



## NTE1749 Integrated Circuit Push–Pull Four Channel Driver

### **Description:**

The NTE1749 is a quad push–pull driver capable of delivering output currents to 1A per channel. Each channel is controlled by a TTL–compatible logic input and each pair of drivers (a full bridge) is equipped with an inhibit input which turns off all four transistors. A separate supply input is provided for the logic so that it may be run off a lower voltage to reduce dissipation.

### **Features:**

- Output Current 1A Per Channel
- Peak Output Current 2A Per Channel (Non Repetitive)
- Inhibit Facility
- High Noise Immunity
- Separate Logic Supply
- Overtemperature Protection

### **Absolute Maximum Ratings:**

Supply Voltage, $V_S$ .....	36V
Logic Supply Voltage, $V_{SS}$ .....	36V
Input Voltage, $V_I$ .....	7V
Inhibit Voltage, $V_{inh}$ .....	7V
Peak Output Current (Non–Repetitive, $t = 5ms$ ), $I_O$ .....	2A
Total Power Dissipation ( $T_{ground-pins} = +80^\circ C$ ), $P_D$ .....	5W
Operating Junction Temperature Range, $T_J$ .....	$-40^\circ$ to $+150^\circ C$
Storage Temperature Range, $T_{stg}$ .....	$-40^\circ$ to $+150^\circ C$
Maximum Thermal Resistance, Junction–to–Case $R_{thJC}$ .....	14°C/W
Thermal Resistance, Junction–to–Ambient, $R_{thJA}$ .....	80°C/W

**Electrical Characteristics:** (Per Channel,  $V_S = 24V$ ,  $V_{SS} = 5V$ ,  $T_A = +25^\circ C$ , unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	$V_S$		$V_{SS}$	–	36	V
Logic Supply Voltage	$V_{SS}$		4.5	–	36	V
Total Quiescent Supply Current	$I_S$	$V_i = L, I_O = 0, V_{inh} = H$	–	2	6	mA
		$V_i = H, I_O = 0, V_{inh} = H$	–	16	24	mA
		$V_{inh} = L$	–	–	4	mA
Total Quiescent Logic Supply Current	$I_S$	$V_i = L, I_O = 0, V_{inh} = H$	–	44	60	mA
		$V_i = H, I_O = 0, V_{inh} = H$	–	16	24	mA
		$V_{inh} = L$	–	16	24	mA
Input Low Voltage	$V_{IL}$		–0.3	–	1.5	V
Input High Voltage	$V_{IH}$	$V_{SS} \leq 7V$	2.3	–	$V_{SS}$	V
		$V_{SS} > 7V$	2.3	–	7	V
Low Voltage Input Current	$I_{IL}$	$V_{IL} = 1.5V$	–	–	–10	$\mu A$
High Voltage Input Current	$I_{IH}$	$2.3V \leq V_{IH} \leq V_{SS} - 0.6V$	–	30	100	$\mu A$
Inhibit Low Voltage	$V_{inhL}$		–0.3	–	1.5	V
Inhibit High Voltage	$V_{inhH}$	$V_{SS} \leq 7V$	2.3	–	$V_{SS}$	V
		$V_{SS} > 7V$	2.3	–	7	V
Low Voltage Inhibit Current	$I_{inhL}$	$V_{inhL} = 1.5V$	–	–30	100	$\mu A$
High Voltage Inhibit Current	$I_{inhH}$	$2.3V \leq V_{inhH} \leq V_{SS} - 0.6V$	–	–	$\pm 10$	$\mu A$
Source Output Saturation Voltage	$V_{CEsatH}$	$I_O = -1A$	–	1.4	1.8	V
Sink Output Saturation Voltage	$V_{CEsatL}$	$I_O = 1A$	–	1.2	1.8	V
Rise Time	$t_r$	0.1 to 0.9 $V_o$	–	250	–	ns
Fall Time	$t_f$	0.9 to 0.1 $V_o$	–	250	–	ns
Turn-On Delay Time	$t_{on}$	0.5 $V_i$ to 0.5 $V_o$	–	750	–	ns
Turn-Off Delay Time	$t_{off}$	0.5 $V_i$ to 0.5 $V_o$	–	200	–	ns

**Truth Table**

$V_i$ (Each Channel)	$V_o$	$V_{inh}$ (Note 2)
H	H	H
L	L	H
H	X (Note 1)	L
L	X (Note 1)	L

Note 1. High Output Impedance

Note 2. Relative to the Considerate Channel

**Pin Connection Diagram**



