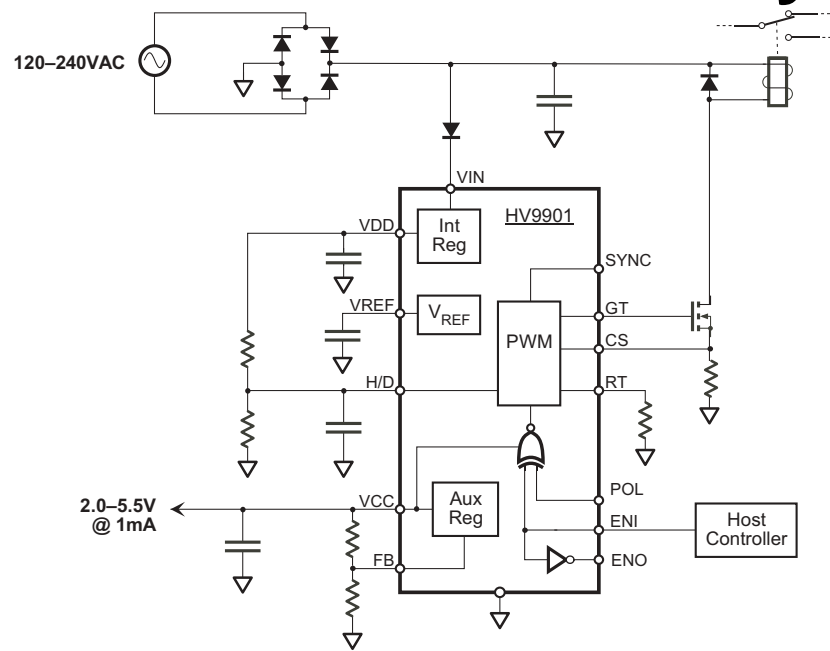


HV9901 Universal Relay Driver

Applications

- Industrial Controls
- Relay Timers
- White Goods
- Solenoid Drivers
- Indicator Lamps
- Home Automation



Typical Applications Circuit

OVERVIEW:

The Supertex HV9901 is a BiCMOS/DMOS universal relay driver that employs PWM switching techniques. It is designed for efficient and energy-saving operation of a low voltage relay with supply voltages ranging from 8 to 450V DC through utilization of the relay coils' inductance.

The circuit is capable of operating over a wide input voltage range without requiring a change of any external components. For example, this will enable users to use 5V coil relays for DC voltages 8 - 450V or AC voltages up to 240V.

The HV9901 has an internal high-voltage regulator to power internal PWM circuitry. Additionally it includes an adjustable auxiliary regulator with a 1mA capability that can be used to drive low power microcontrollers.

The pull-in current, pull-in time and hold current are all programmable using only two resistors and a capacitor. The PWM operating frequency can be either

- Synchronized to an external clock, or
- Operate at the master clock frequency where the relay with the highest frequency serves as the master and when the sync pins of multiple relays are tied together

The enable logic input is used to turn the relay on/off. Enable polarity can be determined by the logic state of the polarity input. Audible noise is prevented using fixed switching frequencies above 20kHz.

Features:

Wide supply range

Compact

Simple

PWM drive

Programmable Pull-in current, Pull-in Time and Hold current

Constant current coil drive

Programmable oscillator frequency and sync

Adjustable auxiliary regulator

Benefits:

One design for worldwide use.
Customer need only stock one relay

Reduces overall design size. Small form factor.

Ease of design

High efficiency

Adapable to many types of relays. Lower hold currents further increase efficiency and saves energy.

Assures relay operation regardless of supply voltage or relay coil resistance

Optimizes performance and avoids critical frequencies

Provides power for external circuits, saving the customer additional components

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HV9901 Universal Relay Driver

Electrical Specifications

Device	V _{IN}	V _{ref}	Adjustable Regulator
HV9901	8.0 - 450V	1.25V+/-2.4%	2.0 - 5.5V

Availability

Part Number	Package	Datasheet	Samples	Demo Board	Lead Time
HV9901NG	Plastic SO	Now	Now	HV9901DB1	4-5 wks ARO
HV9901P	Plastic DIP	Now	Now	---	4-5 wks ARO

Price List / Ordering Information

Part Number	10K	Package Options
HV9901NG	\$1.50 each	16 lead Plastic SO
HV9901P	\$1.50 each	16 lead Plastic DIP

Product Contact

If you have any questions regarding the HV9901, samples or demo board, contact Supertex Applications at:

Telephone: (800) 222-9883
Fax: (408) 222-4895
Email: apps@supertex.com
Web: www.supertex.com

Supertex Sales: Contact your local Supertex Sales Representative