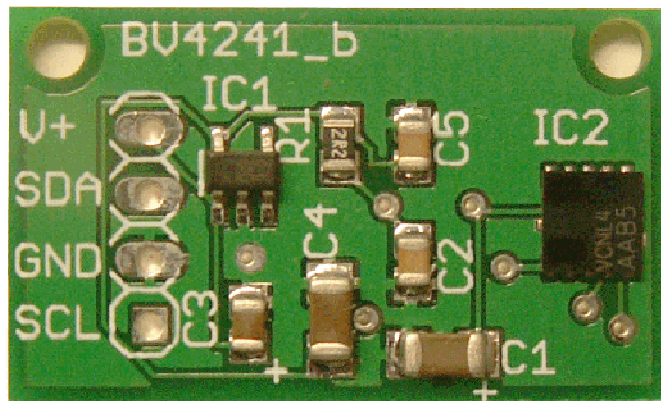

I2C-Proximity & Ambient Light

BV4241



BV4241

I2C Proximity & Ambient Light

Product specification

February 2012 V0.a

I2C-Proximity & Ambient Light

BV4241

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I2C-Proximity & Ambient Light

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Rev	Change
Feb. 2012	Preliminary

1. Introduction

The BV4241 is a small PCB that carries the Vishay VCNL4000 IC which has an I2C interface and so is easy to connect to.

The VCNL4000 has its own infra red source and can detect surfaces up to 200mm (8inches) away.

The VCNL4000 is a 3v3 device but the PCB carries a 3v3 regulator and so it can be used with 5V logic.

This data sheet refers only to the PCB carrying the VCNL4000 for information on the VCNL4000 see the Vishay data sheet. A copy can be found here:

www.doc.byvac.com Look in the products section for the BV4241

2. Features

- Supply voltage 5V
- I2C interface 1.7 to 5V
- Size 26 x 16 mm

2.1. Proximity Function

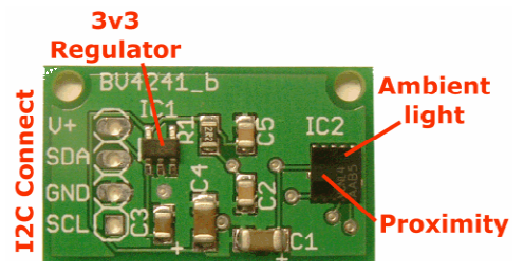
- Built in infra red LED
- 16 bit resolution

- Programmable drive currents from 10mA to 200mA
- Excellent ambient light suppression
- distance up to 200mm

2.2. Ambient Light Function

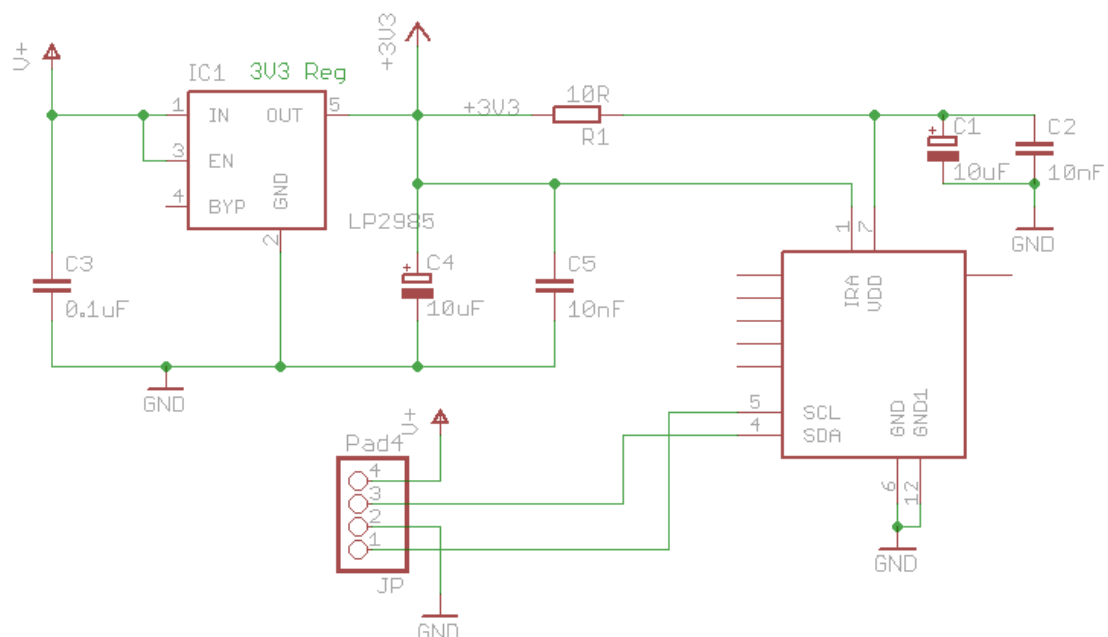
- Built in ambient light photo pin diode with close to human eye sensitivity
- 16 bit dynamic range from 0.28 lux to 16 klux
- 100 and 120Hz flicker noise rejection

3. Electrical Interface



Power is supplied to the device by the I2C interface.

The 3.3V regulator will accept up to 6V and should be supplied with at least 3.6V in order to supply the IC with 3.3V. However the IC will work down to 2.5V and so supplying with a 3,3V supply will be okay.



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To reduce noise as much as possible the supply after the regulator is filtered. There is also a filter on the supply to the IR diode.

NOTE:

The regulator is rated at 150mA but is capable of short bursts of 250mA and so it is recommended when using the maximum power output for the IR diode that this is only done when needed i.e just before reading. This is the normal mode of operation as it saves power.