

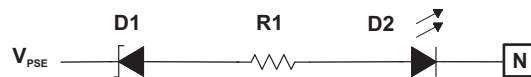
Implementation of a Port ON LED in PSE Systems

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PMP Systems Power

The TPS2384 quad integrated power sourcing equipment (PSE) power manager controls four ports in a Power over Ethernet (PoE) system. Unlike the TPS2383 octal PSE power manager with its integral LED drive port, the TPS2384 has no provisions for driving LEDs directly. In TPS2384 systems, the circuit in [Figure 1](#) can be used when a light-emitting diode (LED) indication is required showing that a port is *ON* (i.e., powered).

Note: Zener diode D1 is selected so that its reverse breakdown voltage is greater than the classification probe voltage (typically 17.5 V). This requirement ensures that the circuit does not affect the discovery (typically 4.4 V and 8.8 V) and classification operations, and that the LED illuminates only when the port is powered (at 44 V to 57 V). Resistor R1 is chosen to limit the current through LED D2. The power dissipation capabilities of D1 and R1 must also be considered.



V_{PSE} , PSE System Voltage, Typically 48 V

D1, 1SMB5932BT3, Zener Diode, 20 V, 3 W, SMB, On Semiconductor

R1, 10 k Ω , 1/4 W, 5%

D2, LN1371G, Green LED, 20 mA, 0.9 mcd, Panasonic

N, Port Negative, V_{PSE} Load Return Pin

Figure 1. Schematic

Reference: TPS2384 Quad Integrated Power Sourcing Equipment Power Manager data sheet ([SLUS634](#))

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