

## Multi-channel transimpedance amplifier MTI04BS/ MTI04BQ

With the sensor signal amplifier MTI series, MAZeT provides a family of multi-channel amplifier ICs (current-to-voltage conversion transimpedance amplifiers) for sensors with current output. These are distinguished, among other things, by a programmable bandwidth and high amplification.

The ICs are offered in different RoHS compliant housings or - within the scope of customer projects - are also available as 'naked' chips (die) for Chip-On-Board (COB) assembly.

The MTI series is currently available in two types, which differ in amplification, noise, bandwidth and operating voltage.

**The sensor signal amplifier MTI04B series are 4-channel transimpedance amplifiers (TIAs). They are ideal for the connection of small photodiodes and arrays of up to 20pF input capacitance.** The TIAs can be programmed for amplification (for currents from 100nA) and bandwidth (up to 500 KHz) in three stages via the external pads.

### MTI04B Characteristics:

parameter	min.	typ.	max.	unit	condition
Input current		0,1		μA	Stage 1
		1		μA	Stage 2
		20		μA	Stage 3
Feedback resistor	4000	5000	6000	kOhm	Stage 1
	400	500	600	kOhm	Stage 2
	20	25	30	kOhm	Stage 3
Signal frequency at input		25		kHz	Stage 1
		70		kHz	Stage 2
		500		kHz	Stage 3

### Use and Typical Applications

The sensor ICs are particularly suited as amplifiers for sensors with current output in the nA and μA range, such as opto arrays and rows in the UV, VIS, NIR and IR spectra.

This applies typically to applications in the area of industrial sensors (light grid, length, filling level, position, thickness and distance measurement), equipment for surface analysis and temperature measurement (thermal imaging, combustion supervision), detectors for alpha, beta, gamma and x-rays and ions as well as applications for measurement, regulation and control of light and laser sources.