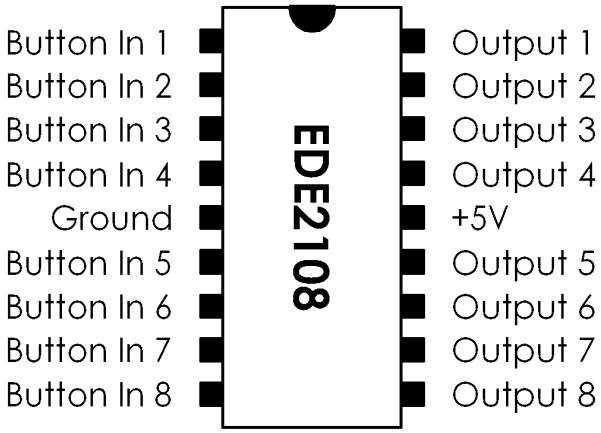
EDE2108 One-of-Eight Latcher IC

Creates a One-Hot Latched Output from Multiple Pushbuttons



EDE2108(A or D)**/P**

EDE2108(A or D)**/S0**

0-70 ˚C – Standard Temp

EDE2108(A or D)/x**-I**
-40 to +85 ˚C – Industrial Temp

EDE2108(A or D)/x**-E**
-40 to +125 ˚C – Extended Temp

Features:

- ***Creates a 'one-hot' output from multiple pushbuttons, activating only the output corresponding to the most recent pushbutton pressed***
- ***'A' version always has one channel active; 'D' version can turn off active channel by pressing active channel's pushbutton a second time***
- ***Automatically debounces all pushbutton inputs***
- ***0V to +5V TTL/CMOS compatible level drive signals interface directly to any microcontroller***
- ***Operate with any number of pushbuttons up to eight***

Description:

The EDE2108A and EDE2108D IC's accept input from one to eight momentary pushbuttons and output high on only the most recent pushbutton pressed, clearing the output that was active previously. The EDE2108A IC powers up with channel one active, and pressing the button corresponding to the active output has no effect. The EDE2108D IC powers up with no channels active, and pressing the button corresponding to the active output clears the active output, such that no outputs are active. Use the EDE2108A in applications requiring one (and only one) output active at any given time, and use the EDE2108D in applications requiring the ability to deactivate all outputs at times.

PIN DEFINITIONS

Button Connections:

Button In 1 (Pin 1).....mechanical pushbutton input #1
Button In 2 (Pin 2).....mechanical pushbutton input #2
Button In 3 (Pin 3)..... mechanical pushbutton input #3
Button In 4 (Pin 4)..... mechanical pushbutton input #4
Button In 5 (Pin 6)..... mechanical pushbutton input #5
Button In 6 (Pin 7)..... mechanical pushbutton input #6
Button In 7 (Pin 8)..... mechanical pushbutton input #7
Button In 8 (Pin 9)..... mechanical pushbutton input #8

Toggling Outputs:

Output 1 (Pin 18)..... latching output #1
Output 2 (Pin 17)..... latching output #2
Output 3 (Pin 16)..... latching output #3
Output 4 (Pin 15)..... latching output #4
Output 5 (Pin 13)..... latching output #5
Output 6 (Pin 12)..... latching output #6
Output 7 (Pin 11)..... latching output #7
Output 8 (Pin 10)..... latching output #8

Power:

+5V (Pin 14).....connect to +5V DC
GND (Pin 5).....connect to 0V DC (Ground)

Note: DIP are SOIC (surface mount) packages of the EDE2108(A or D) have identical pinout and pincount. Please specify EDE2108(A or D)/P (DIP) or EDE2108(A or D)/SO (SOIC) when ordering. Standard temperature range is 0 to 70˚C. Extended temperature versions are available.

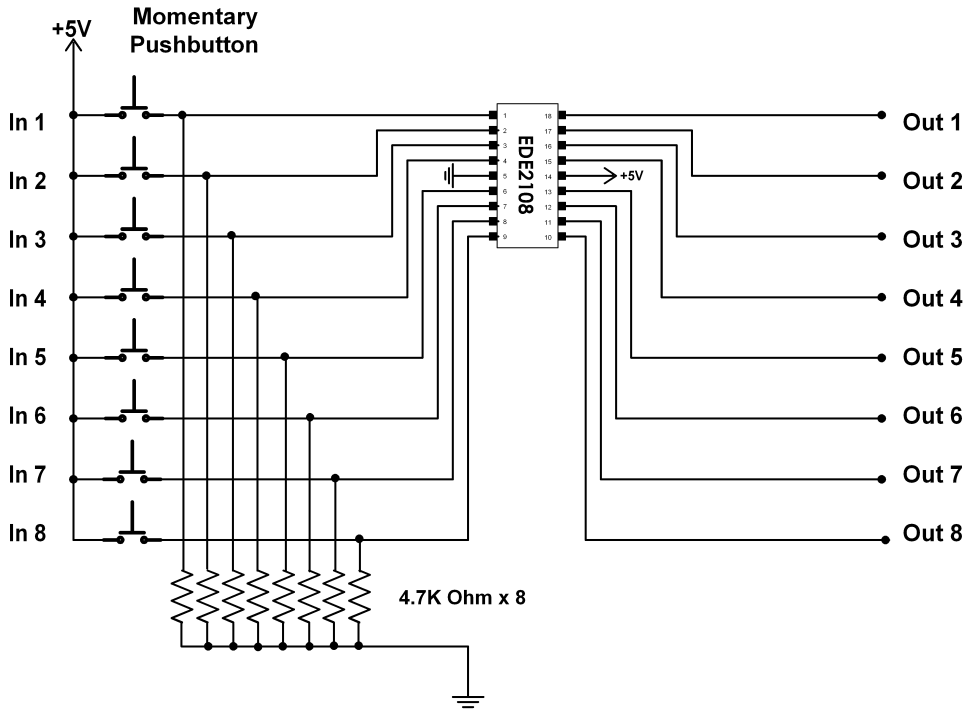


Figure One: Eight Pushbuttons Connected to EDE2108 IC

As illustrated by Figure One, up to eight momentary pushbuttons may be connected to the EDE2108 (ground all unused inputs if less than eight pushbuttons are used). Inputs to the EDE2108 are active high, and pulldown resistors should be used to keep the input from 'floating' when the pushbutton is not depressed. The output follows the most recent pushbutton input, as can be seen in Figure Two below:

Most Recent Activity	**Output Status** 1 2 3 4 5 6 7 8
Button 1 Pressed	**1** 0 0 0 0 0 0 0
Button 2 Pressed	0 **1** 0 0 0 0 0 0
Button 3 Pressed	0 0 **1** 0 0 0 0 0
Button 4 Pressed	0 0 0 **1** 0 0 0 0
Button 5 Pressed	0 0 0 0 **1** 0 0 0
Button 6 Pressed	0 0 0 0 0 **1** 0 0
Button 7 Pressed	0 0 0 0 0 0 **1** 0
Button 8 Pressed	0 0 0 0 0 0 0 **1**

Figure Two: One-Hot Output Corresponds to Most Recent Buttonpress

While alike in the above functionality, the EDE2108A and EDE2108D IC's do have a difference. This pertains to the fact that the EDE2108A always has one output high, and the EDE2108D can have either one output high or zero outputs high.

The EDE2108A powers up with output 1 high and all other outputs low. Pressing any button results in the output corresponding to that button being set high and all other set low. Any button that is pressed while its own output is currently high has no apparent effect on the output; that output continues to remain high. This functionality is very similar to the buttons across the front of a common kitchen blender; one is always active (even if it is the off input), and pressing one button deactivates the previously pressed button.

In contrast, the EDE2108D powers up with no outputs high. Following any buttonpress, the corresponding output goes high according to the table in Figure Two. However, if a button is pressed while its corresponding output is high, that output will turn low and all outputs will again be low.

Important Note: **Unused INPUTS of the EDE2108 should be connected to +5V (Vcc. Connection may be direct or through a resistor, such as 4.7K Ohm. Unused OUTPUTS should be left unconnected.**

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ABSOLUTE MAXIMUM RATINGS

Supply Voltage 5.5V
Max. current sunk by an output pin 25mA
Max. current sourced by an output pin 25mA
Max. current sourced by all 8 outputs..... 200mA

STANDARD OPERATING CONDITIONS

Supply voltage ..... 3.0V to 5.5V
Typical current draw..... 670 uA at 5V Vcc; 370 uA at 3V Vcc
Operating temperature ..... 0°C to +70°C (extended temp available)

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