



ELECTRONICS, INC.
 44 FARRAND STREET
 BLOOMFIELD, NJ 07003
 (973) 748-5089

NTE1414 Integrated Circuit Digital AC Clock Timer for VCR

Description:

The NTE1414 is an LSI integrated circuit in a 40-Lead DIP type package designed for AC INPUT clock timers capable of randomly setting “ON hour” and “OFF hour” by a unit of a minute. This device can also work as a stopwatch timing up to 1 hour, 59 minutes and 59 seconds, and as a sleep timer operating for not more than 1 hour and 59 minutes once it is set.

A current hour, “ON hour”, and “OFF hour” can be set easily in one of the following three modes: FAST mode, in which the data of figures of minutes are sent fast at 50Hz or 60Hz; SLOW mode, in which they are sent slow at 2Hz; and REVERSE, mode in which they are sent reversely.

Features:

- Complete Two-Operation/24 Hour Timer
- Alternate Current of 50Hz/60Hz Entered
- AM/PM or 24 Hour Display
- Hours can be Set in FORWARD or REVERSE Mode
- Sleep Timer Operation for not more than 1 Hour, 59 Minutes once it is Set
- Stopwatch Timing up to 1 Hour, 59 Minutes, and 59 Seconds
- Capable of Directly Driving a Fluorescent Lamp Tube
- Power Failure Indicator

Absolute Maximum Ratings: ($V_{SS} = 0$, $T_A = +25^{\circ}C$ unless otherwise specified)

Supply Voltage, V_{DD}	-16 to +0.3V
Input Voltage, V_I	-17 to +0.3V
Output Voltage, V_O	-26 to +0.3V
Operating Ambient Temperature Range, T_{opr}	-20° to +70°C
Storage Temperature Range, T_{stg}	-40° to +125°C

Recommended Operating Conditions: ($T_A = +25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	V_{DD}	$V_{SS} = 0$	-10	-	-15	V
Supply Voltage Fall Detect Voltage	V_{PF}	$V_{SS} = 0$	-	-	-10	V

Electrical Characteristics: ($V_{DD} = -12V$, $V_{SS} = 0$, $T_A = +25^\circ C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Current	I_{DD}	No Load	–	1.3	5.0	mA
50Hz/60Hz Input Terminal						
Input Frequency	f_i		DC	50/60	10k	Hz
High Level Input Voltage	$V_{IH(1)}$	$V_{SS} = 0$	0	–	–1	V
Low Level Input Voltage	$V_{IL(1)}$	$V_{SS} = 0$	$V_{DD}+1$	–	–16	V
All Other Input Terminals						
High Level Input Voltage	$V_{IH(2)}$	$V_{SS} = 0$	0	–	–1	V
Low Level Input Voltage	$V_{IL(2)}$	$V_{SS} = 0$	$V_{DD}+1$	–	V_{DD}	V
PM Output Terminal (In 24 Hour Display Mode)						
High Level Output Current	$I_{OH(1)}$	$V_O = -3V$	–	12	–	mA
Output Voltage Breakdown	$BV_{O(1)}$	$I_O = -10\mu A$	–	–	–22	V
10's of Hour and 10's of Minute – Figure Display Output Terminal (b & c) (a & d)						
High Level Output Current	$I_{OH(2)}$	$V_O = 3V$	–	6	–	mA
Output Voltage Breakdown	$BV_{O(2)}$	$I_O = -10\mu A$	–	–	–22	V
Other Display Output Terminals						
High Level Output Current	$I_{OH(3)}$	$V_O = -3V$	–	3	–	mA
Output Voltage Breakdown	$BV_{O(3)}$	$I_O = -10\mu A$	–	–	–22	V
Other Output Terminals						
High Level Output Current	$I_{OH(4)}$	$V_O = -2V$	500	–	–	μA
Output Voltage Breakdown	$BV_{O(4)}$	$I_O = -10\mu A$	–	–	–22	V

Pin Connection Diagram



