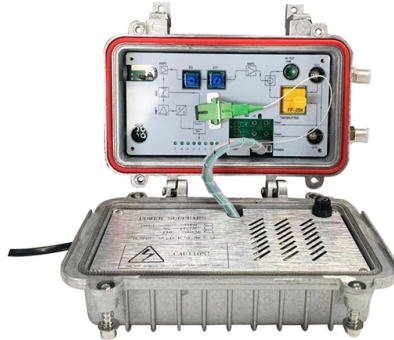


Can an optocoupler be short-circuited



Overview

The output of the opto-coupler is NOT short-circuit proof, in that if the relay coil is shorted or draws too much current the opto transistor will blow. The series resistor determines the LED current. I want to use an NPN optocoupler (ACPL-214) to drive an offboard relay. This will cause the output current to be in a certain range (depending on CTR and other factors). The most. Optocouplers, sometimes referred to as opto-isolators or photocouplers, is an electrical component that mainly consists of two internal compartments; one section is an LED that emits light, and the other section is a phototransistor that turns on when the LED is on. The current transfer ratio. That's why some SMPSU controller ICs can detect a failed opto. Transferring signals over a light.



Article Content

Oct 13, 2025

transistors

The output of the opto-coupler is NOT short-circuit proof, in that if

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Activity: Optocouplers. [Analog Devices Wiki]

In this activity you will construct an optocoupler from an infra-red LED and an NPN photo transistor. You will investigate the operation of an optocoupler based

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A Short De-mystification of Optocouplers

An optocoupler can make sure to galvanically isolate the lines so that magnetic waves induced by such currents do not impact any other wires running

Apr 13, 2026

Transistor Output Optocouplers Frequently Asked Questions (FAQs)

A: Optocouplers are commonly used if two separate circuits need to be isolated from each other for safety or regularity reasons and need to have an interaction in between. Additionally they can be

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Understanding Optocouplers: Principles, Types and

In a simple isolating optocoupler, a single phototransistor is used at the output stage to detect the light emitted by the LED and convert it back into an

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Optocouplers Selection Guide: Types, Features,

Video credit: myvideoisonutube / CC BY-SA 4.0 Types Optocoupler types are determined by the type of detector used, as described below. Certain types have

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ANO007 | Understanding Phototransistor Optocouplers

Unlike transformers or capacitors, which can only transfer AC signals across the isolation barrier, optocouplers can transfer both DC and AC signals alike. This makes them very popular in

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Make sure your optocoupler is properly biased

If the optocoupler is current-starved, the output voltage will keep rising until the proper amount of LED current conducts through the optocoupler. This results in overvoltage conditions on the output, and is

Aug 04, 2025

What are Optocouplers? Definition, construction and

Definition: An optocoupler or optoelectronic coupler is an electronic component that basically acts as an interface between the two separate circuits with different

Jan 03, 2026

Safety Considerations When Using Optocouplers and ...

Introduction Optocouplers and alternative isolation technologies find widespread use in a variety of products for signal isolation and high voltage level shifting. These devices can also be used to

Nov 16, 2025

Guidelines for reading an optocoupler datasheet

Optocouplers, also known as opto-isolators, are components that transfer electrical signals between two isolated circuits by using infrared light. As an isolator, an optocoupler can prevent high voltages from

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What Is Optocoupler | Opto-coupler Working And

what is opto coupler Opto-coupler is an electronic component that is used to conduct the electrical signals from one circuit to another circuit without directly being

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Optocoupler

That's why some SMPSU controller ICs can detect a failed opto. If the transistor fails, it will generally fail short, and the output will be shorted to V-, which would disable the SMPSU

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Understanding and Resolving HCPL-063L-500E Optocoupler

Overcurrent Conditions Another critical factor in optocoupler failure is overcurrent conditions. The LED in the HCPL-063L-500E is highly sensitive to excessive current, which can

Feb 15, 2026

What is Optocoupler and How it works?

While a transformer can power isolated circuitry, with current technology we cannot efficiently transfer power through light. But optos do

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Optoisolators: What They Are and How They Work

An optoisolator is an electronic component that transfers electrical signals between two isolated circuits by using light. Optoisolators prevent high

Jan 05, 2026

Optocouplers Guide: Understanding Types,

By understanding these benefits, you can see why optocouplers are a vital part of any optocoupler design guide. They not only enhance safety but also

Jul 13, 2025

Opto-isolator

Schematic diagram of an opto-isolator showing source of light (LED) on the left, dielectric barrier in the center, and sensor (phototransistor) on the right [note 1]

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Optocoupler Tutorial for Beginners

An optocoupler uses light to transfer signals from one circuit over to another. This guide shows you how they work and how to use them.

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Optocouplers, Part 1: Principles and usefulness FAQ

Q: Is that all? A: No, there's more, especially as an SSR replacing the electromechanical relay. An optocoupler must have current flow in its output, and

Jan 19, 2026

ANO007 | Understanding Phototransistor Optocouplers

Application Note Understanding Phototransistor Optocouplers ANO007 by Eleazar Falco 01. INTRODUCTION An optocoupler, also known as

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interface chip-How to Diagnose and Repair 6N137SDM

Conclusion Diagnosing and repairing a 6N137SDM optocoupler requires a combination of skills, tools, and knowledge. By following the step-by-step guide outlined above, electronics

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Optocoupler | Explore Our Workshop | Jameco Electronics

Understand what an optocoupler is and how it works at our electronics workshop at Jameco Electronics. Explore tutorials on how electronic components work today.

Jun 02, 2026

What is Optocoupler and How it works?

What is Optocoupler and How It Works As we have already learnt about transistors, an ideal transistor will not allow any current to pass through it if

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What Is Optocoupler and Its Application with Examples

They contain an optocoupler plus the high-power switching components and protection circuitry inside a single, larger block. They can switch

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.regen-power.co.za>

Email: info@regen-power.co.za

Phone: +49 176 845 2036

Address: Taunusanlage 15, 60325 Frankfurt am Main, Germany

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