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## NTE1434 Integrated Circuit Voltage Comparator

**Features:**

- Low Input Current (20nA typ.)
- Wide Operating Voltage Range (2.5V to 28V)
- Low Power Dissipation (2.5mA max.)
- Capable of Directly Driving a Relay or a Lamp
- High Output Breakdown Voltage (30V max.)

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

Supply Voltage, $V_{CC}$ .....	28V
Input Voltage, $V_{IN}$ .....	28V
Output Drive Current (Output Saturated), $I_{OL}$ .....	60mA
Output Drive Voltage, $V_{OH}$ .....	30V
Power Dissipation, $P_D$ .....	180mW
Thermal Derating ( $T_A \geq 25^\circ\text{C}$ ), $K_\theta$ .....	1.8mW/ $^\circ\text{C}$
Operating Temperature Range, $T_{opg}$ .....	-20° to +75°C
Storage Temperature Range, $T_{stg}$ .....	-40° to +125°C

**Recommended Operating Conditions:**

Supply Voltage Range .....	2.5V to 28V
Rated Supply Voltage .....	12V

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

Parameter	Symbol	$V_{CC}$ (V)	Test Conditions	Min	Typ	Max	Unit
Supply Voltage Range	$V_{CC}$			2.5	-	28	V
Circuit Current	$I_{CC}$	6.0		-	1.8	2.5	mA
		12.0		-	1.8	2.5	mA
		24.0		-	1.8	2.5	mA
Inverting Input Voltage	$V_{IN(1)}$	12.0		1.4	-	27.8	V
Non-Inverting Input Voltage	$V_{IN(2)}$	12.0		1.4	-	27.8	V
Inverting Input Current	$I_{IN(1)}$	6.0		-	20	75	nA
		12.0		-	20	75	nA
		24.0		-	20	75	nA

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

Parameter	Symbol	$V_{CC}$ (V)	Test Conditions	Min	Typ	Max	Unit
Non-Inverting Input Current	$I_{IN(2)}$	6.0		-	20	75	nA
		12.0		-	20	75	nA
		24.0		-	20	75	nA
Input Offset Voltage	$V_{IO}$	6.0	Reference Voltage at Pin 1	-7	2	12	mV
		12.0		-7	2	12	mV
		24.0		-7	2	12	mV
Output Saturation Voltage	$V_{OL}$	6.0	$R_L = 100\Omega$	-	0.3	0.6	V
		12.0	$R_L = 200\Omega$	-	0.3	0.6	V
		24.0	$R_L = 400\Omega$	-	0.3	0.6	V
Output "L-H" Propagation Delay Time	$t_{PLH}$	12.0		-	1	-	$\mu\text{s}$
Output "H-L" Propagation Delay Time	$t_{PHL}$	12.0		-	10	-	$\mu\text{s}$

**Pin Connection Diagram**

