EDE2208 Momentary to Toggle IC

Pushbutton Conversion from Momentary to Latched Functionality

Button In 1	EDE2208	Output 1
Button In 2		Output 2
Button In 3		Output 3
Button In 4		Output 4
Ground		+5V
Button In 5		Output 5
Button In 6		Output 6
Button In 7		Output 7
Button In 8		Output 8

EDE2208**/P**

EDE2208**/S0**

0-70 ˚C – Standard Temp

EDE2208/x**-I**
-40 to +85 ˚C – Industrial Temp

EDE2208/x**-E**
-40 to +125 ˚C – Extended Temp
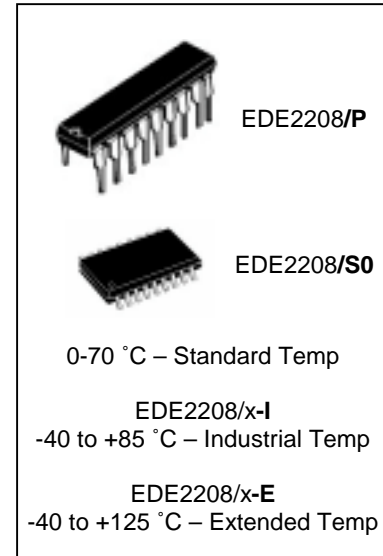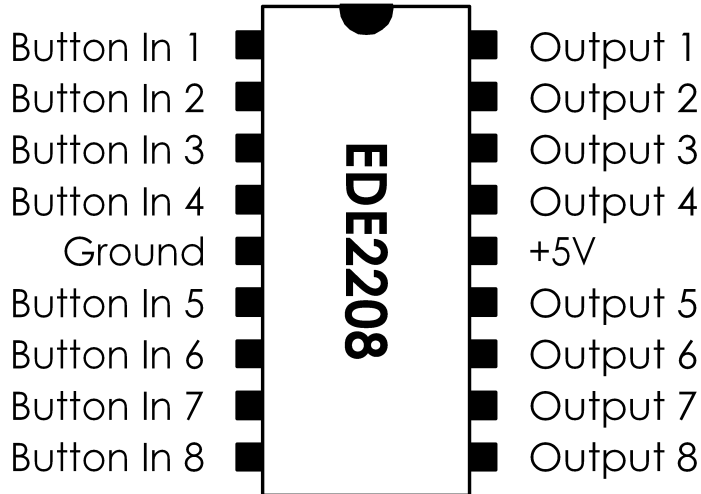
Features:

- *Converts standard momentary pushbutton contacts into toggling output*
- *Automatically debounces input signal for glitch-free operation*
- *Provides latched output toggle functionality for membrane or any other type of mechanical pushbutton or contact closure*
- *Output alternates from +5V to 0V with each contact closure; output state is held between contact closures*
- *Each of eight channels operate independently*
- *TTL/CMOS compatible outputs*

Description:

The EDE2208 Momentary-to-Toggle Pushbutton IC provides eight independent latching outputs that toggle state from 0 Volts (logic low) to +5V volts (logic high) with each momentary pushbutton input pulse, this allowing the use of less costly momentary switches instead of latching mechanical switches. The EDE2208 also removes the contact bounce noise from the input signal to ensure reliable operation and prevent unintended multiple switching. Applications include pushbutton interfacing to microcontrollers & other logic for mechanical toggle switch elimination, momentary signal detection for security applications, and converting membrane pushbuttons into latching outputs.

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)..................................………….......... toggling output #1

Output 2 (Pin 17)..................................…………......... toggling output #2

Output 3 (Pin 16)..................................………….......... toggling output #3

Output 4 (Pin 15)..................................………….......... toggling output #4

Output 5 (Pin 13)..................................………….......... toggling output #5

Output 6 (Pin 12)..................................………….......... toggling output #6

Output 7 (Pin 11)..................................…………........ toggling output #7

Output 8 (Pin 10)..................................……………..….. toggling 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 EDE2208 have identical pinout and pincount. Please specify EDE2208/P (DIP) or EDE2208/SO (SOIC) when ordering. Standard temperature range is 0 to 70˚C. Extended temperature versions are available.*
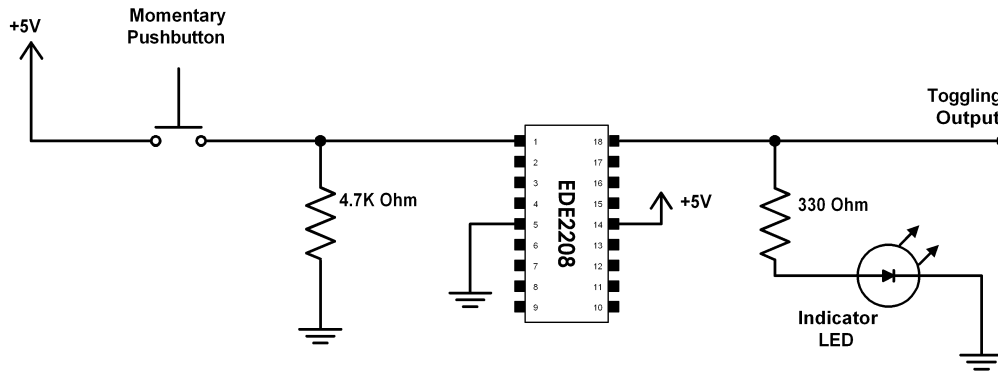
Figure One: Single-Channel Connection Example

*(Note: any unused inputs (in this instance, pins 2-4, 6-9) should be
tied to ground. These pins are left unconnected here for clarity).*

As illustrated by Figure One, the EDE2208 connects easily to any momentary pushbutton. In this example, the Button Input 1 (pin 1) is pulled to ground through a 4.7K resistor. Pressing the button connects +5V to the input, turning it from low to high. Upon seeing this transition on Input 1, the EDE2208 toggles the current state of Output 1, from low to high or high to low, depending upon the state it was latched in previously. In the above schematic, upon powerup the LED would be off. Pressing the button the first time would latch the LED on. Pressing it again would latch the LED off, and so on. The powerup state of all of the outputs is 0V (logic low). The timing diagram in Figure Two illustrates the results of pressing the pushbutton four times:
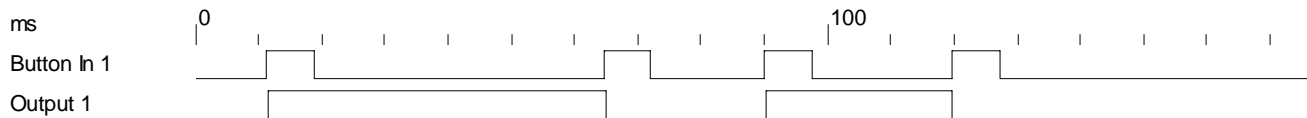
Figure Two: Four Button Presses and the Corresponding EDE2208 Output

As can be seen above, the EDE2208 output changes state with each new rising edge of the input pulse. The debounce period of the IC is 25ms, so noise due to contacting bounce on the input line is not counted as multiple button presses.

Each of the eight input channels of the EDE2208 may be utilized independently from one another. Activity on one channel in no way affects any of the other channels.

Important Note: **Unused INPUTS of the EDE2208 should be connected to either +5V (Vcc) or Ground to avoid oscillation and excessive power draw. Connection may be direct or through a resistor, such as 4.7K Ohm. Unused OUTPUTS should be left unconnected.**

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)

IMPORTANT NOTICE

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CONTACTING US

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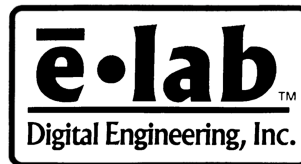
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