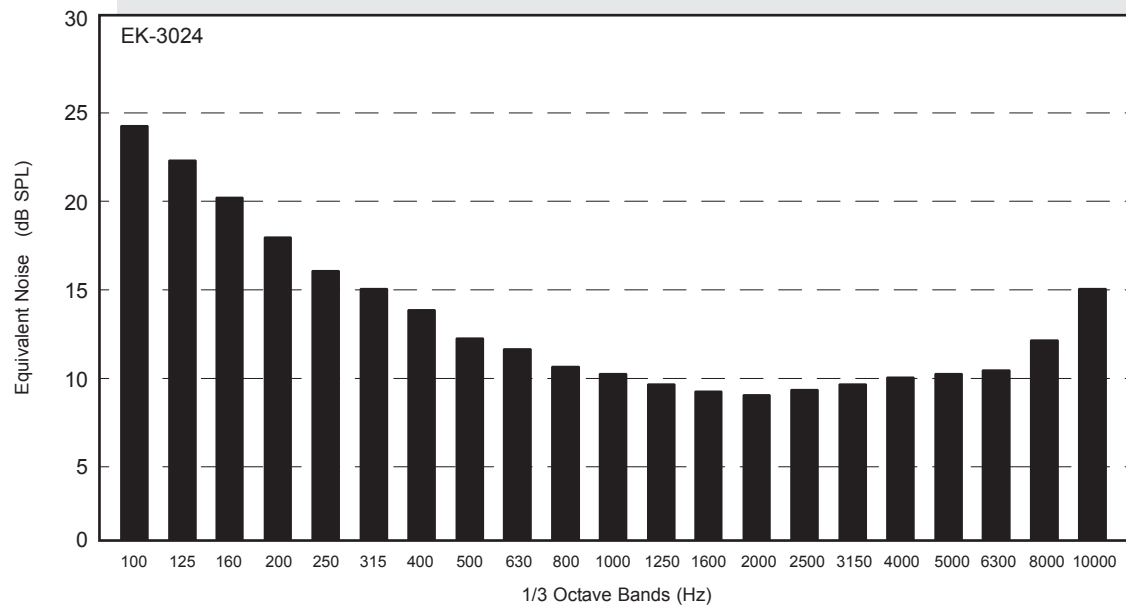


Ka



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.