

Optocoupler static resistance



Overview

Subtract the led voltage from the supply voltage, this gives the Voltage across the resistor, and divide it by the led current, that will give you the resistance to use. 8V drop and needs 20mA,, then on a 5V supply// 5-2. An optocoupler, also known as photocoupler or opto-isolator, is a device which can transfer an electrical signal across two galvanically-isolated circuits by way of optical coupling. Transferring signals over a light. Optocoupler: FAIRCHILD MOCD207M According to the data sheet with $I_f=1\text{mA}$ minimum CTR is 34%. The collector is connected to a 30k pull up resistor. Is the value of the pull up. The allowable maximum alternating current voltage that can be applied between the input pins and output pins is expressed as a root mean square (rms) value.

Normally, this value is guaranteed not for an unlimited period, but for a limited test. Understanding Failure Modes in TLP250 (F) Optocouplers Due to Static Discharge The TLP250 (F) is a type of optocoupler commonly used in industrial and automotive applications to isolate and protect sensitive circuits from high-voltage spikes and surges. Basic Characteristics and Application Circuit Design of Transistor Couplers Photocoupler Application Note 2 2025-07-10 Rev. 0 © 2017 - 2025 Toshiba.

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Optocoupler devices are renowned for their high reliability in the areas of isolation and safety. The safety and insulation ratings table serves as a quick reference for all key parameters the device is qualified for.



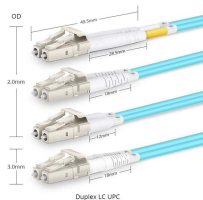
According to the data sheet with $I_f=1\text{mA}$ minimum CTR is 34%. Using series resistor of 1.5k at 3.3V gives $I_f= (3.3-1.2) / 1.5\text{k} = 1.4\text{mA}$. The collector is connected to a 30k pull up resistor. It ...



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In attempting to answer these questions, a series of operating life tests were conducted on Agilent Technologies optocouplers. Several optocoupler lots were subjected to different input-output high ...



In order to design a functionally robust and reliable application with optocouplers, it is essential to understand not only the device's main parameters and parasitic elements, but also their tolerances ...



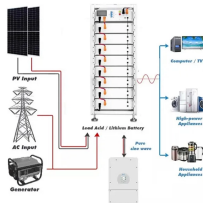
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To differentiate between isolation performance in oil vs in air, IEC 60747-17 specifies that the isolation performance of a digital isolator is tested in both oil (VIOSM) and in air (VIMP). Whereas the ...



Used as an interface between circuits with different ground potentials, photocouplers replace isolation transformers and electromagnetic relays.



Improper Handling: Optocouplers are sensitive to static charges, especially during manufacturing or assembly. If not hand LED properly, ESD can build up and discharge into the ...



As was said, make sure you always have enough current to meet the minimum given the CTR at all operating voltages. Pick a resistance value based on that. Then size the resistor package ...



Since the isolation resistance may decline depending on the usage environment, such as for humidity, or the application time of the voltage, take actual usage conditions into consideration when designing ...

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