TwinPD

TEST SHEET
Serial number : 2601028
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VM Photonics GmbH
Burgberg 6
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Germany

The VM Photonics **TwinPD**
equipped with two 1.5mm diameter silicon photodiodes (QE >= 90% @780nm).

Parameter	Result
Transimpedance gain	10 kΩ (per design)
DC x 10 gain	8.978 V V^{-1} , equivalent to: 89.78 kΩ (at 1 MΩ load)
DC x 10 bandwidth (-3 dB)	36 MHz
DC x 10 darknoise (100 kHz - 10 MHz)	< 3 pA / √Hz , equivalent to: 2.7 x 10^{-7} V / √Hz
AC gain	4.096 V V^{-1} , equivalent to: 40.96 kΩ (at 50 Ω load)
AC bandwidth (-3 dB)	5.6 kHz - 31 MHz
AC darknoise (100 kHz - 10 MHz)	< 3 pA / √Hz , equivalent to: 1.2 x 10^{-7} V / √Hz
Photodiode bias voltage	+/- 5 V

Signal to darknoise measurements:

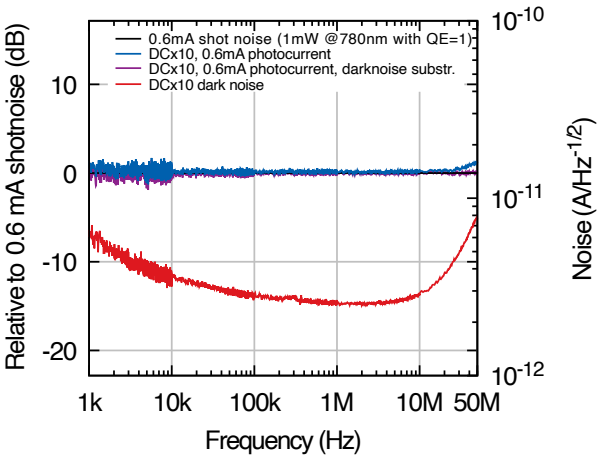

Fig. 1: DC x 10 output:
Dark noise and bright noise calibrated to photocurrent with the transfer function below, measured with 1 MΩ load.

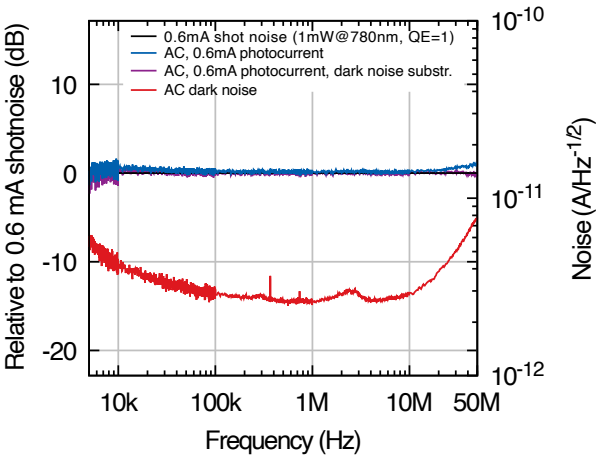

Fig. 2: AC output:
Dark noise and bright noise calibrated to photocurrent with the transfer function below, measured with 50 Ω load.

Transfer function measurements:

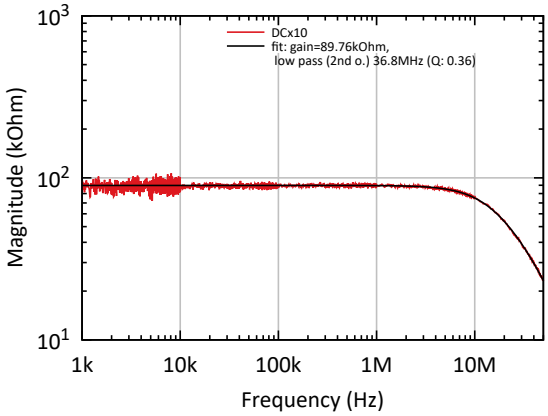

Fig. 3: DC x 10 output:
DC x 10 transfer function with silicon photodiodes, measured with 1MΩ load.

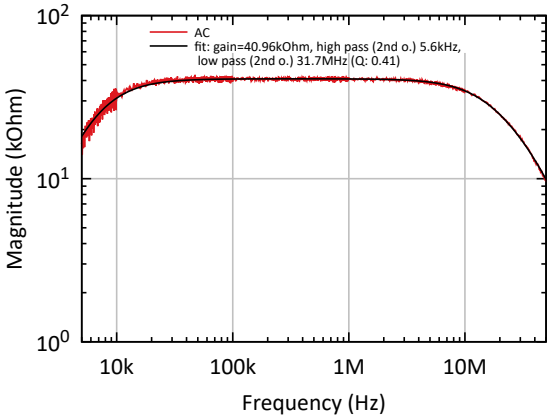

Fig. 4: AC output:
AC transfer function with silicon photodiodes, measured with 50Ω load.