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NTE926
Integrated Circuit
Quad Timer

Description:

The NTE926 quad timer is a monolithic timing device which can be used to produce four independent timing functions. The NTE926 output sinks current. This highly stable, general purpose controller can be used in a monostable mode to produce accurate time delays–from microseconds to hours. In the time delay mode of operation, the time is precisely controlled by one external resistor and one capacitor. A stable operation can be achieved by using two of the four timer sections.

The four timer section in the NTE926 are edge–triggered, therefore, when connected in tandem for sequential timing applications, no coupling capacitors are required. Output current capability of 100mA is provided in both devices.

Features:

- 100mA Output Current per Section
- Edge–triggered (No Coupling Capacitor)
- Output Independent of Trigger Conditions
- Wide Supply Voltage Range 4.5V to 18V
- Timer Intervals from Microseconds to Hours
- Time Period Equals RC

Applications:

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

Absolute Maximum Ratings:

Supply Voltage, V_{CC} . . . . . +16V
Maximum Power Dissipation (T_A = +25°C), P_D 1450mW
Derate Above 25°C . . . . . 11.6mW/°C
Operating Ambient Temperature Range, T_A . . . . . 0 to +70°C
Storage Temperature Range, T_{stg} . . . . . –65 to +150°C
Lead Soldering Temperature (10 Sec Max), T_{SOLD} . . . . . +300°C

DC & AC Electrical Characteristics: (T_A = +25°C, V_{CC} = +5V, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	V_{CC}		4.5	–	16	V
Supply Current	I_{CC}	V_{CC} = Reset = 15V	–	16	36	mA
Timing Accuracy (t = RC)		R = 2kΩ to 100kΩ, C = 1μF				
Initial Accuracy			–	±2	5	%
Drift with Temperature			–	30	150	ppm/°C
Drift with Supply Voltage			–	0.1	0.9	%/V
Trigger Voltage		V_{CC} = 15V, Note 1	0.8	–	2.4	V
Trigger Current		Trigger = 0V	–	5	100	μA
Reset Voltage		Note 2	0.8	–	2.4	V
Reset Current		Reset	–	50	500	μA
Threshold Voltage			–	0.63	–	x V_{CC}
Threshold Leakage			–	15	–	nA
Output Voltage	V_{OUT}	I_L = 10mA, Note 3	–	0.1	0.4	V
			–	1.0	2.0	V
Output Leakage			–	10	500	nA
Propagation Delay	t_{PD}		–	1.0	–	μS
Rise Time of Output	t_R	I_L = 100mA	–	100	–	nS
Fall Time of Output	t_F	I_L = 100mA	–	100	–	nS

Note 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.

Note 2. For reset below 0.8V, outputs set low and trigger inhibited. For reset above 2.4V, trigger enabled.

Note 3. The NTE926 output structure is open–collector which requires a pull–up resistor to V_{CC} to sink current. The output is normally low sinking current.

Pin Connection Diagram