

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 ($V_{CC} = 12\text{V}$), V_{K1-11}, V_{K20-24}	–0.5V to 50V
Output Voltage to Control Circuit ($V_{CC} = 12\text{V}$), V_{13}	–0.5V to 14.4V
Input Voltage to Control Circuit ($V_{CC} = 12\text{V}$), 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

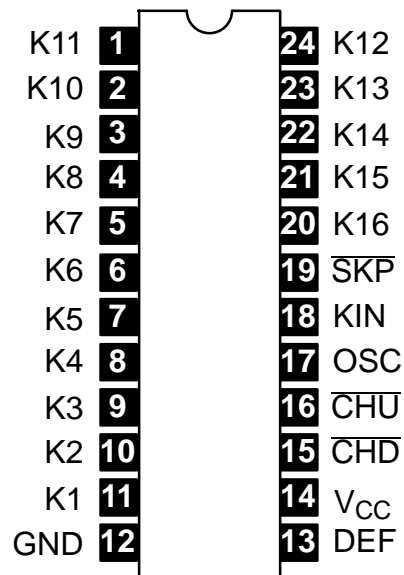
Recommended Operating Conditions: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

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

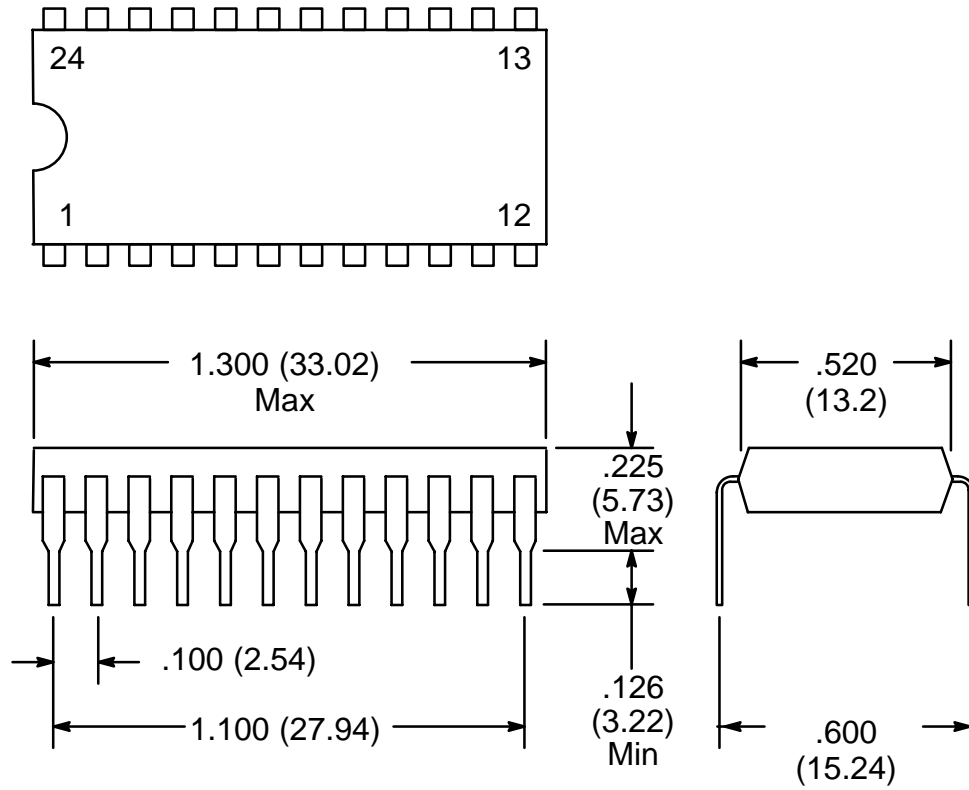
Electrical Characteristics: ($T_A = +25^{\circ}\text{C} \pm 3^{\circ}\text{C}$ unless otherwise specified)

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	μA
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	μA
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	–	–	μA
Key Input Current	$I_{IH(KI)}$	$V_{CC} = 9.6\text{V}$	200	–	–	μA
Key Input Leakage Current	$I_{IL(KI)}$	$V_{CC} = 14.4\text{V}, V_{IL} = 0\text{V}$	–10	–	–	μA
Skip Input Current	$I_{IH(SK)}$	$V_{CC} = 9.6\text{V}$	50	–	–	μA
Skip Input Leakage Current	$I_{IL(SK)}$	$V_{CC} = 14.4\text{V}, V_{IL} = 0\text{V}$	–5	–	–	μA
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	μA
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

