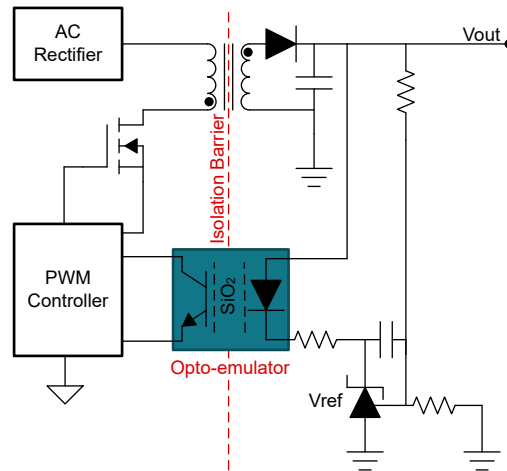


Isolating Feedback Signals in Power Supplies



Example Isolated Flyback Block Diagram Using an Opto-emulator

Design Considerations

- [\[FAQ\] What is an Opto-emulator?](#)
- [\[FAQ\] Opto-Emulator FAQ's](#)
- [\[FAQ\] What are the benefits of Opto-emulators vs. Optocouplers?](#)
- Allows isolated feedback for power-supply regulation
- Performance upgrade from traditional optocouplers
- Allows tight current transfer ratio (CTR) performance and no light-emitting diode (LED) aging. Uses TI's Silicon Dioxide isolation technology.
- Protects low-voltage parts in a system from high-voltage circuits
- [Introduction to Opto-Emulators](#)
- [Opto-emulators explained: Why you should upgrade your optocoupler technology](#)

Need additional assistance? Ask our engineers a question on the [TI E2E™ Isolation Support Forum](#).

Recommended Parts

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
ISOM8111			1.4 V	150% to 230%	ACPL-217
ISOM8112			1.4 V	255% to 380%	LTV356T
ISOM8113			1.4 V	375% to 560%	LTV357T
ISOM8115	Bidirectional DC Input		1.5 V	100% to 155%	TLP185
ISOM8116			1.5 V	150% to 230%	TLP181
ISOM8117			1.5 V	255% to 380%	PS2701A
ISOM8118			1.5 V	375% to 560%	PS2811-1
					EL816
					EL3H7
					and more

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](#).

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATA SHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, regulatory or other requirements.

These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI's products are provided subject to [TI's Terms of Sale](#) or other applicable terms available either on [ti.com](https://www.ti.com) or provided in conjunction with such TI products. TI's provision of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.

TI objects to and rejects any additional or different terms you may have proposed.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2023, Texas Instruments Incorporated