

Darlington Relay Protection

Overview

For larger relays, a Darlington transistor pair or MOSFET is recommended. Monolithic wideband amplifiers are widely used in the RF and microwave systems. The frequency range of the Darlington amplifiers is. Best suited for relay driving, solenoid driving, and linear regulator applications, our portfolio of Darlington transistors use high-pulse currents in small packages to maximize power efficiency. The ULN2003A is a high-voltage, high-current Darlington transistor array consisting of seven NPN Darlington pairs that feature high-voltage outputs with common-cathode. Relay coils look simple, yet they can be the noisiest part of a control board. A microcontroller pin can toggle logic all day, but it was never meant to energize an inductive coil directly or absorb the switch-off spike. ULN2003A solves that gap in a tidy package.



Article Content

Aug 22, 2025

SEL-751 Feeder Protection Relay | Schweitzer Engineering Laboratories

The SEL-751 Feeder Protection Relay is ideal for directional overcurrent, fault location, arc-flash detection, and high-impedance fault

Feb 07, 2026

Transient Protection of Darlington gain block amplifiers

Most effective protection is provided by the newly developed monolithic amplifiers (patent pending) which can withstand much higher

Mar 07, 2026

Designing a High-Current Motor Driver Using Darlington Pair

Implementing these additional protections, feedback paths, and drive options turns the basic Darlington pair motor driver into a much

Sep 13, 2025

Protective Relays

Protect critical components in your power system with a wide range of SEL protective relays covering applications and use cases

Jul 04, 2026

Relay Interfacing with Arduino, ULN, and Diode Protection

Multiple Relays: You can control multiple relays using a single ULN2003 by connecting each relay's coil to a different output pin on

Oct 26, 2025

Relay Driver Circuits Based on ULN2003 IC and Its Applications

It's a 7-channel darlington transistor array with open-collector outputs and built-in clamp diodes, so a low-voltage

Nov 09, 2025

Protective relays and predictive devices | Eaton

Eaton's protective relays provide you with unique microprocessor-based devices that eliminate

Jan 13, 2026

ULN2003 Pinout, Examples, Applications, Datasheet and features

ULN2003 darlington pair relay driver ic tutorial, introduction, pinout diagram, pin configuration details, proteus simulation examples

Sep 24, 2025

Driving a Large Relay From a 3.3 VDC Microcontroller

The engineer brief is part of a series of articles describing how to interface a relay coil with

Nov 23, 2025

ULN2003A Darlington Transistor Array Circuit Examples

The collector-current rating of a single Darlington pair is 500 mA. The Darlington pairs can be paralleled for

Sep 16, 2025

Fundamental overcurrent, distance and differential protection ...

Essential protection principles The aim of this technical article is to cover the most important principles of four

Jun 28, 2026

Protection Relays | Medium & high voltage power system protection

Discover protection relays for generators, motors, transformers, feeders and busbars, designed for reliable and efficient power

Jul 27, 2025

ULN2803C Darlington Transistor Array datasheet (Rev

Relay, solenoid, and lamp driving Stepper motor driving Applications include relay drivers, hammer drivers, lamp drivers, display

Jul 05, 2026

Darlington Transistor Guide: Gain, Drive & Design

Darlington transistor explained: pair structure, gain math, VBE/VCE(sat), speed limits,

Mar 05, 2026

How to Use Darlington Driver: Examples, Pinouts, and Specs

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

Sep 25, 2025

Types of Electrical Protection Relays or Protective Relays

□□ Key learnings: Protective Relay Definition: A protective relay is an automatic device that senses abnormal conditions

Mar 27, 2026

ULN2003 Pinout, Examples, Applications, Datasheet and features

To solve this issue an IC name ULN2003 was introduced. ULN2003 comes with multiple functions. It has seven Darlington

Aug 15, 2025

Practical handbook for relay protection engineers | EEP

Relay protection circuitry This handbook covers the code of practice in protection circuitry including standard lead and

Dec 24, 2025

Transient Protection of Darlington gain block amplifiers

The new transient protection circuit does not degrade normal RF performance of the amplifiers and improves the overall robustness

Nov 25, 2025

Numerical relay

Numerical relay Protective relay In utility and industrial electric power transmission and distribution systems, a numerical relay is a

Sep 30, 2025

Transient protection circuit of Darlington amplifier

A protection circuit for Darlington amplifiers prevents destructive voltage overshoot conditions from occurring. The Darlington

May 17, 2026

Darlington Transistors

Diodes" Darlington Transistors are best suited for relay and solenoid driving, as well as linear regulator applications.

Jun 20, 2026

Transistor as a Switch for Relay

For larger relays, a Darlington transistor pair or MOSFET is recommended. A diode across the relay coil is essential to protect the

Jun 08, 2026

Transformer protection and control

Transformer protection relays are used for protection, control, measurement and supervision of power transformers.

Mar 26, 2026

Transient Protection of Darlington Gain Block Amplifiers

A new protection circuit is designed (patent pending) to prevent it. This article explains the phenomena and describes

Sep 05, 2025

PNP and NPN Darlington Pair Transistor Amplifier Circuits

A Darlington pair is used to offer high current gain even with low base current. Get an idea about darlington transistor

Aug 29, 2025

Transistor as a Switch for Relay

Learn how to use a transistor as a switch for a relay, including base resistor values, protection diode, comparison of relays vs

Feb 03, 2026

Darlington Transistor and the Sziklai Darlington Pair

The Darlington Pair A Darlington Transistor configuration, also known as a "Darlington pair" or "super-alpha circuit", consist of two

Jan 23, 2026

Darlington Transistor: Working, Types, Advantages, and Applications

Darlington Transistor as a Switch In switching applications, the Darlington transistor acts as an electronic switch.

Mar 19, 2026

SN7546x Darlington Transistor Arrays datasheet (Rev

These devices have limited built-in ESD protection. The leads should be shorted together or the device placed in conductive foam

Mar 26, 2026

Introduction to Protective Relaying | Electric Power Measurement and ...

Introduction to Protective Relaying What are Protective Relays, or Protection Relays?
Protective relays are used in industrial power

Apr 14, 2026

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

Website: <https://www.iiss.co.za>

Email: sales@iiss.co.za

Phone: +27 63 174 2895

Address: Unit 8, Innovation Park, 15 Rivonia Road, Sandton, Johannesburg,
2196, South Africa

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