

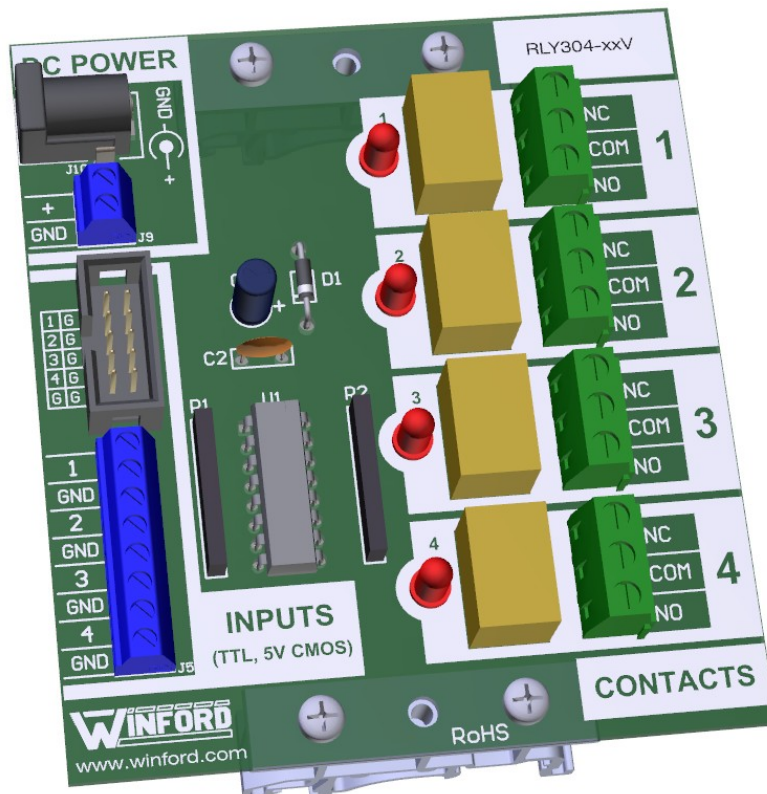
## RLY304 Datasheet

### Overview

The RLY304 provides four SPDT signal relays with convenient screw terminal connections and a 2x5 header for the inputs, and screw terminal connections for the contacts. The board includes active driver circuitry allowing relatively low-current input signals (such as 5V TTL) to be used. LEDs provide visual indication on the status of each relay.

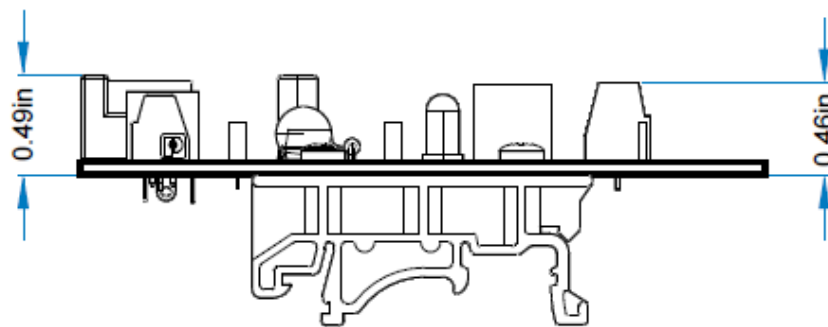
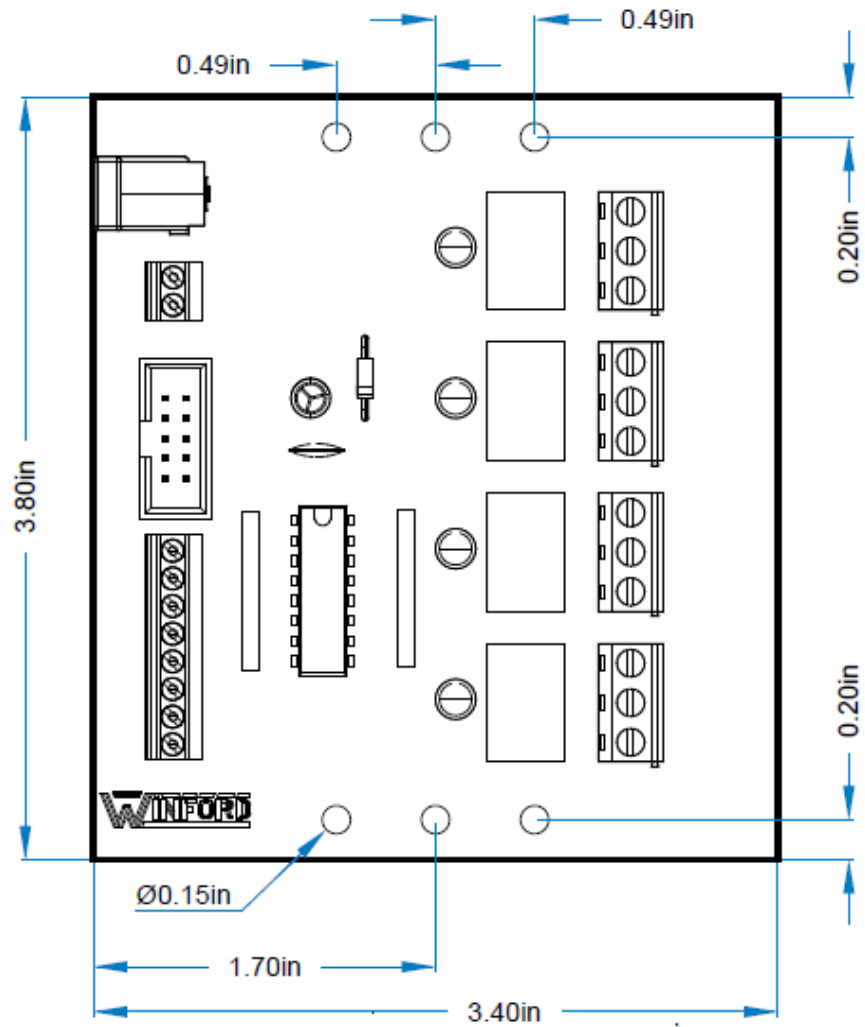
Due to the gold plating on the relay contacts, this relay board is suitable for switching very low-power signals (down to 10uA @ 10mV DC).

The relays used on this board are rated for resistive loads.



DIN Mounting Option Shown

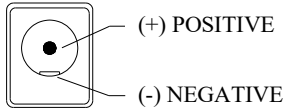
## Dimensions (typical shown)



DIN Mounting Option Shown

## DC Power Jack

The DC power jack accepts connectors with a 2.1mm inside diameter and 5.5mm outside diameter. The jack requires a center-positive supply.



## Part Number Ordering Information

RLY304 -  -   
                  1                  2

### 1. Relay Coil Voltage (DC)

- 5V
- 12V
- 24V

### 2. Mounting Option

- **FT**     Rubber Feet on bottom side of PCB
- **DIN**    DIN Rail Mounting Clips

## RLY304 Stocked Part Numbers

The following part numbers represent standard options and are stocked:

- RLY304-5V-FT     • RLY304-12V-FT     • RLY304-24V-FT
- RLY304-5V-DIN   • RLY304-12V-DIN   • RLY304-24V-DIN

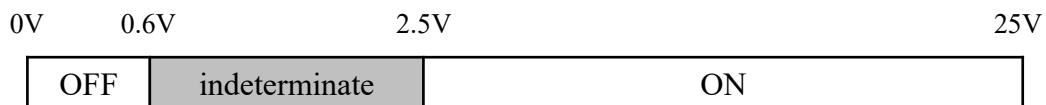
## Electrical Characteristics

Specifications at 25°C

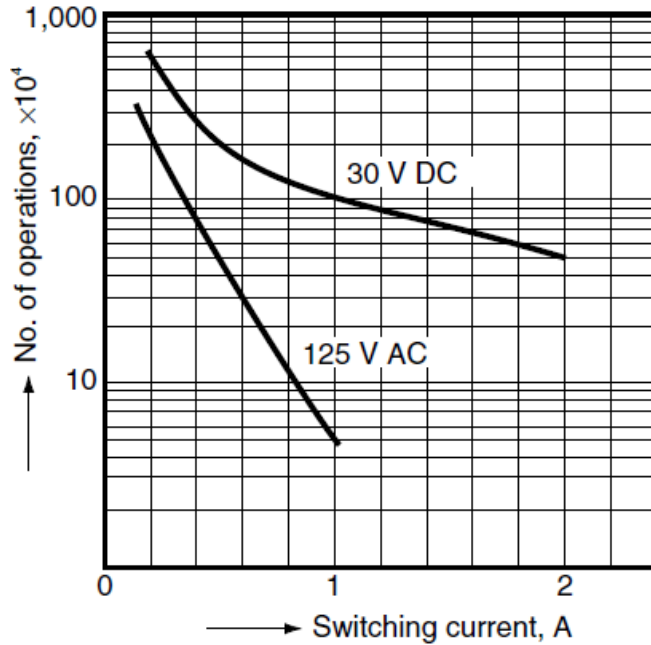
<i>Specification</i>	<i>RLY304-5V</i>	<i>RLY304-12V</i>	<i>RLY304-24V</i>	<i>Unit</i>
DC Power Supply Input Range*	4.8 - 6.5	11.5 – 15.5	23 - 30	V
Nominal supply current per activated relay (coil current + LED current) (Power supply: RLY304-5V=5.0V, RLY304-12V=12.0V, RLY304-24V=24.0V)	45	20	10	mA
Maximum leakage current (power supply current with no relays activated)	0.1			mA
Minimum turn-off threshold for input control signals (see diagram below)	0.6			V
Maximum turn-on threshold for input control signals (see diagram)	2.5			V
Maximum allowable input control signal voltage	25			V
Input control signal current requirement, typical (per channel)				mA
Input signal @ 2.7V	0.35			
Input signal @ 5.0V	0.6			
Input signal @ 12V	1.9			
Input signal @ 24V	4.2			
Relay contact max switching voltage	220V DC, 250V AC			V
Relay contact max switching power (DC, resistive load)	60			W
Relay contact max switching current (DC, resistive load)	2			A
Relay contact max switching power (AC, resistive load)	125			VA
Relay contact max carrying current rating	3			A

*\*It is assumed that the DC supply voltage is stable. If the DC supply voltage is changing significantly with time and temperature, then this may impact the operation of the relays. For example, if a relay is continuously operated at max allowed DC supply voltage and max temperature, it is possible that it will need to cool down before operating at minimum DC supply voltage. This is because a relay coil at high temperature will have relatively high resistance, in which case a low DC supply voltage may not be sufficient to achieve the relay coil current necessary to activate the relay.*

### Input Control Signal Thresholds Diagram



## Life Curve – AC and DC (resistive load)



## Operating Conditions

Ambient Temperature Range	-25°C to 50°C
Relative Humidity Range - not freezing or condensing	5% to 85% RH

## Screw Terminal Wire Sizes

- Input control signals and Power: 16-26 AWG
- Relay contacts: 16-30 AWG

## Component Part Numbers

- Relays: Panasonic Electric Works DS1E-S-DCxxV (xx=voltage)
- Relay driver: Toshiba TBD62064APG

## Note About Inductive Loads

It is of primary importance to ensure that the relay used in a given application is rated for the given load type (e.g., resistive, inductive) as well as the load current. Although the relays used on this particular product (RLY304) may function properly in various inductive-load applications, please note that they are only rated for resistive loads.

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