

| | | |
|---|----------|-----------------------|
|  | No.1077C | Monolithic Digital IC |
| | | LB8555D, 8555S |
| General-Purpose Timer | | |

Overview

The LB8555 is a delay time generator IC capable of generating exact timing pulses. Both trigger pin and reset pin are provided for various uses such as monostable multivibrator, astable multivibrator. The output circuit is capable of applying 200mA sink/source current. Output is interfaceable to TTL. This IC is usable as a replacement for Signetics-made NE555.

Features

- Timing time settable from several $\mu\text{sec.}$ to several hours
- Monostable multivibrator consisting of $R=1$, $C=1$; astable multivibrator consisting of $R=2$, $C=1$
- Adjustable duty cycle of pulse
- 200mA sink/source current for driving external load

Applications

- Delay time generator (monostable multivibrator)
- Pulse generator (astable multivibrator)
- Pulse width modulator
- Sequence timer
- DC-DC converter

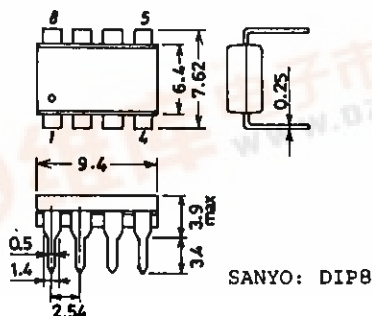
Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

| | | | unit |
|-----------------------------|--|------------------------|------------------|
| Maximum Supply Voltage | $V_{CC \text{ max}}$ | 18 | V |
| Output Current | I_{OUT} | ± 200 | mA |
| Input Voltage | | V_{CC} | V |
| | Trigger, control voltage, reset, threshold | | |
| Allowable Power Dissipation | $P_d \text{ max}$ | 625 | mW |
| Operating Temperature | T_{opr} | $-20 \text{ to } +75$ | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | $-40 \text{ to } +125$ | $^\circ\text{C}$ |

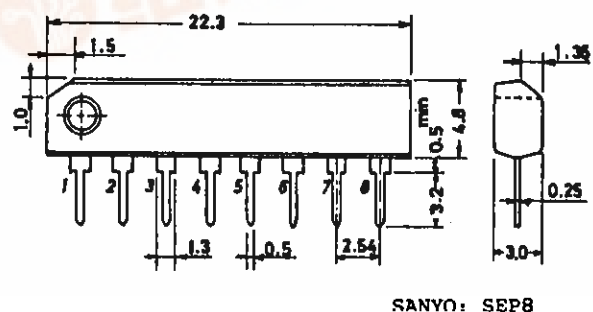
Allowable Operating Range at $T_a = 25^\circ\text{C}$

| | | | unit |
|----------------|--|-----------|------|
| Supply Voltage | V_{CC} | 4.5 to 16 | V |
| Input Voltage | V_i | V_{CC} | V |
| | Trigger, control voltage, reset, threshold | | |
| Output Current | I_o | ± 200 | mA |

Package Dimensions 3001B (unit: mm)



Package Dimensions 3016B (unit: mm)

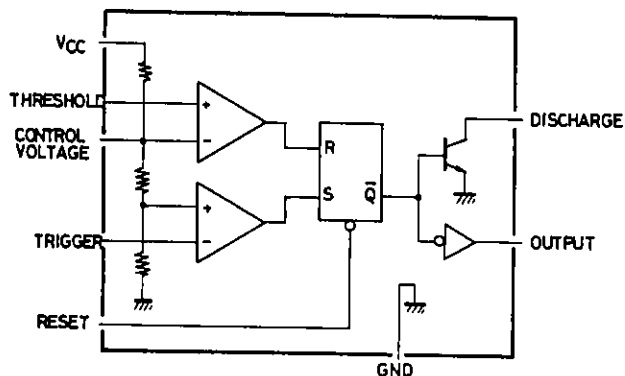


LB8555D,8555S

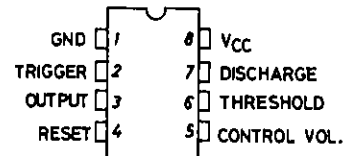
Electrical Characteristics at $T_a = 25^\circ\text{C}$

| | | | min | typ | max | unit |
|--------------------------|------------|---|-------|--------------|------|---------------|
| Supply Current | I_{CC1} | $V_{CC} = 5V, R_L = \infty$ | | 3 | 6 | mA |
| | I_{CC2} | $V_{CC} = 15V, R_L = \infty$ | | 10 | 15 | mA |
| Control Voltage | V_{con1} | $V_{CC} = 5V$ | 2.6 | 3.33 | 4.0 | V |
| | V_{con2} | $V_{CC} = 15V$ | 9 | 10 | 11 | V |
| Threshold Voltage | V_{TH} | | | $2/3 V_{CC}$ | | V |
| Threshold Current | I_{TH} | | | 0.1 | 0.25 | μA |
| Trigger Voltage | V_T | | | $1/3 V_{CC}$ | | V |
| Trigger Current | I_T | | | 0.5 | 1.0 | μA |
| Reset Voltage | V_{rs} | | 0.35 | 0.7 | 1.0 | V |
| Reset Current | I_{rs} | | | 0.1 | | mA |
| Output 'L'-Level Voltage | V_{OL} | $V_{CC} = 5V, I_{sink} = 5\text{mA}$ | | 0.25 | 0.35 | V |
| | | $V_{CC} = 15V, I_{sink} = 10\text{mA}$ | | 0.1 | 0.25 | V |
| | | $V_{CC} = 15V, I_{sink} = 100\text{mA}$ | | 2.0 | 2.5 | V |
| | | | | | | V |
| Output 'H'-Level Voltage | V_{OH} | $V_{CC} = 5V, I_{source} = 100\text{mA}$ | 2.75 | 3.3 | | V |
| | | $V_{CC} = 15V, I_{source} = 100\text{mA}$ | 12.75 | 13.3 | | V |

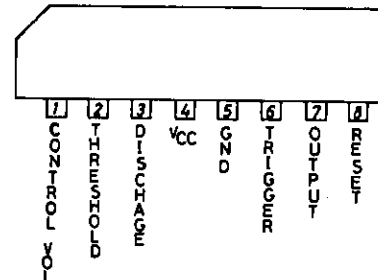
Equivalent Circuit Block Diagram and Pin Assignment



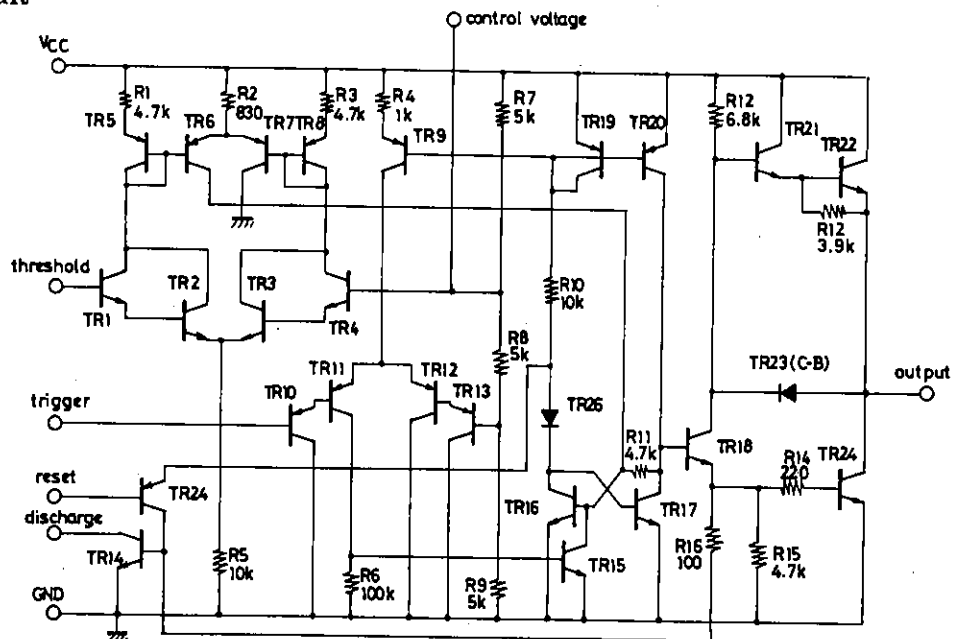
LB8555D



LB8555S



Equivalent Circuit



Unit (resistance: Ω)

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