PWR-DRV2

Dual Universal Power Driver

200/300/400 V
250 mA per Channel

POWER INTEGRATIONS, INC.

Product Highlights

Drives AC or DC relays and solenoids
- Will operate from a rectified AC or DC power source
- Drives up to 27 W loads from rectified 120 VAC input
- Reduces power consumed by the load
- Can drive two coils at once

Supplies its own low voltage power for control circuitry
- Eliminates an external power supply

Can be controlled by mechanical switches, digital logic (TTL or CMOS), or sensors (analog)
- Can pulse on or off
- Can have output follow input (High Off/Low On mode)
- Threshold detects an analog signal

Measures current without external voltage drops
- Detects current flow
- Can be used to tell if too much current is flowing
- Comparator outputs can turn on an LED indicator

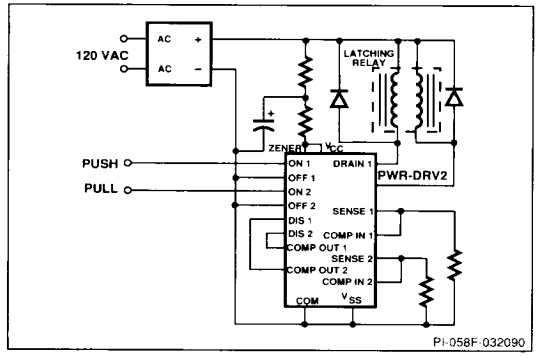

Figure 1. Typical Application.

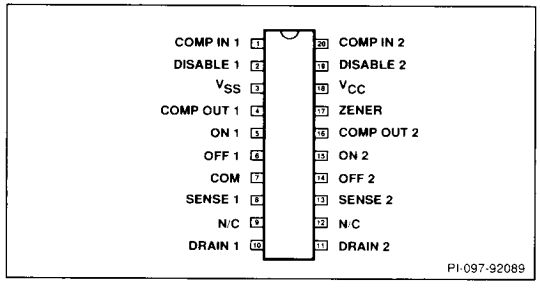

Figure 2. Pin Configuration.

Description

The Power Integrations PWR-DRV2 dual universal driver is a cost effective interface between control electronics and high voltage loads such as relays and solenoids. It accepts analog or digital inputs, while operating from rectified AC or DC.

The two power transistors are controlled by independent ON and OFF inputs, which can be driven by pulses or continuous signals. These inputs can be mechanical switches, analog signals, or digital logic. Two onboard comparators are included for use in conjunction with the current-sensing capability of the ouput MOSFETs. The output MOSFETs provide an output blocking capability of up to 400V. This provides an excellent safety margin when operating from rectified 120 Volts AC.

The PWR-DRV2 derives power from the line input using an on-chip Zener diode. This eliminates the need for an external power supply for the low voltage control section.

The PWR-DRV2 is available in a 20-Pin plastic DIP package.

ORDERING INFORMATION

PART NUMBER	PACKAGE	OUTPUT VOLTAGE
PWR-DRV2PRC1	20-pin PDIP	200 V
PWR-DRV2PRC2	20-pin PDIP	300 V
PWR-DRV2PRC3	20-pin PDIP	400 V

Pin Functional Description

Pin 1:
Non-inverting **COMP IN 1** which can be used for sensor inputs, overcurrent protection, PWM current limiting, or lockout.

Pin 2:
DISABLE 1 controls the output switch. When pulled to V_{SS}, it allows the signal from the ON 1 and OFF 1 inputs to control DRAIN 1. When DISABLE 1 is pulled to VCC, DRAIN 1 will remain off, regardless of the states of ON 1 and OFF 1.

Pin 3:
V_{SS} is the common reference for the zener and all of the digital and analog sections of the PWR-DRV2.

Pin 4:
COMP OUT 1 provides an output capable of driving a LED, or can be used to drive the ON , OFF, or ENABLE controls based on COMP IN 1.

Pin 5:
ON 1 controls the output DRAIN 1. When pulled to V_{SS}, it latches the switch ON.

Pin 6:
OFF 1 controls the output DRAIN 1. When pulled to V_{SS}, it latches the switch OFF.

Pin 7:
COMMON terminal connection to the sources of the output switches, normally tied to V_{SS}.

Pin 8:
SENSE 1 provides a current mirror output proportional (1:25) to the DRAIN current to be used for overcurrent protection, current indication, or PWM operation.

Pin 10:
Open **DRAIN 1** driver output.

Pin 11:
Open **DRAIN 2** driver output.

Pin 13:
SENSE 2 provides a current mirror output proportional (1:25) to the DRAIN current to be used for overcurrent protection, current indication, or PWM operation.

Pin 14:
OFF 2 controls the output DRAIN 2. When pulled to V_{SS}, it latches the switch OFF.

Pin 15:
ON 2 controls the output DRAIN 2. When pulled to V_{SS}, it latches the switch ON.

Pin 16:
COMP OUT 2 provides an output capable of driving a LED, or can be used to drive the ON , OFF, or DISABLE controls based on COMP IN 2.

Pin 17:
Internal **ZENER** diode which generates the logic supply for the device from a high-voltage input.

Pin 18:
5V V_{CC} input which generates the logic supply for the device. This pin can be connected directly to the ZENER or can be powered by an external 5 V supply.

Pin 19:
DISABLE 2 controls the output switch. When pulled to V_{SS}, it allows the signal from the ON 2 and OFF 2 inputs to control DRAIN 2. When DISABLE 2 is pulled to V_{CC}, DRAIN 2 will remain off, regardless of the states of ON 2 and OFF 2.

Pin 20:
Non-inverting **COMP IN 2** which can be used for sensor inputs, overcurrent protection, PWM current limiting, or lockout.

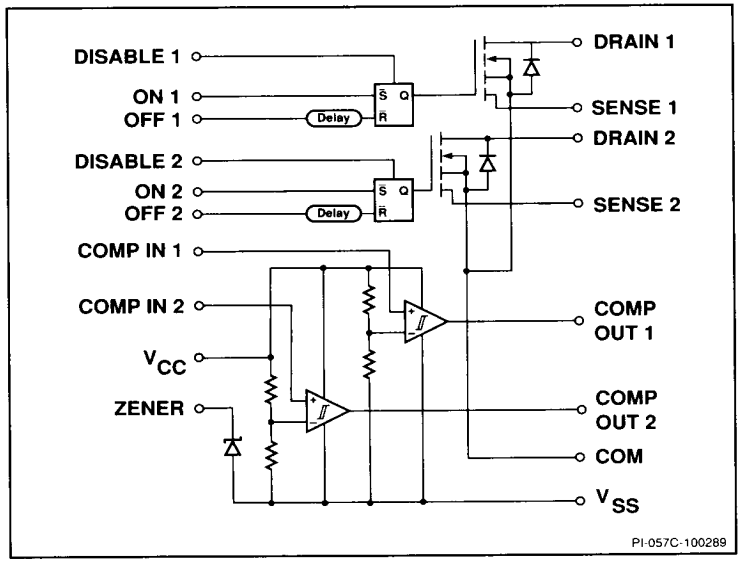

Figure 3. Functional Block Diagram of the PWR-DRV2.

FOR A MORE DETAILED SPECIFICATION ON THIS PRODUCT PLEASE CONTACT YOUR LOCAL POWER INTEGRATIONS SALES OFFICE.