

# KE 4-211-2

## Components | Microphone Capsule

Cat. No. 002280

### General description

The KE 4-211-2 is a pre-polarised, back-electret condenser microphone capsule (pressure receiver) with integrated impedance transformer. The omni-directional capsule features a flat frequency response covering the entire audio range. Both frequency response and sensitivity have very tight tolerances and are independent of each other. The capsule diaphragm has a miniscule hole for the purpose of air pressure compensation. This hole precisely defines the frequency response from 20 Hz upwards, and ensures pressure compensation even if the capsule is built in. Except for this tiny opening, the housing seals the capsule hermetically, ensuring that it can be stored in extreme climates for long periods of time.

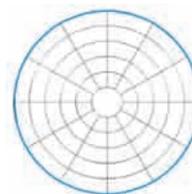


### Features

- Pressure receiver
- Wide and flat frequency response
- Extremely small dimensions
- Low self-noise
- High maximum sound pressure level
- High maximum output voltage before feedback
- Extremely insensitive to handling noise and structure-borne noise
- Can be operated with low voltages

### Technical Data

Transducer type .....	back-electret condenser capsule (pressure receiver)
Pick-up pattern.....	omni-directional
Frequency response .....	20 to 20,000 Hz $\pm$ 3 dB 40 to 15,000 Hz $\pm$ 2.5 dB
Sensitivity (free field, no load, 1 kHz) .....	10 mV/Pa $\pm$ 2.5 dB - 40 dB ref 1 V/Pa $\pm$ 2.5 dB
Phase relation of output signal (free field, no load, 1 kHz):	
Impedance transformer configuration (source follower) .....	non-inverting
Amplifier configuration (source circuit) .....	inverting
Impedance at 1 kHz.....	approx. 1 k $\Omega$
Minimum terminating impedance .....	4.7 k $\Omega$
Maximum SPL (THD <sub>total</sub> K2) .....	130 dB (THD = 1 %), (140 dB, THD = 3 %, V > 7.5 V; R = 18 k $\Omega$ )
Equivalent noise level:	
db(A) <sub>rms</sub> .....	27 dB
CCIR 468-2, peak value.....	38 dB
Operating voltage.....	+ 0.9 V to + 15 V
Current consumption .....	approx. 250 $\mu$ A
Max. output voltage/load resistance.....	2 V at THD = 3 %, V > 7.5 V; R = 18 k $\Omega$
Storage temperature range.....	-20 °C to +70 °C
Operating temperature range .....	-10 °C to +50 °C
Resistance to extreme climates (storage).....	
	up to + 40 °C and 90 % relative humidity (SNP 51)
Colour coding .....	green dot



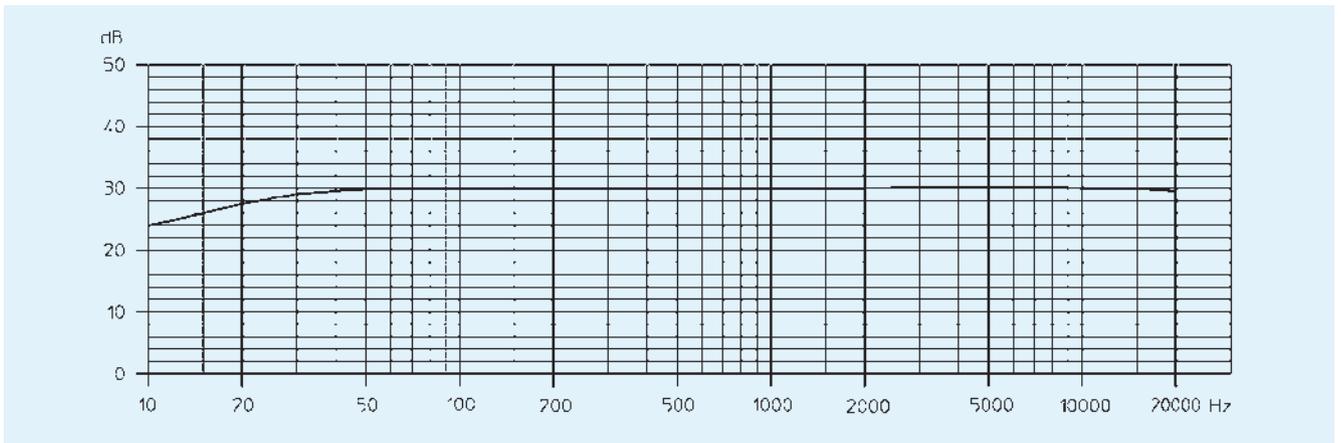
Omni-directional pick-up pattern

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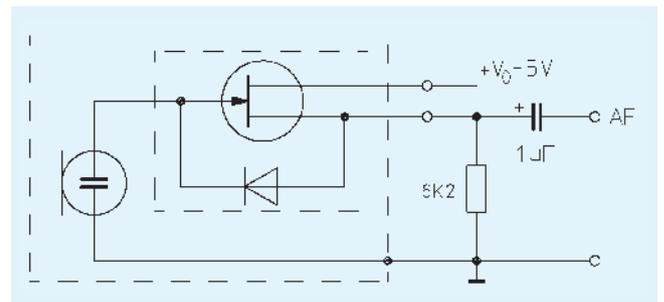
### Frequency response



### Source follower common drain

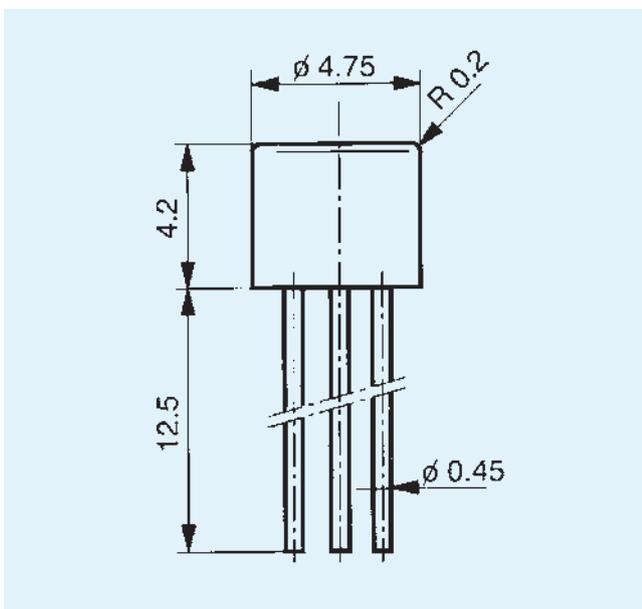
Operating voltage	Recommended load
1.5 V ~ 2.5 V	2.7 kΩ
2.5 V ~ 5.0 V	5.6 kΩ
5.0 V ~ 7.5 V	10 kΩ
7.5 V ~ 9.0 V	18 kΩ
9.0 V ~ 15 V	22 kΩ

### Impedance transformer configuration



In this configuration the phasing is positive, i.e. a positive pressure impulse generates a positive output signal.

### Dimensions (in mm)



### Note

If the mic capsule is to be bonded in place, please make sure to use a solvent-free adhesive such as Technicol 8390/8299 or Loctite Multibond. Please pay special attention to the soldering instructions given in the appendix.

### Wiring

