

VL6180/VL6180X in an electrical overstress and/or electrostatic discharge environment

Introduction

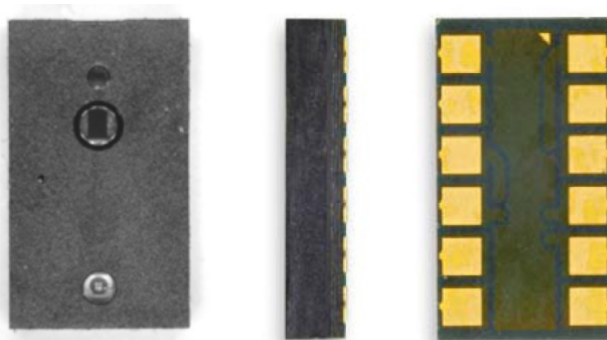
The VL6180 is a proximity sensor based on the ST's patented FlightSense technology. The VL6180X combines a proximity sensor and an ambient light sensor in one package. The VL6180 and VL6180X interface with your microcontroller via the industry standard I2C bus. The VL6180 and the VL6180X are pin-to-pin compatible.

This application note describes how to use the VL6180 or VL6180X under an electrical overstress (EOS) and/or electrostatic discharges (ESD) environment. This can be the case for vacuum cleaners, robots, etc.

Figure 1. VL6180 module



Figure 2. VL6180X module

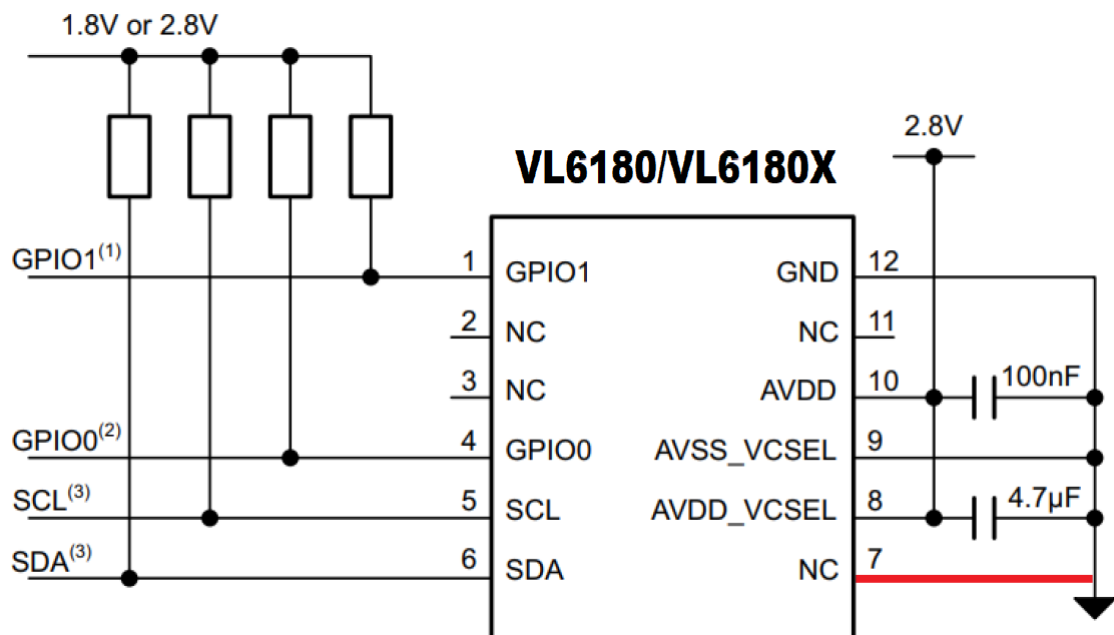


1 Recommendations

The VL6180 and VL6180X sensors have the capability to resist to electrical overstress (EOS) and electrostatic discharges (ESD), up to a limit stated in the datasheet. Using the sensor beyond the limit given may damage the chip.

If the working environment is affected by electrical or electrostatic discharges above the value given in the datasheet, ST recommends to update the typical application schematic given in the datasheet. The PIN7 needs to be connected to the ground, instead of leaving floating, as illustrated in the following schematic.

Figure 3. Schematic for using the sensor in an ESD/EOS environment



Revision history

Table 1. Document revision history

| Date | Version | Changes |
|-------------|---------|-----------------|
| 26-Mar-2021 | 1 | Initial release |

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