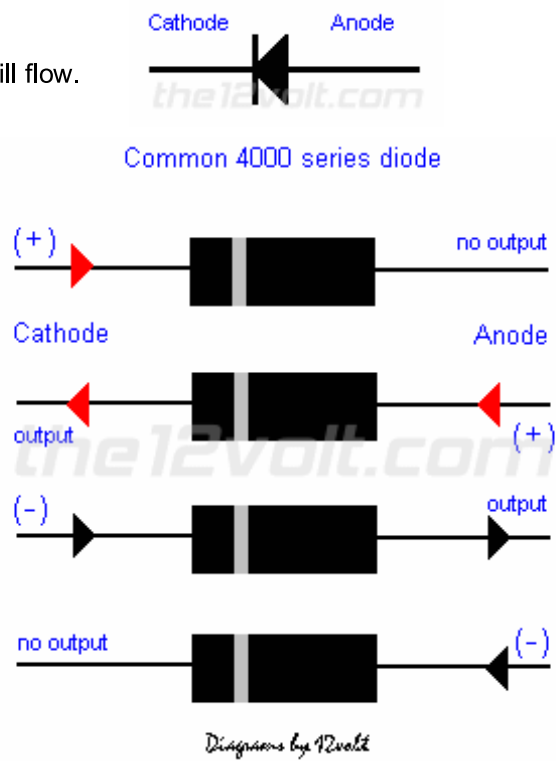


Blocking Diodes, Isolating Door Triggers and Sensors, Diodes Across the Coil of Relays

Here's another installer friendly component you should always have handy. Blocking diodes/rectifier diodes (1N4001/L, 1N4004/L, 1N4007/L...) are one way valves used in electrical circuits. These are very simple devices that are often real time savers. Other than the amperage and voltage rating of the diode, there are only three basic things to remember:

- 1. Cathode (side with the stripe)
- 2. Anode (side without the stripe)
- 3. Anytime the cathode is more positive than the anode, no current will flow.

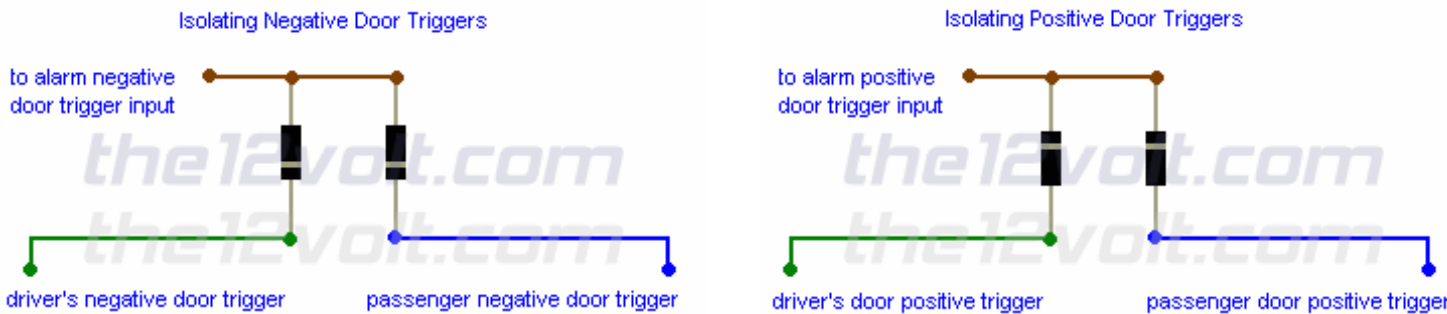


Isolating Door Triggers:

Some vehicles have two separate (-) door triggers that are isolated from each other, most commonly found on newer GM vehicles. One is for the driver's door and the second is for the rest of the doors. Below is an example of connecting them to one alarm trigger. If you were just to connect to one of these and not both, one or more doors of the vehicle would not be protected by the alarm. When installing an alarm in a vehicle with this type of door trigger (dome lamp) circuit, you must connect to both door triggers for all doors to trigger the alarm. If you were to tie each of these together without the blocking diodes, some features of the vehicle would no longer function properly. Some of the things that could happen are: the door chime / buzzer sounding when any door is opened, rather than just the driver's door, or indicators in the instrument cluster showing false information as to which door is actually opened, and so on.

This diagram would also apply to connecting the (-) outputs of two sensors, such as a glass mic and an impact sensor, to one input of an alarm.

If you have two or more positive triggers to isolate, simply connect the anode side of each diode to each trigger and the cathode sides to the positive input of the alarm.



Unless specified, all diodes seen in these diagrams are rated at 1 ampere (1N4001, 1N4004, 1N4007...). 1N4004 or 1N4007 should be used for spike suppression.

Diode across the coil of a relay:

The diode provides a path for current when the current path to the relay is interrupted (i.e. switched off). This allows the coil field to collapse without the voltage spike that would otherwise be generated. The diode protects switch or relay contacts and other circuits that may be sensitive to voltage spikes.