

NE558C**LINEAR INTEGRATED CIRCUIT****QUAD TIMER**

The NE558 series are monolithic Quad Timers which can be used to produce four entirely independent timing functions. These highly stable, general purpose controllers can be used in a monostable mode to produce accurate time delays, from microseconds to hours. The time is precisely controlled by one external resistor and one capacitor in the time delay mode. A stable mode can be operated by using two of four time sections.

FEATURES

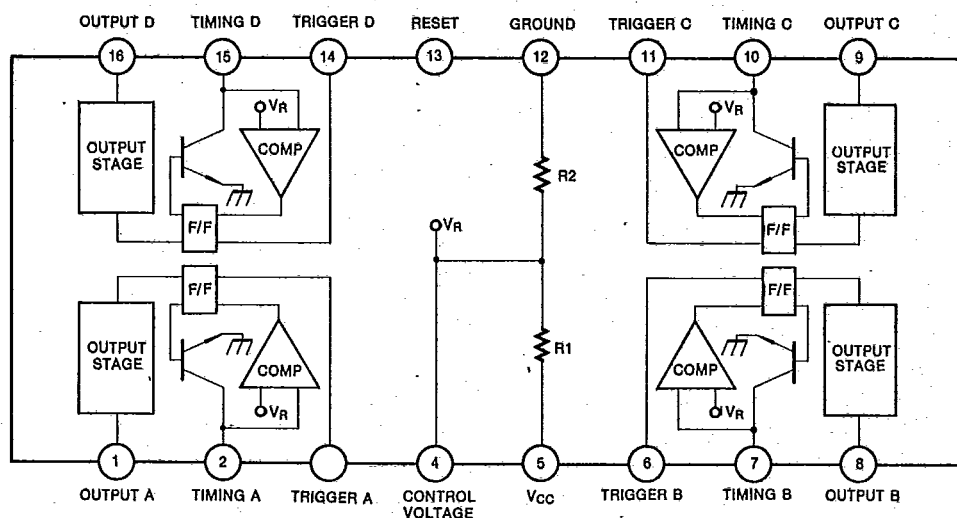
- Wide Supply Voltage Range: 4.5V To 16V
- 100mA Output Current Per Section
- Edge Triggered Without Coupling Capacitor
- Time Period Equals RC
- Output Independent Of Trigger Conditions

APPLICATIONS

- Quad One-Shot
- Sequential Timing
- Precision Timing
- Time Delay Generation

ORDERING INFORMATION

Device	Package	Operating Temperature
NE558CN	16 DIP	0 ~ +70°C

BLOCK DIAGRAM

NE558C

LINEAR INTEGRATED CIRCUIT

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

T-51-19

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	16	V
Lead Temperature (soldering 10 sec)	T_{lead}	300	$^\circ\text{C}$
Power Dissipation	P_D	600	mW
Operating Temperature Range	T_{opr}	$0 \sim +70$	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	$-65 \sim +150$	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS

($V_{CC} = 5$ to 15V , $T_a = 25^\circ\text{C}$, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	V_{CC}		4.5		16	V
Supply Current	I_{CC}	$V_{CC} = 15\text{V}$, reset voltage = 15V		16	36	mA
Timing Error ($T = RC$) Initial Accuracy	M_T	$R = 2\text{K}\Omega$ to $100\text{K}\Omega$, $C = 1\mu\text{F}$		± 2	5	%
Drift with Temperature				30	150	PPM/ $^\circ\text{C}$
Drift with Supply Voltage				0.1	0.9	%/V
¹ Trigger Voltage	V_{TR}	$V_{CC} = 15\text{V}$	0.8	1.5	2.4	V
¹ Trigger Current	I_{TR}	Trigger voltage = 0V		5.0	100	μA
² Reset Voltage	V_{RE}	Reset	0.8	1.5	2.4	V
² Reset Current	I_{RE}	Reset		50	500	μA
Threshold Voltage	V_{TH}			$0.63 \times V_{CC}$		V
Threshold Current	I_{TL}			15		nA
³ Output Voltage	V_{OUT}	$I_L = 10\text{mA}$		0.1	0.4	V
		$I_L = 100\text{mA}$		1.0	2.0	
Output Leakage Current	I_{OL}			10	500	nA
Propagation Delay Time	T_P			1.0		μs
Rise Time	T_r	$I_L = 100\text{mA}$		100		nS
Fall Time	T_f	$I_L = 100\text{mA}$		100		nS

- NOTES: 1. The trigger functions only on the falling edge of the trigger pulse only after previously being high. After reset the trigger must be brought high and then low to implement triggering.
 2. For reset below 0.8V , outputs set low and trigger inhibited.
 3. Output structure is open collector which requires a pull up resistor to V_{CC} to sink current. The output is normally low sinking current.