

UV Enhanced Hybrid Detector



Description

The OSH301M is an opto-electronic integrated circuit containing a photodiode and transimpedance amplifier on a single dielectrically isolated chip. The transimpedance amplifier of a precision FET-input op amp and an on-chip metal film resistor, The 2.97x2.97mm UV photodiode is operated at zero bias for excellent linearity and low dark current.

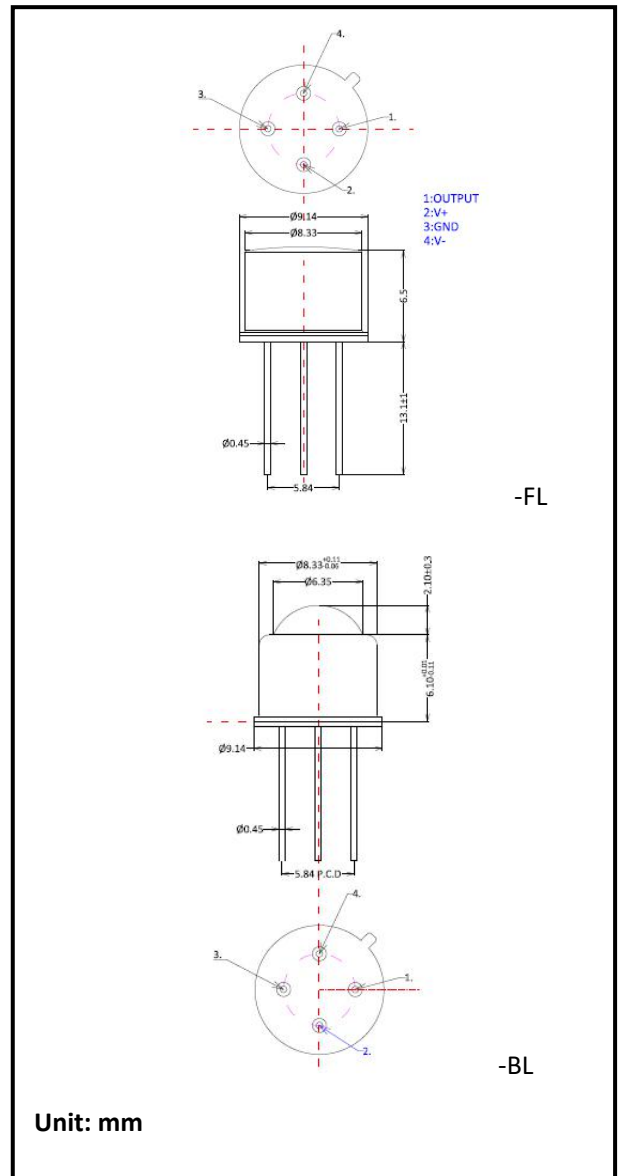
The integrated combination of photodiode and transimpedance amplifier on a single chip eliminates the problems commonly encountered in discrete designs such as leakage current errors, noise pick-up and gain peaking due to stray capacitance

Features

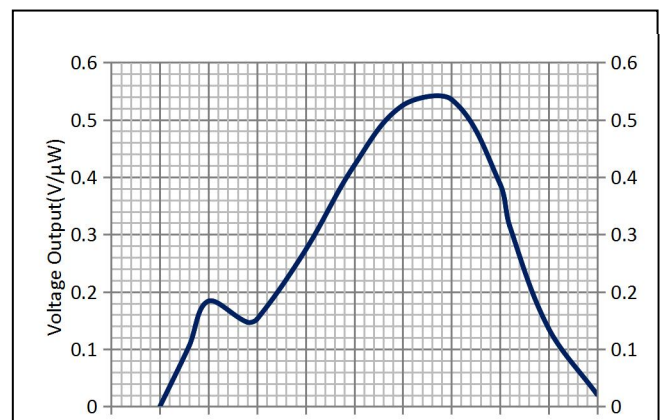
- * Photodiode active size: 2.47 × 2.47mm
- * 1MΩ feedback resistor
- * Low quiescent current: 400μA
- * High responsivity: 0.17A/W(340nm)
- * Wide supply range: ±3 to ±18V
- * Improved uv response
- * Bandwidth: 13kHz
- * Low dark errors: 3mV

Applications

- * Medical instrumentation



SPECTRAL RESPONSIVITY

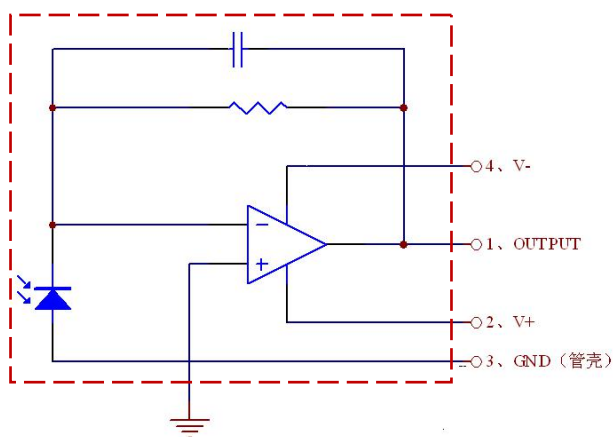


Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject change without notice

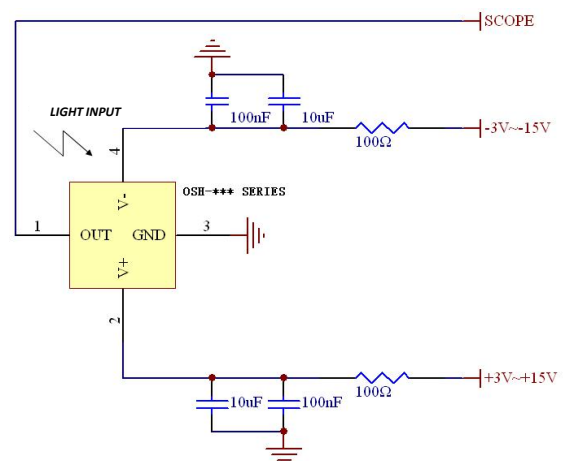
Typical Characteristics (measured at 25°C ambient)

Index	Units	OSH301M-FL		OSH301M-BL
		Min.	Typ.	Max.
DC supply voltage (Dual Rail)	V	±2.4	±12	±19
DC supply voltage (Singal Rail)	V	±4.75	±12	±38
Quiescent Current	µA	400		
Dark level noise (Vpp) (E=0Lx)	mV	3		
Output Offset	mV	10		
Frequency response (-3dB)	kHz	13		
Output loader RL	KΩ	10		
Transimpedance Gain	MΩ	1		
Photodiode active area	mm*mm	9		
Saturation Voltage (RL=10KΩ)	V	V-3V		
Spectrum Responsivity	V/µW(340nm)	0.17	0.19	
	V/µW(650nm)	0.48	0.52	
Input opening angle	Grad	±50		±20
Operating Temperature	°C	-20	+25	+80
Storage temperature	°C	-30	+25	+100

Internal Circuit Schematic



Typical Test Circuit



For Single rail operation pins 3 & 4 to be both connected to ground.

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