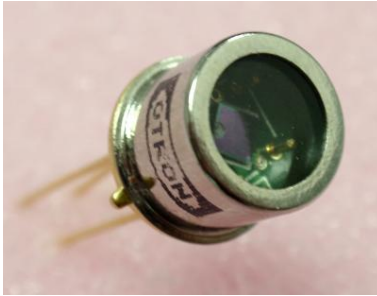
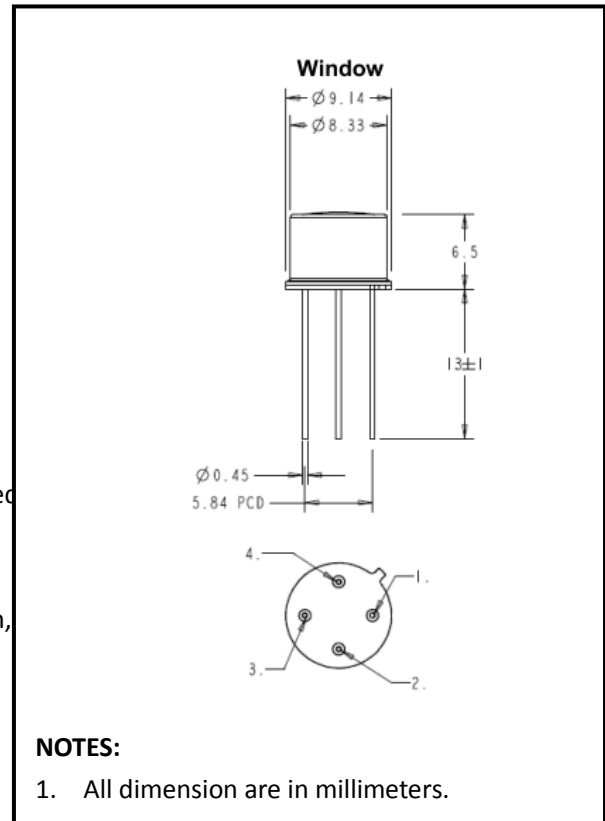


OSH9 Series of Hybrid Detectors



Description

The OSH9-*** series are the range of high performance intergrated photodiode amplifiers incorporating of 9mm² silicon PIN photodiode, operational amplifier and transimpedance circuitry. The devices have been optimized for sensitivity to NIR wavelength, provide a voltage output proportional to incident light. Incorporation of the photodiode and amplifier into a welded metal can minimizes noise pickup, leakage current errors and stray capacitance normally associated with discrete designs. These devices are suited for low light level detect, chip size, lens or flat filter, wavelength can all be customized according to customers enquires.



Features

- * very low offset noise: 2mVpp
- * High gain: 20MV/A (OSH9-GT)
- * High speed: 5us (OSH9-HT)
- * Wide power supply range: ±3V to ±18V

General Ratings

- * Type Silicon photodiode
- * Chip active area: 3.0*3.0mm

Applications

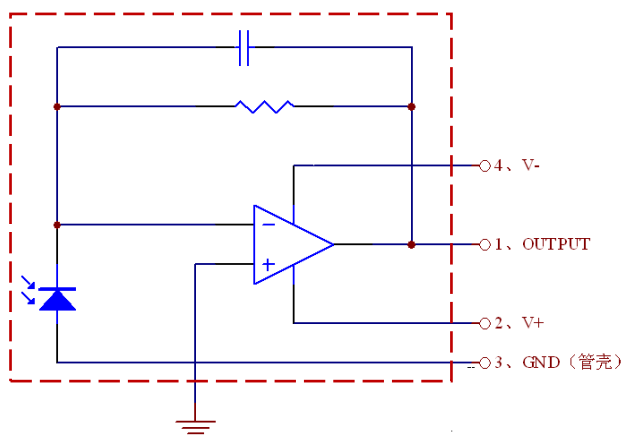
- * Medical instruments
- * Pulse light detector
- * Smoke detectors
- * Low level light detector
- * Laboratory instrumentation

Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject change without notice

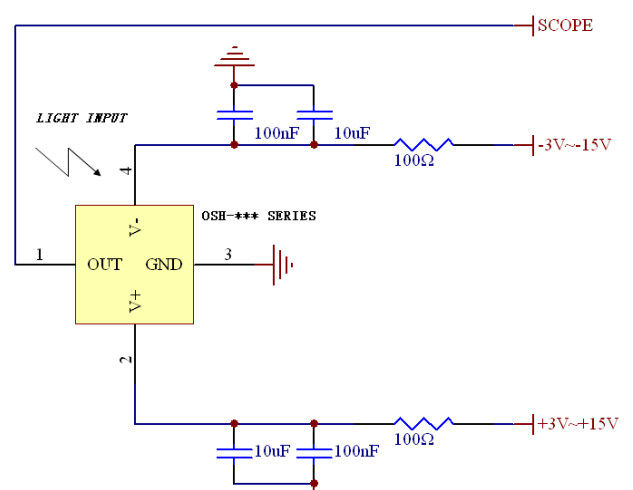
Typical Characteristics (measured at 25 °C ambient)

Index	Units	General Purpose	High Gain	Pulse	High Speed
		OSH9-IT	OSH9-GT	OSH4-PT	OSH4-HT
DC supply voltage (Dual Rail)	V	±3to±18	±3to±18	±3to±18	±3to±18
Quiescent Current	uA	400	400	400	400
Dark level noise (Vpp) (E=0Lx)	mV	2	2	4	2
Output Offset	mV	10	10	10	10
Frequency response (-3dB)	kHz	10	30	50	100
Output loader RL	KΩ	10	10	10	10
Transimpedance Gain	MΩ	10	20	8.2	1
Photodiode active area	mm*mm	9	9	4	4
Saturation Voltage (RL=10KΩ)	V	17.5	17.5	17.5	17.5
Spectrum Responsivity	mV/mW	6.4	12.8	5.1	0.64
Input opening angle	Grad	±50	±50	±50	±50
Operating Temperature	°C	-20to80	-20to80	-20to80	-20to80
Storage temperature	°C	-30to100	-30to100	-30to100	-30to100

Internal Circuit Schematic



Typical Test Circuit

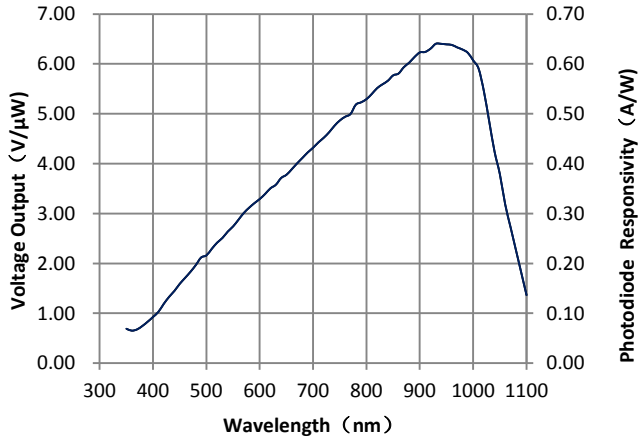


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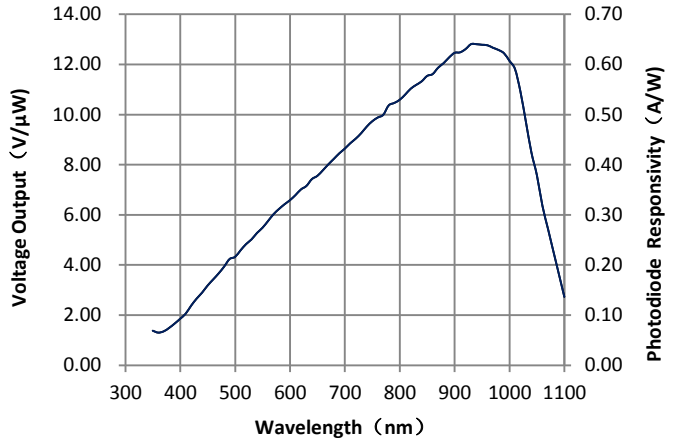


Spectral Response

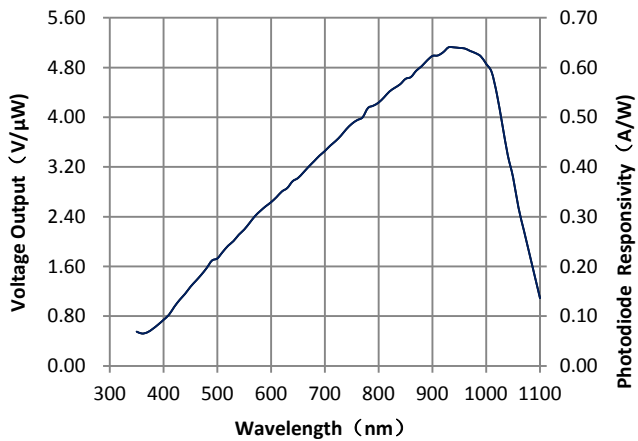
■ General Purpose OSH9-IT



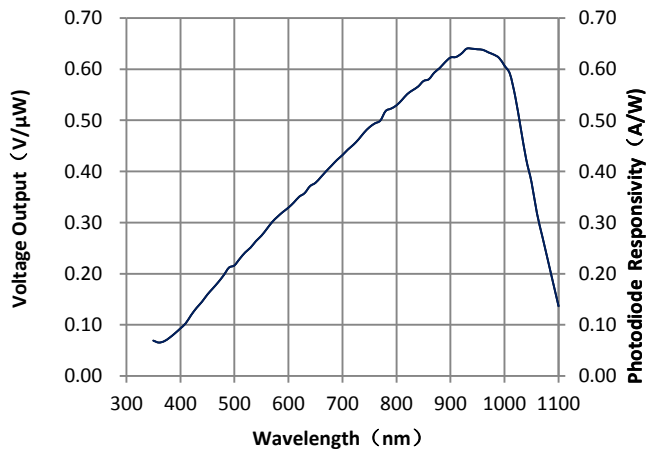
■ High Gain OSH9-GT



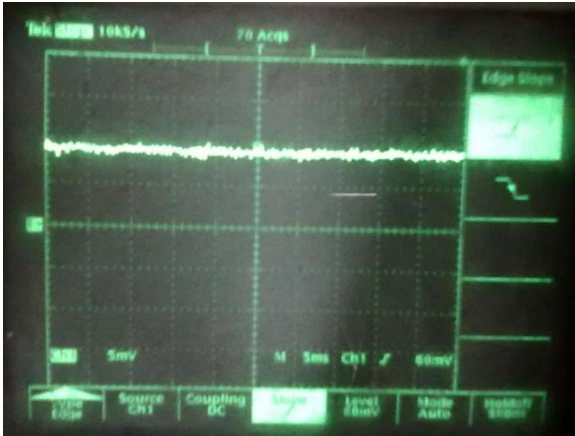
■ Pulse OSH4-PT



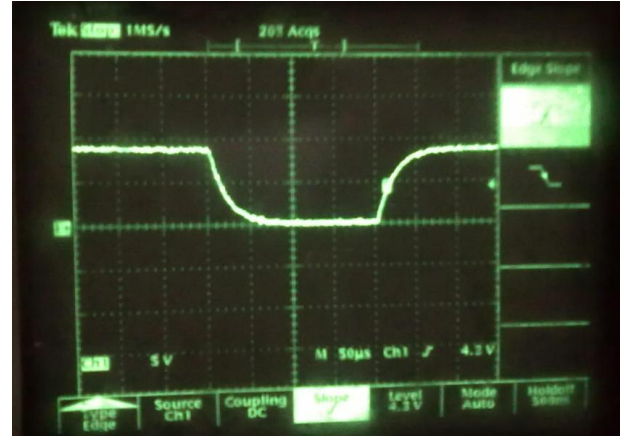
■ High Speed OSH4-HT



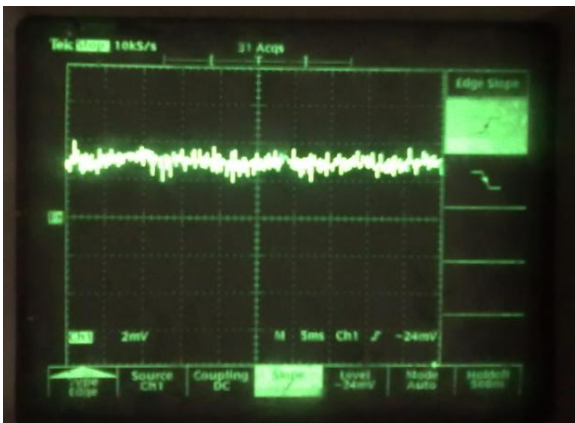
Measurement examples:



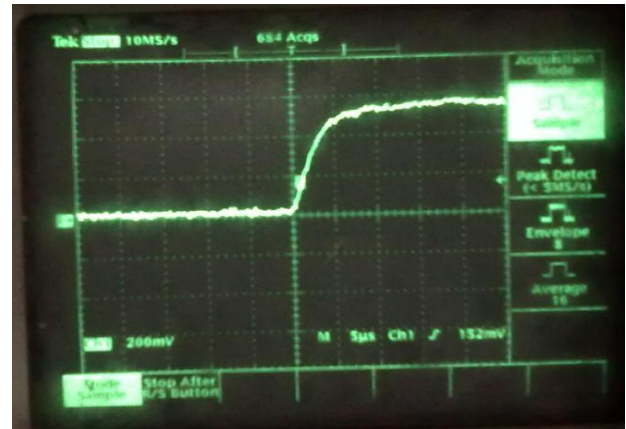
■ OSH9-GT measurement noise and offset voltage



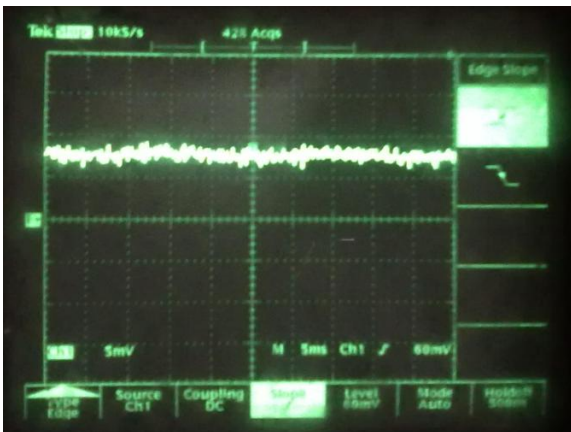
■ OSH9-GT measurement Tr (uS)



■ OSH4-HT measurement noise and offset voltage



■ OSH4-HT measurement Tr (uS)



■ OSH4-PT measurement noise and offset voltage



■ OSH4-PT measurement Tr (uS)

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