

KE Series Encased Amplifiers

General Description

KOTA's KE Series Amplifiers are designed to take full advantage of KOTA's high-performance DC-coupled operational amplifiers in an easy-to-use, encased form. This format makes the KE Series Amplifiers an excellent choice for use on the bench, in a test station, or in other environments needing both high performance and ease of use.

The op amp-based KE Series amplifiers provide a wide selection of features as well as the ability to customize parameters such as voltage gain and output impedance to the application.

KE231 designed for low-gain applications ($A_v = \pm 1$ to ± 5)

KE220 high bandwidth (-3dB BW of 190MHz), lower output current (50mA)

KE200 general purpose (-3dB BW of 95MHz)

KE103 high output current (200mA)

The KE104 is an encased version of the KH104AI, a DC to 1.1GHz linear amplifier with a fixed gain of 14dB and 50Ω input and output impedances. These features, coupled with excellent distortion and VSWR characteristics, make the KE104 ideal for applications in wideband analog and high-speed digital communications, radar, and fiber optics transmitters and receivers.

KE104 DC to 1.1GHz, fixed 14dB gain, low distortion.

Ordering Information

KE104

Since gain and input and output impedances are fixed on the KE104, simply designate the connector type required by: KE104-BNC or KE104-SMA.

KE103, KE200, KE220, and KE231

Due to the flexibility possible with these amplifiers, the user must specify several parameters when ordering:

- The full part number is KEnnn-p-con-Z_i-Z_o-A_v,
- nnn: specify 103, 200, 220, or 231
- p: specify N (non-inverting) or I (inverting)
- con: specify BNC or SMA connectors or NDC for no case
- Z_i: specify input impedance in ohms
- Z_o: specify output impedance in ohms
- A_v: specify voltage gain with output unterminated (ie: Z_{load} = ∞) (see example)

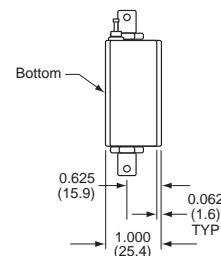
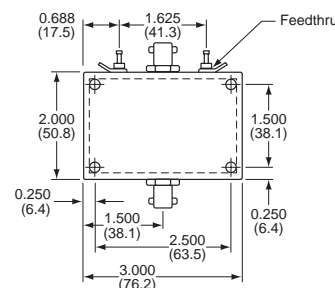
Select Z_i, Z_o, and A_v within the following constraints:

Features

- Wide bandwidth, fast settling, high slew rate
- Low distortion and overshoot
- Linear phase
- Easy to use encased form
- Direct replacement for E103, E104, E200, E220, and E231

Applications

- For use on the bench or in a test station as a video amp, pulse amp, line driver, etc.
- "drop in" units for radar and communication systems
- Simplified evaluation of KOTA amplifiers



Parameter	KE103	KE200	KE220	KE231
A _v	±1/±40	±1/±50	±1/±50	±1/±5
max Z _{in}	1500	2000	1500	250
inverting A _v	A _v	A _v	A _v	A _v
non-inverting	10k	10k	10k	10k
min Z _{out}	0	0	0	0

Example: KE200-N-BNC-75-50-20 means a KE200 with a non-inverting gain, BNC connectors, 75Ω input impedance, 50Ω output impedance, and a voltage gain of 20V/V (unterminated output). (When driving a realistic load, the actual gain is reduced by the factor Z_{load}/(Z_{load} + Z_o) due to the resistive divider action of the output impedance, Z_o, and the load connected to the amplifier, Z_{load}. The unterminated voltage gain, A_v, should be selected with this in mind.)

