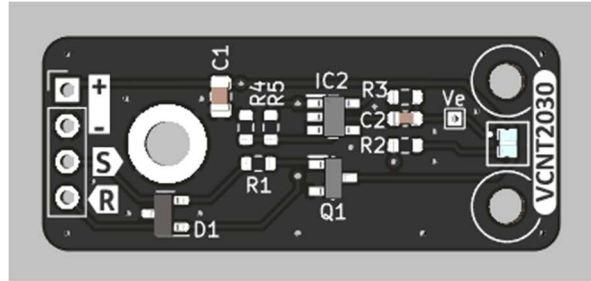


DR-8 VCSEL Sensor Operating Guide

DESIGN GOALS

This sensor board is designed around the Vishay VCNT2030, a new Vertical Cavity Surface Emitting Laser (VCSEL) short range reflective sensor.



DESIGN NOTES

Several features are included to make this sensor board a complete solution.

- ESD diodes on Send/Receive lines
- MOSFET buffers on input
 - Send is Active-High
- DC-coupled output for ambient light disturbance rejection
- Buffered Output
 - Op-amp follower for analog output on Receive line

The current-related resistors were chosen following the Vishay application note for a long distance / low reflectivity scenario. Thus, for optimal performance the board should be supplied at 5V, although the Send input is buffered by a small MOSFET with a V_{gs} of 1.8V.

HOOKUP

As noted on the terminal markings, there are four connections:

| | | |
|---|---------|--------------------------------|
| + | Supply | 3.3-5V |
| - | Ground | GND |
| S | Send | Modulated input to sensor |
| R | Receive | Demodulated output from sensor |

