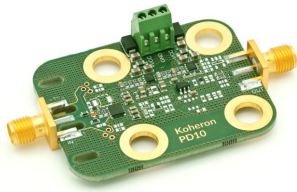


Transimpedance amplifier

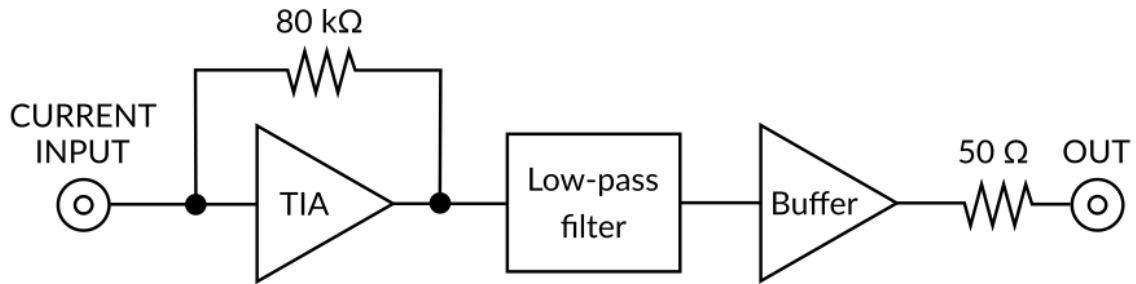


Koheron PD10TIA is a transimpedance amplifier (TIA) with a bandwidth of 1 MHz and an input-referred current noise of less than $1 \text{ pA} / \sqrt{\text{Hz}}$. It is compatible with photodiodes with up to 2 nF input capacitance.

Specifications

	PD10TIA-80-DC
Input current	-45 to 45 μA
Small signal bandwidth	0 - 800 kHz at 3 dB ($C_{in} = 10 \text{ pF}$)
Input current noise density	0.8 $\text{pA} / \sqrt{\text{Hz}}$ (at 1 MHz, $C_{in} = 10 \text{ pF}$)
Coupling	DC
Maximum input capacitance	2 nF
Power supply (positive)	5.5 - 9 V_{DC}
Power supply (negative)	-9 to -5.5 V_{DC}
Transimpedance gain	80 kV / A
Output voltage range	$\pm 3.6 \text{ V}$
Output impedance	50 Ω
Outside Dimensions	63 mm x 38 mm x 14 mm
Input connector	SMA
Output connector	SMA
Mechanical details	Compatible with M6 metric breadboards (25 mm spacing)
Operating temperature	0 $^{\circ}\text{C}$ - 50 $^{\circ}\text{C}$

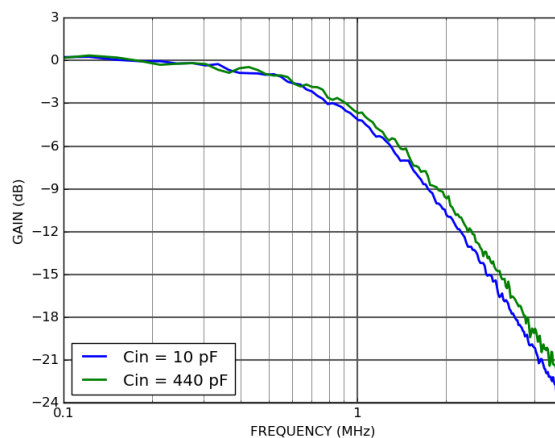
Functional diagram



PD10TIA-80-DC functional diagram

Characterization

Frequency response

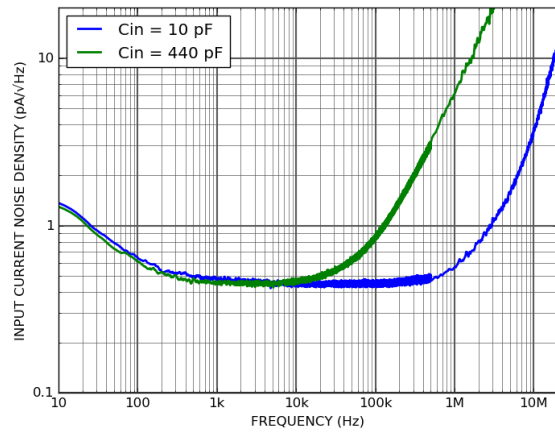


PD10TIA-80-DC frequency response

Input current noise density

The input-referred current noise of the PD10TIA transimpedance amplifier depends on the input capacitance. For best performance, one should select a photodiode with low parasitic capacitance and use cables as short as possible, as explained in the [user guide](#).

Input current noise density for input capacitances of 10 pF and 440 pF:



Ordering codes

- PD10TIA-80-DC