

FPC402 Support for OSFP

September 2026

OSFP Low Speed Pins

- OSFP is unique from QSFP in that several of the low speed pins are bidirectional.

Table 15-1: OSFP module signal pin descriptions

Name	Direction	Description
TX[8:1]p	input	Transmit differential pairs from host to module.
TX[8:1]n	input	
RX[8:1]p	output	Receive differential pairs from module to host.
RX[8:1]n	output	
SCL	bidir	2-wire serial clock signal. Requires pull-up resistor to 3.3V on host.
SDA	bidir	2-wire serial data signal. Requires pull-up resistor to 3.3V on host.
LPWn/PRSn	bidir	Multi-level signal for low power control from host to module and module presence indication from module to host. This signal requires the circuit as described in section 15.5.3
INT/RSTn	bidir	Multi-level signal for interrupt request from module to host and reset control from host to module. This signal requires the circuit as described in section 15.5.2
VCC	power	3.3V power for module.
GND	ground	Module Ground. Logic and power return path.

INT/RSTn

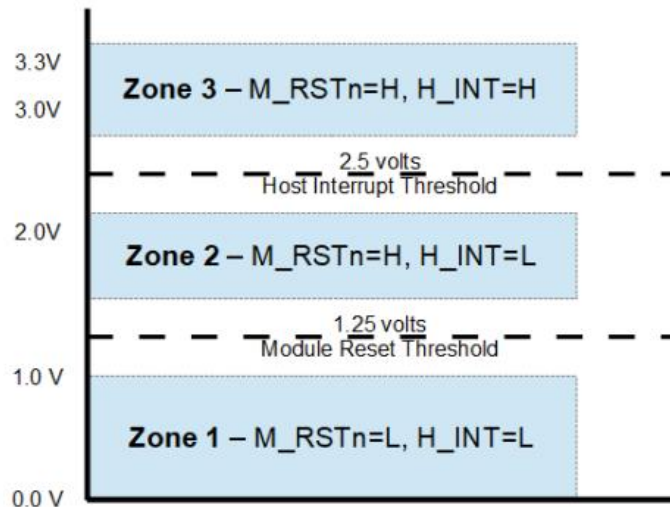


Figure 15-2: INT/RSTn voltage zones

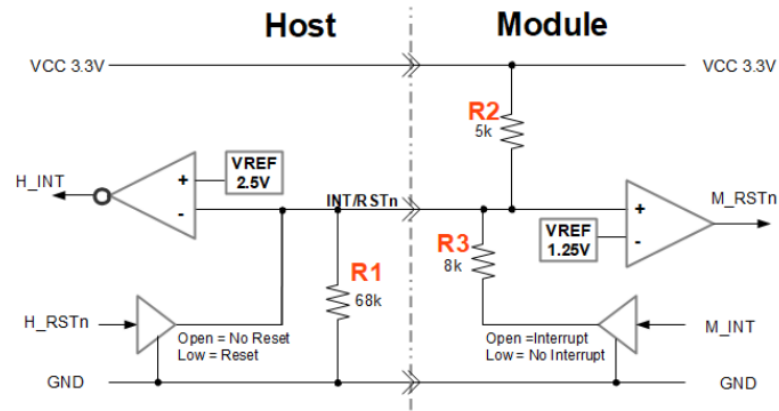


Figure 15-3: INT/RSTn circuit

LPWn/PRSn

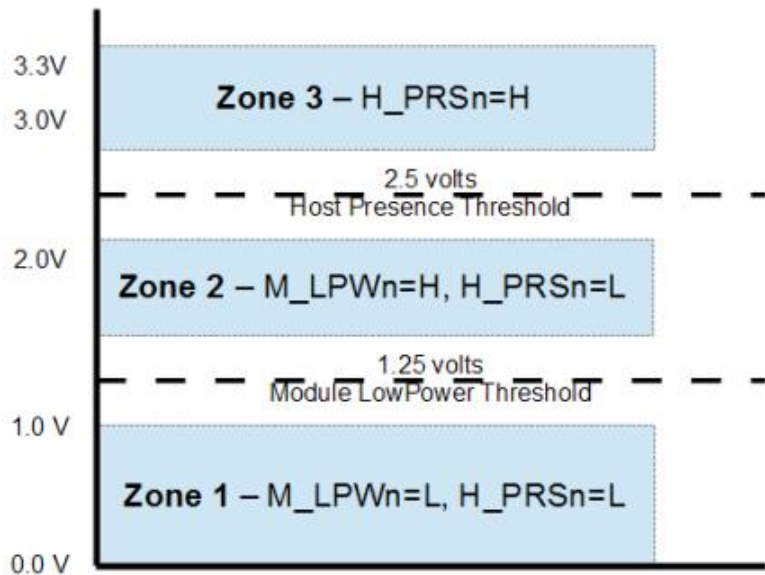


Figure 15-4: LPWn/PRSn voltage zones

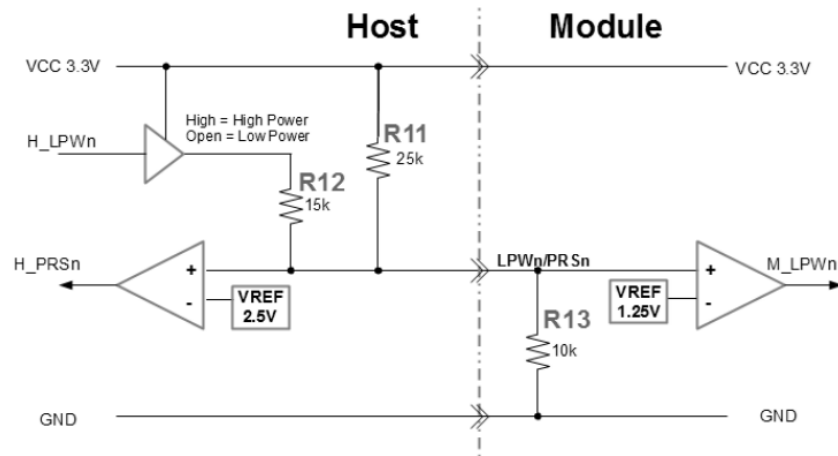
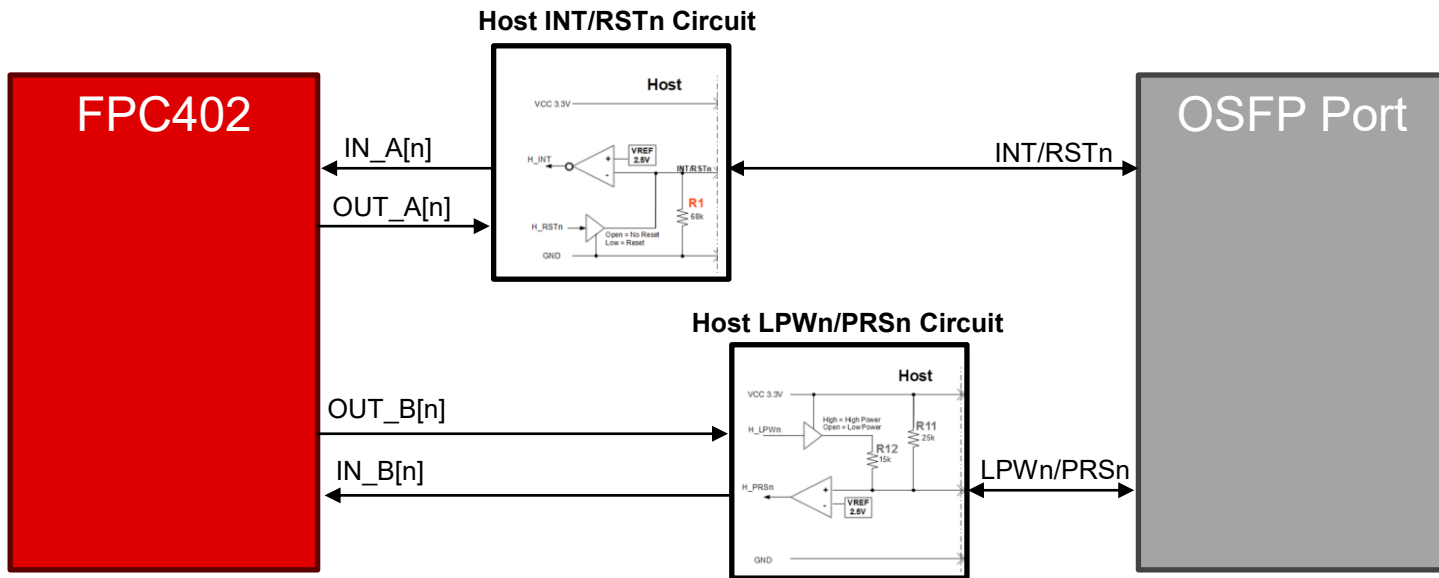


Figure 15-5: LPWn/PRSn circuit

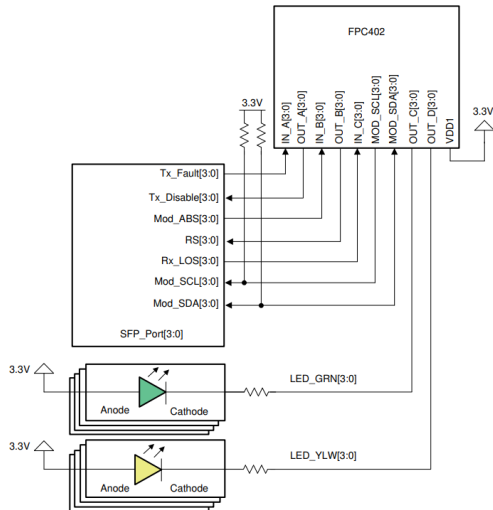
FPC402 Example Solution

- FPC402 does not provide open-drain GPIO.
- External OD drivers and comparators are required to enable INT/RSTn and LPWn/PRSn support using FPC402.



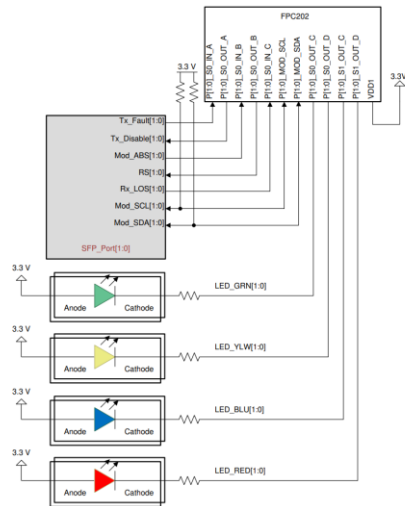
FPC402 LED Support

- FPC402 can support 2 LEDs per port, driven by active LOW on OUT_C / OUT_D pins.
 - If additional LEDs are required, FPC202 can be used to support 4 LEDs per port
- OUT_C and OUT_D support dimming LEDs through PWM, or blinking LEDs, through on-chip PWM and blink circuits. See Programmer's Guide for additional details.



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Figure 8-1. Example Connection Between OUT_C/OUT_D and Active-Low LEDs



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Figure 7-1. Example Connection Between S0_OUT_C, S0_OUT_D, S1_OUT_C, and S1_OUT_D and Active-Low LEDs

Host Comparator Resources

- TLV1922
- Check with comparator group for additional details and solutions
 - <https://e2e.ti.com/support/amplifiers-group/amplifiers/f/amplifiers-forum/1650902/tlv1922-osfp-host-int-rstn-and-lpwn-prsn-solution/6365957?tisearch=e2e-sitesearch&keymatch=TLV6722%252520host#>