

Function of the 6 pins of the optocoupler



Article Overview

A 6-pin optocoupler typically has two pins for the input LED, two pins for the phototransistor output, and two additional pins for the phototransistor base or a second channel, depending on the configuration.

Pin Functions

- Anode of LED (Input +): This pin receives the positive voltage to forward-bias the internal infrared LED. When current flows through this pin, the LED emits infrared light .
- Cathode of LED (Input -): This pin completes the LED circuit by connecting to ground or negative voltage. The LED only emits light when current flows from anode to cathode .
- Collector of Phototransistor (Output +): This pin is the collector terminal of the phototransistor. When the LED emits light, the phototransistor conducts, allowing current to flow from collector to emitter .
- Emitter of Phototransistor (Output -): This pin is the emitter terminal of the phototransistor. It is typically connected to ground or the negative side of the output circuit .
- Base of Phototransistor (Optional Control): Some 6-pin optocouplers provide an external base pin for the phototransistor. This allows the user to adjust the transistor's gain or switch it externally, providing more control over the output current .

Article Content

Guidelines for reading an optocoupler datasheet

As an isolator, an optocoupler can prevent high voltages from affecting the side of the circuit receiving the signal. Transferring signals

ANO007 | Understanding Phototransistor Optocouplers

In order to design a functionally robust and reliable application with optocouplers, it is essential to understand not only the device's

Optocouplers in Electrical Isolation and Signal Transmission

Overview: This article explores optocouplers, which are important for electrically isolating circuits and enabling signal

Optocoupler Circuits | Nuts & Volts Magazine

The Darlington optocoupler (Figure 6 (b)) is also housed in a six-pin package and has its phototransistor base externally available.

What is Optocoupler and How it works?

These components are called optocouplers or optoisolators or simply optos, and they perform the crucial function of

Opto-isolator

Schematic diagram of an opto-isolator showing source of light (LED) on the left, dielectric barrier in the center, and sensor

A Short De-mystification of Optocouplers

Here is a simple diagram of an optocoupler on the KiCad software which demonstrates the

Optocoupler Tutorial and Optocoupler Application

This type of optocoupler configuration forms the basis of a very simple Solid State Relay application. It can be used to

What is Optocoupler, Working, Types & Applications

The optocoupler is a semiconductor device that converts an electrical signal into two isolated

How to Use optocoupler: Examples, Pinouts, and Specs

Learn how to use the optocoupler with detailed documentation, including pinouts, usage guides, and example projects. Perfect for

What Is Optocoupler | Opto-coupler Working And Application

what is opto coupler Opto-coupler is an electronic component that is used to conduct the electrical signals from one circuit to another

6N137 High Speed Optocoupler pinout and Examples

So, in those cases where high-speed optocoupler is needed the IC will be a perfect device to remove the noise and

Everything You Need to Know About Optocouplers in

The transistor output optocoupler is used to detect the zero crossing of the AC signal, while

What are Optocouplers? Definition, construction and

Optocouplers are common component by which electrical isolation can be supplied between the input and

What is Photocoupler | Optocoupler | Optoisolator

What is an Optocoupler (Optoisolator / Photocoupler)? An Optocoupler (Optoisolator / Photocoupler) is an electronic

How Optocouplers Work

FREE COURSE!! Learn about optocouplers. We'll look at how they are used to control circuits, how they work and

What is an Optocoupler A.K.A Opto-isolator or Photocoupler?

What is Optocoupler? An Optocoupler or an Opto-isolator (also known as photocoupler and optical isolator) is an electronic

The Ultimate Optocouplers Guide: Isolation, Types, and Applications

Our complete optocouplers guide covers what they are, how they work, the different types, and key applications.

Application Examples

OPTOCOUPERS IN IC LOGIC DESIGN To interface with TTL logic circuits, Vishay offers a wide range of 4 pin and 6 pin

Transistor Output Optocouplers Frequently Asked Questions (FAQs)

It is a sensitive pin of the transistor which affects the CTR as well as the timing behavior of the optocoupler. The advantage of

Optocouplers, Part 1: Principles and usefulness FAQ

The optocoupler — also called an optoisolator — is among the most useful, versatile, problem-solving components

4N35: Optocoupler (Opto-Isolator) Explained – Tricky

The 4N35 is an optocoupler with an infrared LED and a phototransistor inside a single 6-pin

Optocoupler: Its Types and Various Application in

Applications of Optocoupler As discussed before few Optocoupler used in DC circuit and

Guidelines for reading an optocoupler datasheet

Transferring signals over a light barrier by using an infrared light-emitting diode and a light-sensitive product, such as a

Opto Coupled Devices

The main function of an optocoupler, whatever type of signal is used, is to provide complete electrical isolation between the input and

Optocouplers 101: A Comprehensive Guide for PCB

Adding a simple phototransistor optocoupler between the sensor and MCU eliminated the

Understanding Optocouplers: The Key to Safe and Efficient Signal ...

The primary function of an optocoupler is electrical isolation. By isolating the input and output circuits, they prevent

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