

**IN555**

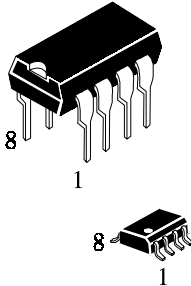
# Timing Circuit

The IN555 monolithic timing circuit is a highly stable controller capable of producing accurate time delays, or oscillation.

- Direct Replacement for NE555 Timers
- Timing From Microseconds Through Hours
- Operates in Both Astable and Monostable Modes
- High Current Output Can Source or Sink 200 mA

### PIN ASSIGNMENT

GND	1 ●	8	V <sub>CC</sub>
Trigger	2	7	Discharge
Output	3	6	Threshold
Reset	4	5	Control Voltage

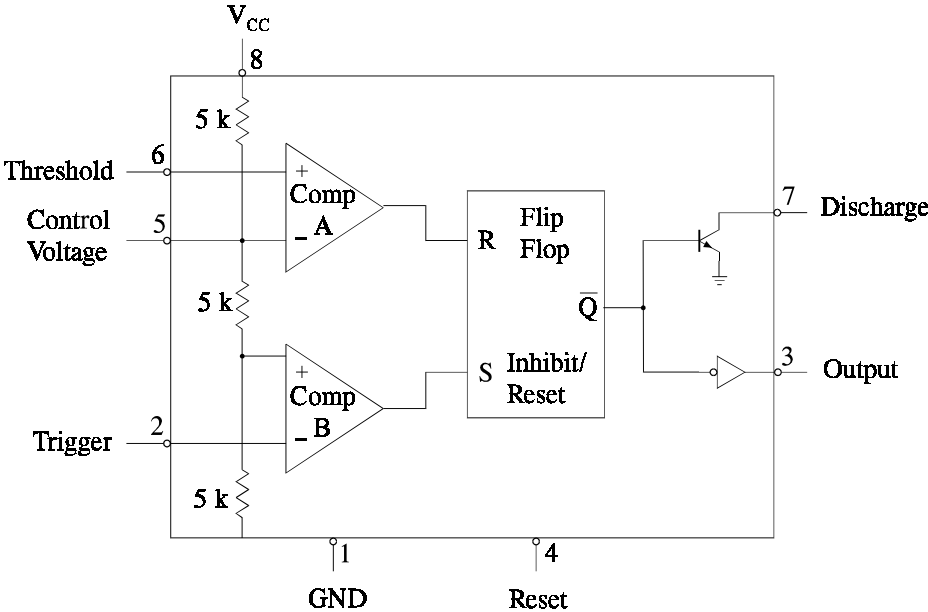


**N SUFFIX PLASTIC**

**D SUFFIX SOIC**

**ORDERING INFORMATION**  
IN555N Plastic  
IN555D SOIC  
T<sub>A</sub> = -10° to 70° C for all packages

### LOGIC DIAGRAM



**MAXIMUM RATINGS\***

Symbol	Parameter	Value	Unit
V <sub>CC</sub>	Supply Voltage	18	V
T <sub>stg</sub>	Storage Temperature	-60 to +85	°C

**RECOMMENDED OPERATING CONDITIONS**

Symbol	Parameter	Min	Max	Unit
V <sub>CC</sub>	Supply Voltage	4.5	16	V
T <sub>A</sub>	Operating Temperature, All Package Types	-10	+70	°C

**ELECTRICAL CHARACTERISTICS(T<sub>A</sub> =+25°C)**

Symbol	Parameter	Test Conditions	Guaranteed Limits		Unit
			Min	Max	
I <sub>CC</sub>	Supply Current	V <sub>CC</sub> =5.0 V, R <sub>L</sub> =∞ V <sub>CC</sub> =15 V, R <sub>L</sub> =∞		6.0 15	mA
	Timing Error	R=1.0 kΩ to 100 kΩ Initial Accuracy C = 0.1 μF V <sub>CC</sub> =5.0 V and V <sub>CC</sub> =15 V		4	%
V <sub>th</sub>	Threshold Voltage	V <sub>CC</sub> =5.0 V V <sub>CC</sub> =15 V	2.6 9	4.0 11	V
V <sub>T</sub>	Trigger Voltage	V <sub>CC</sub> =5.0 V V <sub>CC</sub> =15 V	1.1 4.5	2.2 5.6	V
I <sub>T</sub>	Trigger Current	V <sub>02</sub> =0 V, V <sub>CC</sub> =15 V V <sub>02</sub> =15 V, V <sub>CC</sub> =15 V		-2 0.5	μA
V <sub>R</sub>	Reset Voltage	V <sub>CC</sub> =15 V	0.4	1.0	V
I <sub>R</sub>	Reset Current	V <sub>04</sub> =0 V, V <sub>CC</sub> =15 V V <sub>04</sub> =15 V, V <sub>CC</sub> =15 V		-0.4 0.5	mA μA
I <sub>th</sub>	Threshold Current (Note 1)	V <sub>06</sub> =0 V, V <sub>CC</sub> =15 V V <sub>06</sub> =10 V, V <sub>CC</sub> =15 V		-0.5 0.25	μA
I <sub>dis</sub>	Discharge Leakage Current (Pin 7)	V <sub>CC</sub> =15 V, V <sub>07</sub> =15 V		100	nA
V <sub>REF</sub>	Control Voltage Level	V <sub>CC</sub> =15 V V <sub>CC</sub> =5.0 V	9.0 2.6	11 4.0	V
V <sub>OL</sub>	Output Voltage Low	(V <sub>CC</sub> =15 V) I <sub>sink</sub> =10 mA, I <sub>sink</sub> =50 mA, I <sub>sink</sub> =100 mA, V <sub>CC</sub> =5.0 V, I <sub>sink</sub> =5.0 mA		0.25 0.75 2.3 0.35	V
V <sub>OH</sub>	Output Voltage High	I <sub>source</sub> =200 mA, V <sub>CC</sub> =15 V I <sub>source</sub> =100 mA, V <sub>CC</sub> =15 V I <sub>source</sub> =100 mA, V <sub>CC</sub> =5.0 V	12 12.75 2.75		V
t <sub>OLH</sub>	Rise Time of Output	V <sub>CC</sub> =15 V		150	ns
t <sub>OHL</sub>	Fall Time of Output	V <sub>CC</sub> =15 V		150	ns

Note 1. This will determine the maximum value of R<sub>A</sub> + R<sub>B</sub> for 15 V operation.  
The maximum total R=20 MΩ.