

## NTE1409 & NTE1409N Integrated Circuit Electronic Channel Selector

**Description:**

The NTE1409 is an electronic channel selector integrated circuit in a 24-Lead DIP type package capable of selecting up to 16 channels. The output terminals are design to permit direct driving of LEDs or neon tubes.

It consists of a Clock Oscillator circuit, a Channel Up and Down circuit, a Channel skip circuit, a 4 bit Up and Down Counter circuit, a 1-16 Decoder circuit and a 16 channel Output Buffer circuit.

**Features:**

- LED Direct Drive
- Low Power Consumption
- Up to 16 Channel Selections
- Internal Schmitt Trigger Circuit
- Power ON Initial Channel Set
- TV, Radio, etc. Channel Selection Use.
- Can be Used with NTE1758 Direct Address Remote Control System

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Supply Voltage, $V_{CC}$ .....	15V
Input Current to Channel Selection Circuit, $I_{K1-11}, I_{K20-24}$ .....	-5mA to 50mA
Input Current to Control Circuit, $I_{C15-19}$ .....	-5mA to 10mA
Input Current to Control Circuit, $I_{C13}$ .....	-5mA to 20mA
Output Voltage to Channel Selection Circuit ( $V_{CC} = 12V$ ), $V_{K1-11}, V_{K20-24}$ .....	-0.5V to 50V
Output Voltage to Control Circuit ( $V_{CC} = 12V$ ), $V_{13}$ .....	-0.5V to 14.4V
Input Voltage to Control Circuit ( $V_{CC} = 12V$ ), $V_{17}$ .....	-0.5V to $V_{CC}$
Power Dissipation, $P_D$ .....	350mW
Operating Temperature Range, $T_{opt}$ .....	-20° to +75°C
Storage Temperature Range, $T_{stg}$ .....	-40° to +125°C

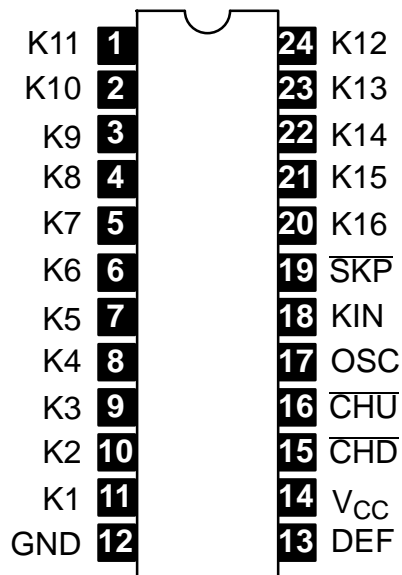
**Recommended Operating Conditions:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	$V_{CC}$		9.6	12.0	14.4	V
Channel Selection Input Current	$I_K$		-	15	-	mA
Clock Oscillation Frequency	$f_{osc}$		-	2	10	kHz

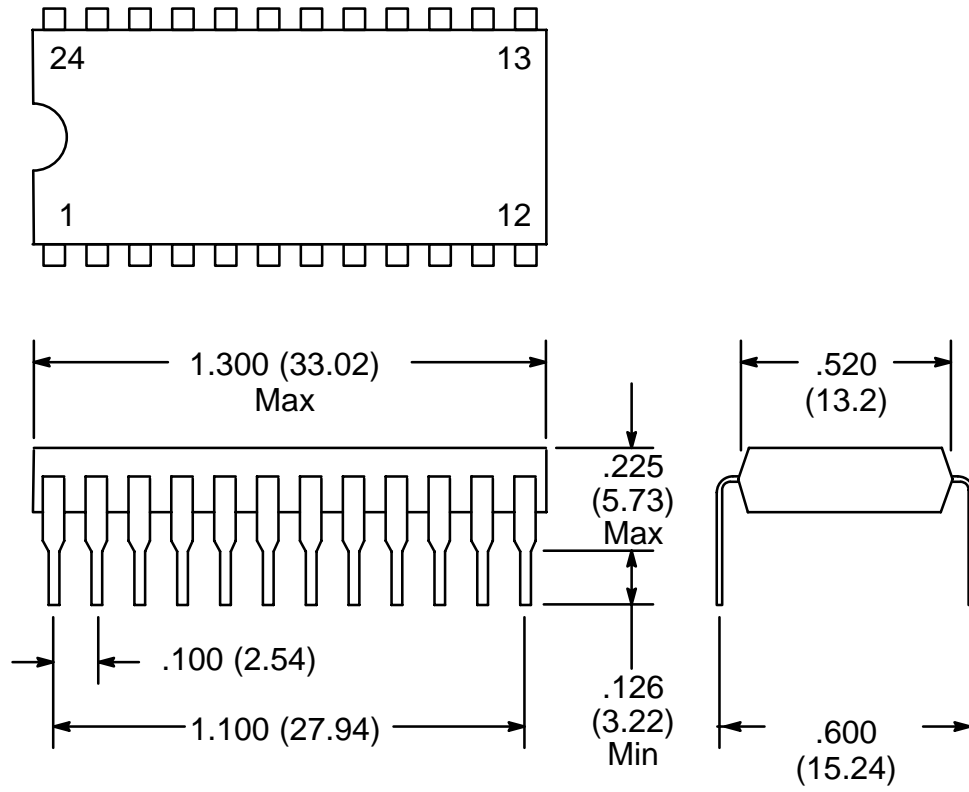
**Electrical Characteristics:** ( $T_A = +25^{\circ}\text{C} \pm 3^{\circ}\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Current	$I_{DD}$	$V_{CC} = 12\text{V}$	7	15	22	mA
Channel Selection Saturation	$V_{OL(K)}$	$V_{CC} = 9.6\text{V}, I_{OL} = 15\text{mA}$	–	–	150	mV
Channel Selection Leakage Current	$I_{OH(K)}$	$V_{CC} = 14.4\text{V}, V_{OH} = 35\text{V}$	–	–	10	$\mu\text{A}$
AFT Defeat Output Voltage	$V_{OL(D)}$	$V_{CC} = 9.6\text{V}, I_{OL} = 12\text{mA}$	–	–	6	V
AFT Defeat Leakage Current	$I_{OH(D)}$	$V_{CC} = 14.4\text{V}, V_{OH} = 14.4\text{V}$	–	–	10	$\mu\text{A}$
Channel Input High Threshold Voltage	$V_{TH(CH)}$	$V_{CC} = 12\text{V}, R_J = 15\text{k}\Omega$	3.5	–	7.0	V
Channel Input Low Threshold Voltage	$V_{TL(CH)}$		1.5	–	2.5	V
Channel Input Leakage Current	$I_{CH(CH)}$	$V_{CC} = 14.4\text{V}, V_{IL} = 0\text{V}$	–5	–	–	$\mu\text{A}$
Key Input Current	$I_{IH(KI)}$	$V_{CC} = 9.6\text{V}$	200	–	–	$\mu\text{A}$
Key Input Leakage Current	$I_{IL(KI)}$	$V_{CC} = 14.4\text{V}, V_{IL} = 0\text{V}$	–10	–	–	$\mu\text{A}$
Skip Input Current	$I_{IH(SK)}$	$V_{CC} = 9.6\text{V}$	50	–	–	$\mu\text{A}$
Skip Input Leakage Current	$I_{IL(SK)}$	$V_{CC} = 14.4\text{V}, V_{IL} = 0\text{V}$	–5	–	–	$\mu\text{A}$
OSC Input Current	$I_{IH(OSC)}$	$V_{CC} = 9.6\text{V}, V_{IH} = 4\text{V}$	1.5	–	3.0	mA
OSC Input Leakage Current	$I_{IL(OSC)}$	$V_{CC} = 14.4\text{V}, V_{IL} = 1\text{V}$	–	–	10	$\mu\text{A}$
OSC Frequency	$f_{OSC}$	$V_{CC} = 12\text{V}, R = 68\text{k}\Omega, C = 0.022\mu\text{F}$	1.5	–	2.5	kHz

**Pin Connection Diagram**



**NTE1409**



**NTE1409N**

