

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° to $+150^{\circ}C$
Storage Temperature Range, T_{stg}	-40° to $+150^{\circ}C$
Maximum Thermal Resistance, Junction-to-Case R_{thJC}	14 $^{\circ}C/W$
Thermal Resistance, Junction-to-Ambient, R_{thJA}	80 $^{\circ}C/W$

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	μA
High Voltage Input Current	I_{IH}	$2.3V \leq V_{IH} \leq V_{SS} - 0.6V$	–	30	100	μA
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	μA
High Voltage Inhibit Current	I_{inhH}	$2.3V \leq V_{inhH} \leq V_{SS} - 0.6V$	–	–	± 10	μA
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

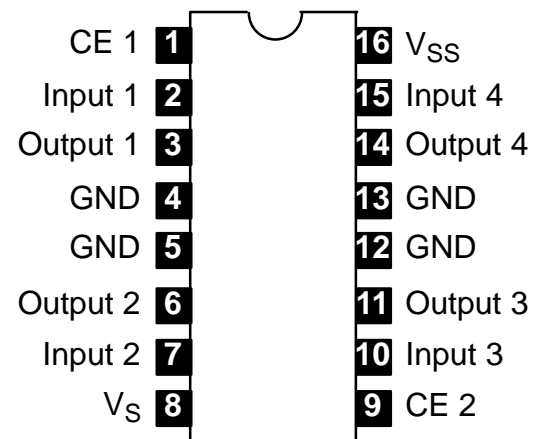
Truth Table

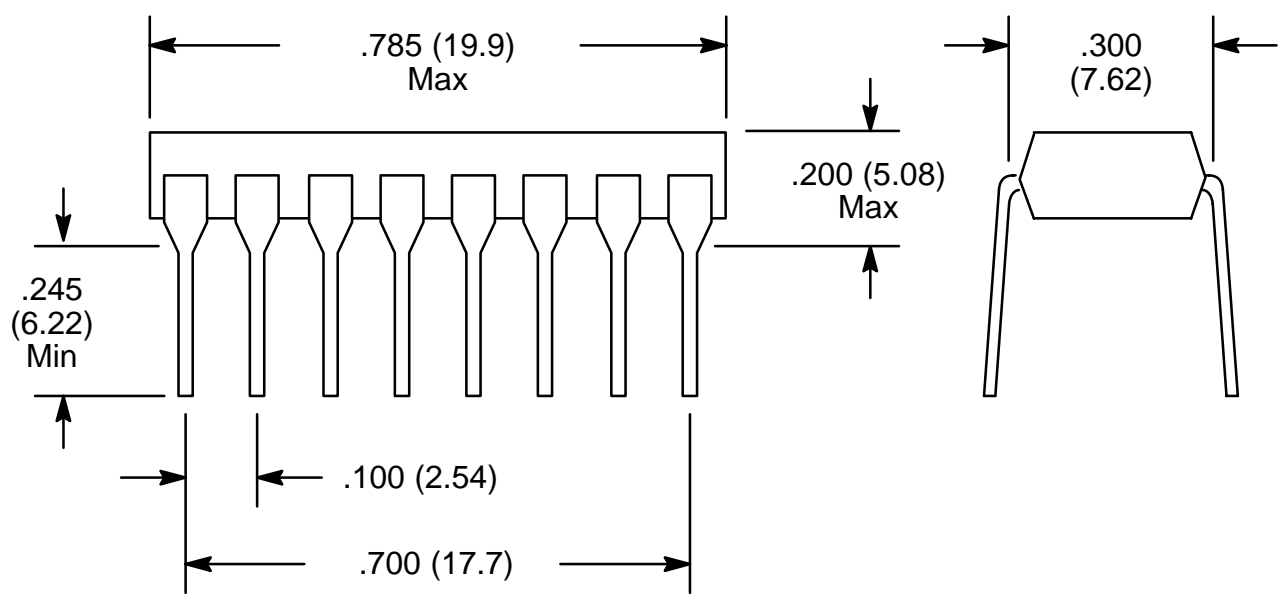
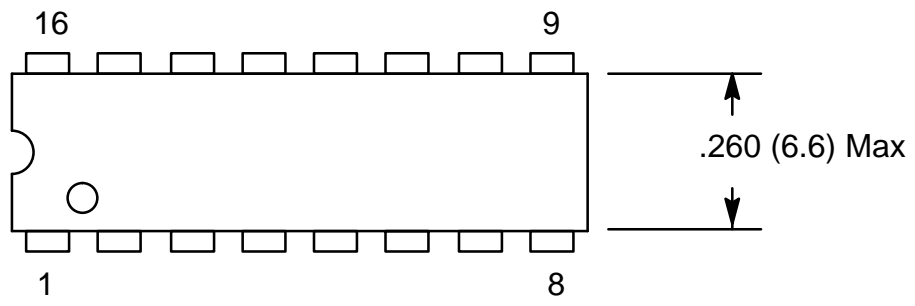
V_i (Each Channel)	V_o	V_{inh} (Note 2)
H	H	H
L	L	H
H	X (Note 1)	L
L	X (Note 1)	L

Note 1. High Output Impedance

Note 2. Relative to the Considerate Channel

Pin Connection Diagram





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