OP4250-1 - 32 Digital Inputs

The OP4250-1 features 32 optically isolated input channels. All are sampled simultaneously for additional simulation accuracy. It is perfectly suited to interface real-life environment signals to TTL or differential levels for RT-LAB simulator, providing perfect electrical isolation and discharge protection.

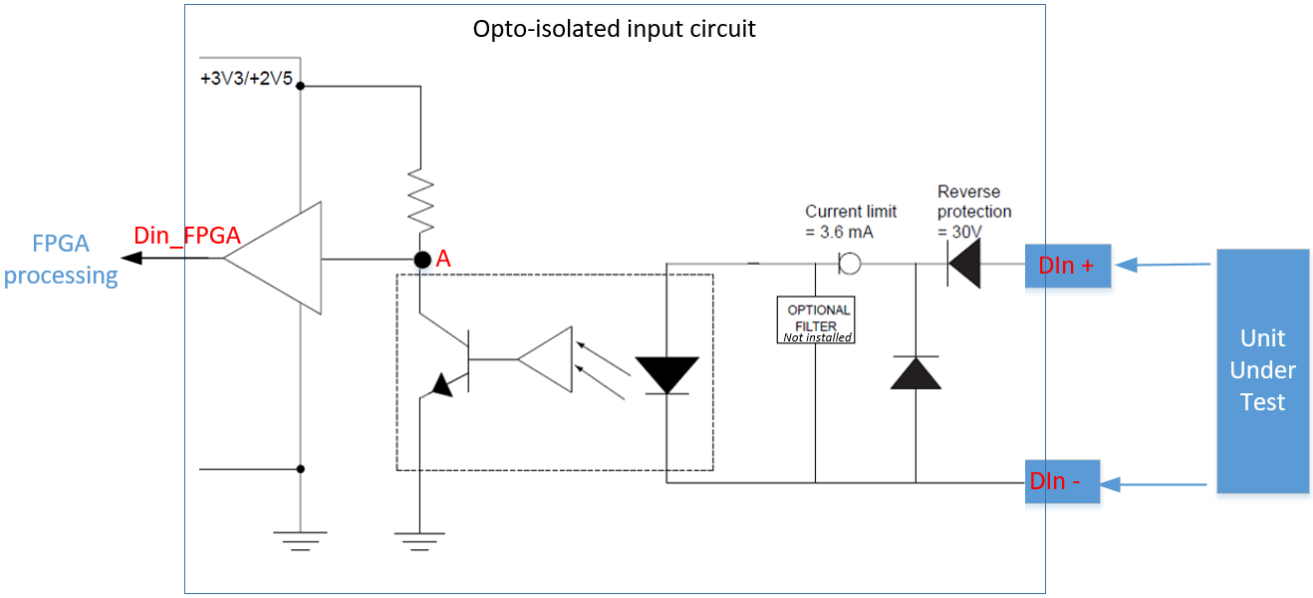
Features

- 32 optically isolated input
- All inputs are sampled simultaneously, at up to 1 Mb/s
- Inputs are read in parallel for any size bus
- Choice of sink or source inputs connection (anode and cathode side available).
- Minimum current input of 3.6 mA
- 5V to 30V input voltage
- 30V maximum reverse

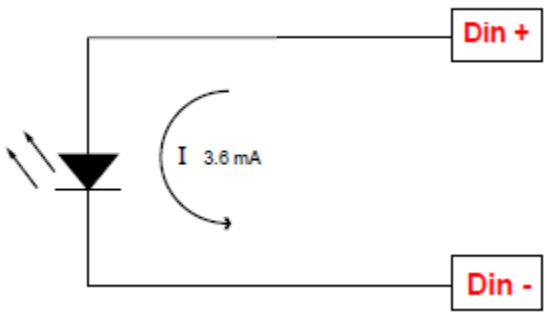
Channel Description

The optically isolated inputs accept a wide input voltage range, from 5 to 30 Volts. They have a low threshold current; typically 3.6 mA. Each input has reverse voltage protection of up to 30 Volts provided by a Schottky diode.

The schematic below represents the electrical circuit of one channel, from the **Din+/Din-** input signals coming for the unit under test (on the right) to the **Din_FPGA** signal going to the FPGA processor of the real-time simulator (on the left).



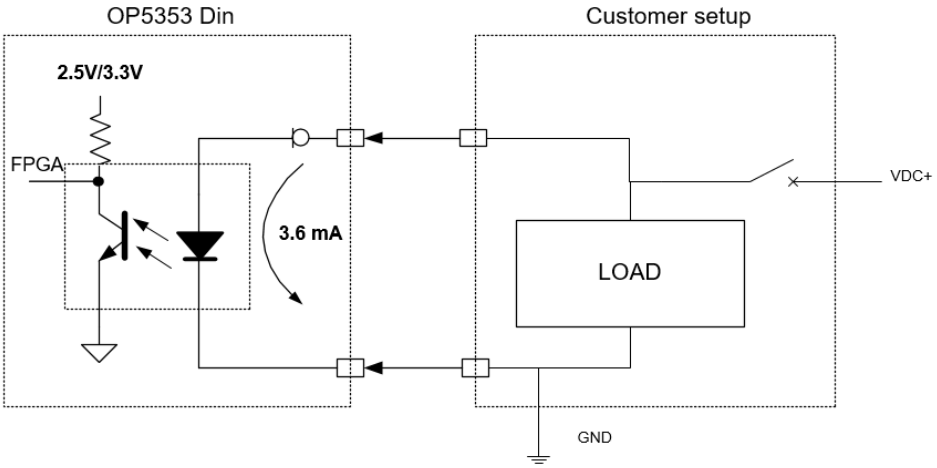
- When current flows from Din+ to Din-, the output of optocoupler (A) is low and the Din_FPGA signal is low.
- When no current flows, the optocoupler output (A) is high and the Din_FPGA signal is high.
- Both Din+ and Din- pins (anode and cathode sides) are routed to the DB37F connector of the simulator and made available to the user.
- The maximum current is 3.6mA



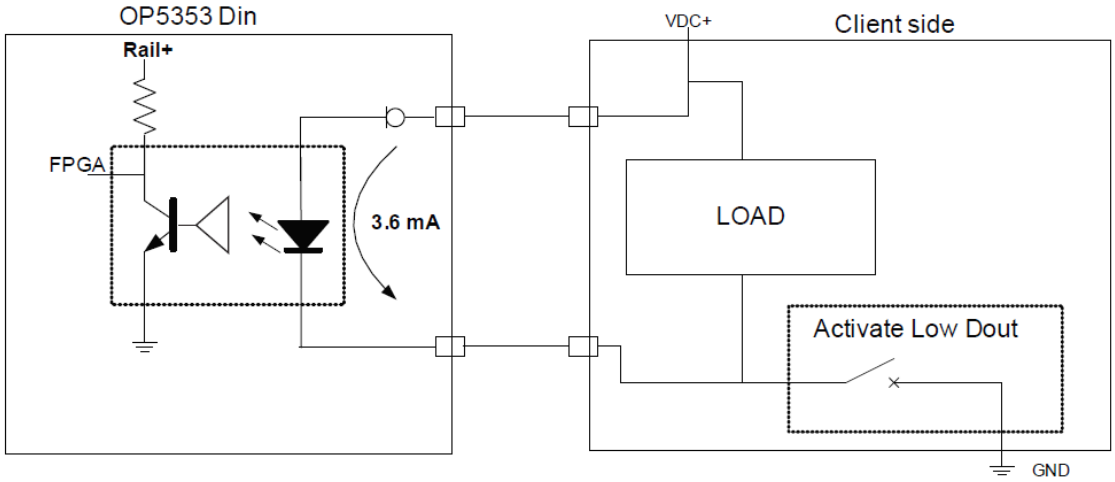
Typical Use Cases

The circuit makes it possible to use the module for activation or open-circuit detection, both in the high or low active state.

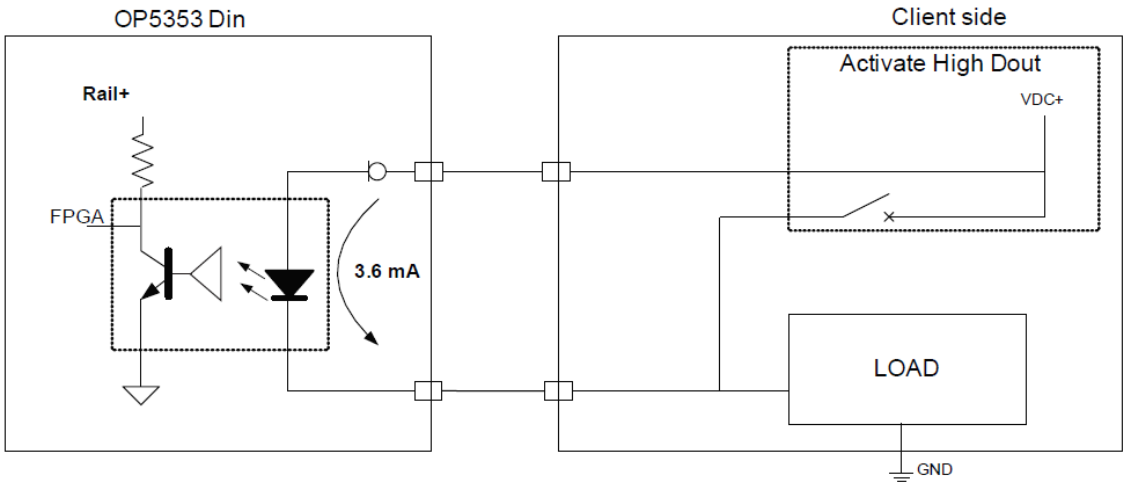
Typical high side activation (user high Dout)



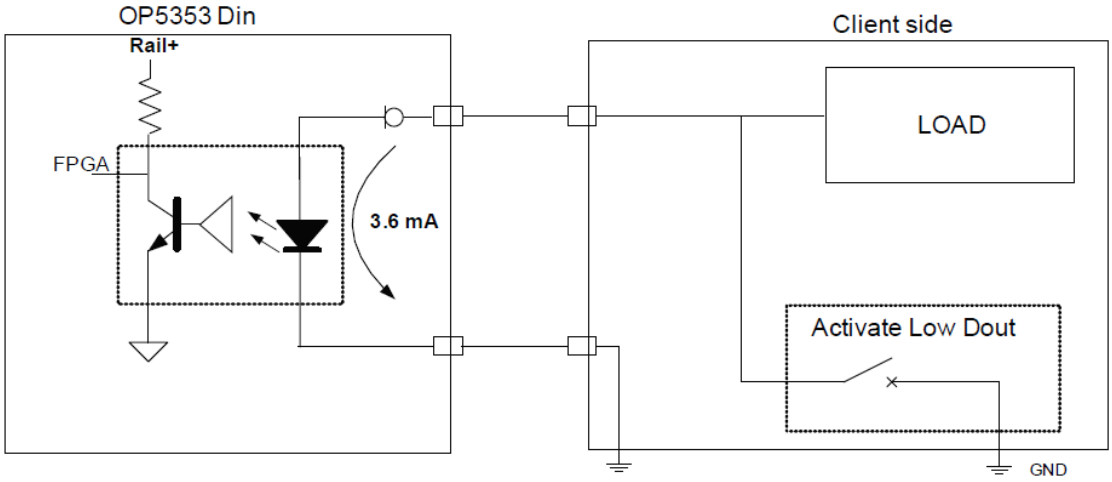
Typical low side activation (user low Dout)



Typical high side open circuit detection



Typical low side open circuit detection



The OP4250-1 cassette includes the OP5353-1 mezzanine card.