BASIC CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

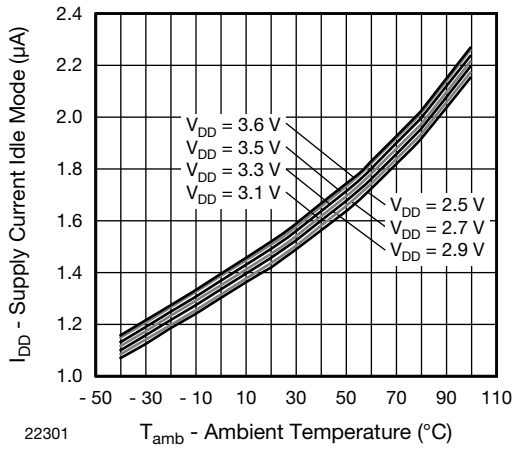

Fig. 1 - Idle Current vs. Ambient Temperature

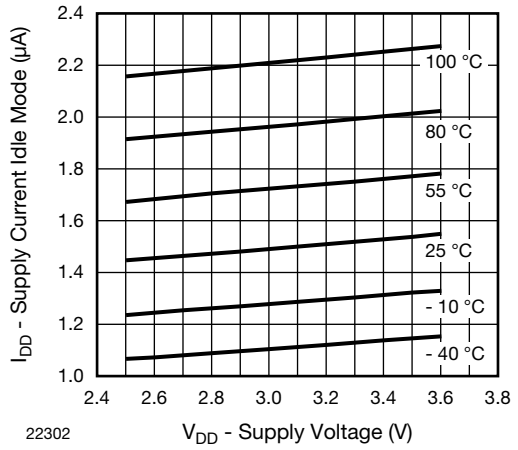

Fig. 2 - Idle Current vs. V_{DD}

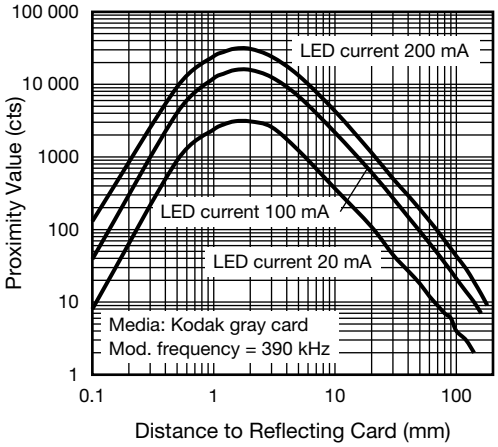

Fig. 3 - Proximity Value vs. Distance

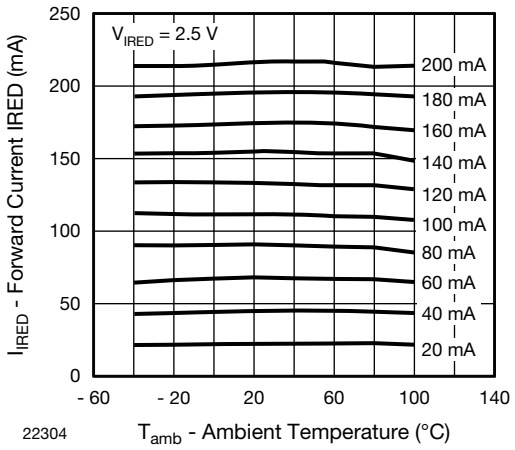

Fig. 4 - Forward Current vs. Temperature

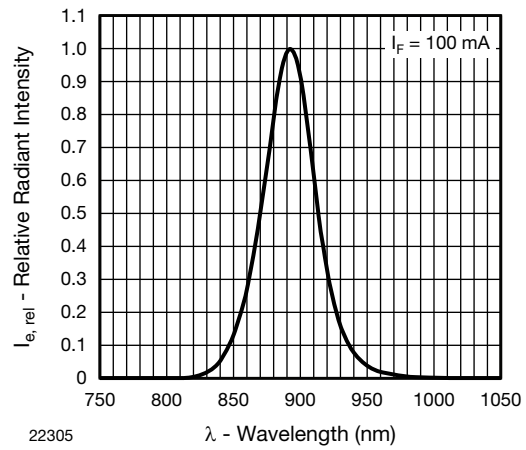

Fig. 5 - Relative Radiant Intensity vs. Wavelength

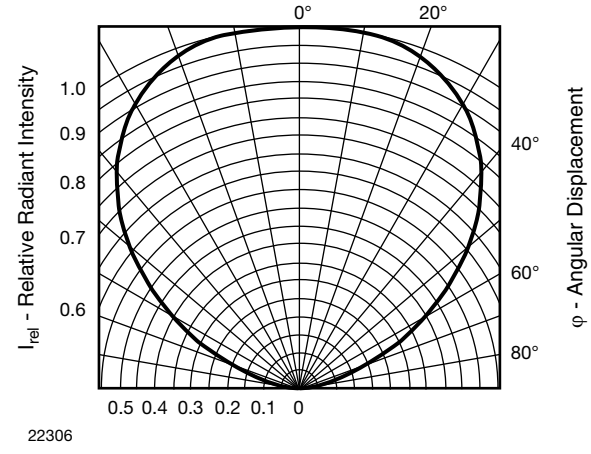

Fig. 6 - Relative Radiant Intensity vs. Angular Displacement

For technical questions, contact: sensorstechsupport@vishay.com
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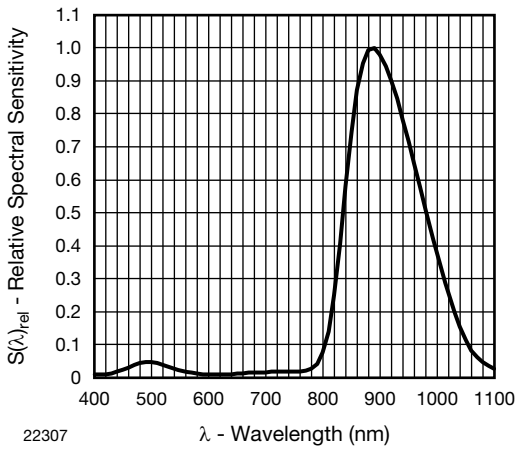

Fig. 7 - Relative Spectral Sensitivity vs. Wavelength (Proximity Sensor)

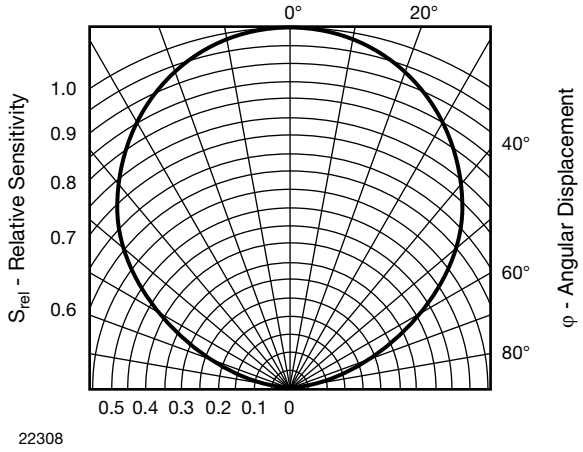

Fig. 8 - Relative Radiant Sensitivity vs. Angular Displacement (Proximity Sensor)

APPLICATION INFORMATION

VCNL3020 is a cost effective solution of proximity sensor with I²C bus interface. The standard serial digital interface is easy to access “Proximity Signal” without complex calculation and programming by external controller. Beside the digital output also a flexible programmable interrupt pin is available.

1. Application Circuit

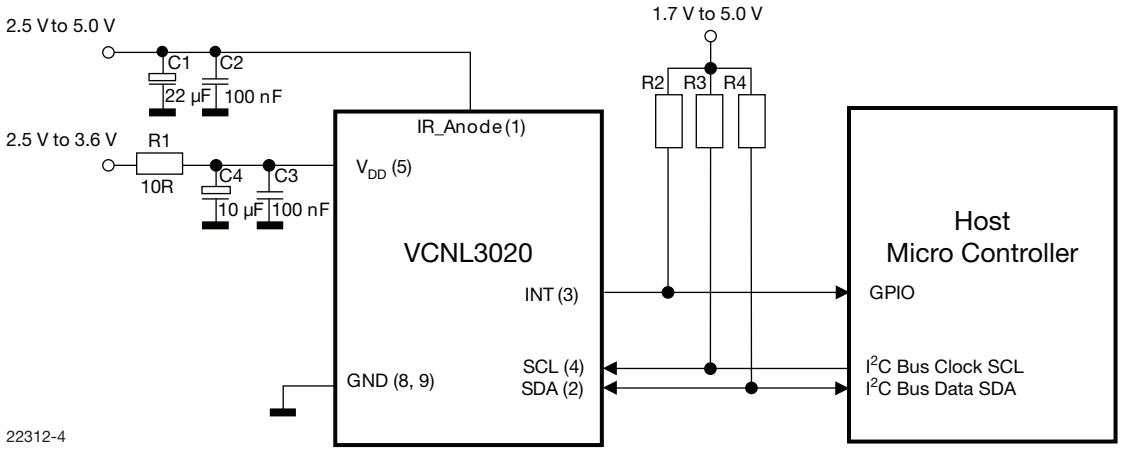

Fig. 9 - Application Circuit
(x) = Pin Number

Notes

- The interrupt pin is an open drain output. The needed pull-up resistor may be connected to the same supply voltage as the application controller and the pull-up resistors at SDA/SCL. Proposed value R2 should be >1 kΩ , e.g. 10 kΩ to 100 kΩ.
  Proposed value for R3 and R4, e.g. 2.2 kΩ to 4.7 kΩ, depend also on the I²C bus speed.
  For detailed description about set-up and use of the interrupt as well as more application related information see AN: “Designing VCNL3020 into an Application”.
- IR_Cathode needs no external connection. The needed connection to the driver is done internally.

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