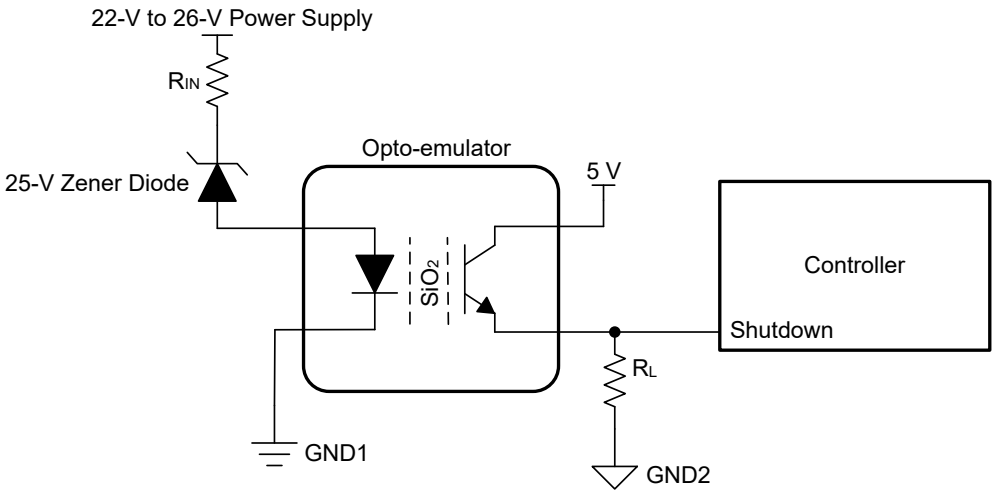
*Product Overview*

# *Isolated Secondary-Side Overvoltage Protection Using Opto-emulators*




**Example Isolated Secondary-Side Overvoltage Protection Circuit**

- Opto-emulators are pin-to-pin drop-in replacements for traditional optocoupler solutions
- Analog transistor output opto-emulators can be used to help monitor power supplies for overvoltage events
- In this circuit, the opto-emulator protects the controller from harmful high-voltage transients
  - This allows the controller to safely monitor the power supply for overvoltage events
  - The breakdown voltage of the Zener diode is used to set the voltage threshold at which the controller can detect an overvoltage event
- [FAQ] What are the benefits of Opto-emulators vs. Optocouplers? TI E2E support forums
- [FAQ] Opto-emulators - Top Questions, Answered TI E2E support forums
- Opto-emulators explained: Why you should upgrade your optocoupler technology
- Opto-emulators | TI.com

Need additional assistance? Ask our engineers a question on the *TI E2E™ Isolation Support Forum*.

**Analog Output Opto-emulators**

| Part Number | Input Type | Output Type | $V_F$ (MAX) | CTR | Pin-to-Pin Optocouplers |
|---|---|---|---|---|---|
| ISOM8110 | DC Input | Open Collector | 1.4 V | 100% to 155% | HCPL-181<br>ACPL-217<br>LTV356T<br>LTV357T<br>TLP185<br>TLP181<br>PS2701A<br>PS2811-1<br>EL816<br>EL3H7<br>and more |
| ISOM8111 | | | 1.4 V | 150% to 230% | |
| ISOM8112 | | | 1.4 V | 255% to 380% | |
| ISOM8113 | | | 1.4 V | 375% to 560% | |
| ISOM8115 | Bidirectional DC Input | | 1.5 V | 100% to 155% | |
| ISOM8116 | | | 1.5 V | 150% to 230% | |
| ISOM8117 | | | 1.5 V | 255% to 380% | |
| ISOM8118 | | | 1.5 V | 375% to 560% | |

To find a pin-to-pin alternative to the optocouplers in your design, search TI's *cross reference tool*.
For more opto-emulators, browse through the *online parametric tool*.

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