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NTE1749-1 Integrated Circuit Push-Pull Four Channel Driver with Diodes 16-Lead DIP

Description:

The NTE1749-1 is a monolithic integrated high voltage, high current four channel driver in a 16-Lead DIP type package designed to accept standard DTL or TTL logic levels and drive inductive loads (such as relays, solenoids, DC and stepping motors) and switching power transistors.

To simplify use as two bridges each pair of channels is equipped with an enable input. A separate supply input is provided for the logic, allowing operation at a lower voltage and internal clamp diodes are included.

The NTE1749-1 is suitable for use in switching applications at frequencies up to 5kHz.

Features:

- 600mA Output Current Capability Per Channel
- 1.2A Peak Output Current Per Channel (Non Repetitive)
- Enable Facility
- Overtemperature Protection
- Logical "0" Input Voltage up to 1.5V (High Noise Immunity)
- Internal Clamp Diodes

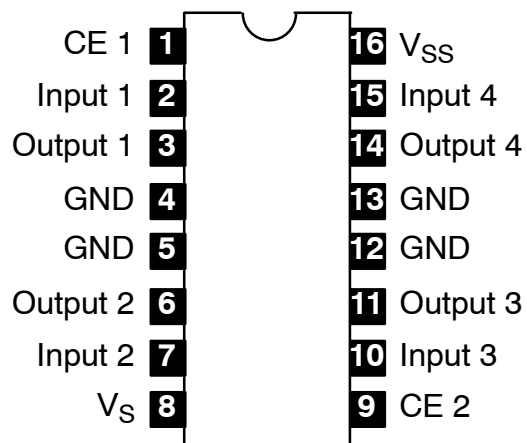
Absolute Maximum Ratings:

Supply Voltage, V_S	36V
Logic Supply Voltage, V_{SS}	36V
Input Voltage, V_I	7V
Enable Voltage, V_{en}	7V
Peak Output Current (Non-Repetitive, $t = 100\mu s$), I_O	1.2A
Total Power Dissipation ($T_{pins} = +90^\circ C$), P_D	4W
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	$V_i = L, I_O = 0, V_{en} = H$	–	2	6	mA
		$V_i = H, I_O = 0, V_{en} = H$	–	16	24	mA
		$V_{en} = L$	–	–	4	mA
Total Quiescent Logic Supply Current	I_S	$V_i = L, I_O = 0, V_{en} = H$	–	44	60	mA
		$V_i = H, I_O = 0, V_{en} = H$	–	16	24	mA
		$V_{en} = L$	–	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
Enable Low Voltage	V_{enL}		–0.3	–	1.5	V
Enable High Voltage	V_{enH}	$V_{SS} \leq 7V$	2.3	–	V_{SS}	V
		$V_{SS} > 7V$	2.3	–	7	V
Low Voltage Enable Current	I_{enL}	$V_{enL} = 1.5V$	–	–30	–100	μA
High Voltage Enable Current	I_{enH}	$2.3V \leq V_{enH} \leq V_{SS} - 0.6V$	–	–	± 10	μA
Source Output Saturation Voltage	$V_{CE(sat)H}$	$I_O = -0.6A$	–	1.4	1.8	V
Sink Output Saturation Voltage	$V_{CE(sat)L}$	$I_O = 0.6A$	–	1.2	1.8	V
Clamp Diode Forward Voltage	V_F	$I_O = 600nA$	–	1.3	–	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

Pin Connection Diagram



Truth Table

Input	Enable (Note 2)	Output
H	H	H
L	H	L
H	L	X (Note 1)
L	L	X (Note 1)

Note 1. High Output Impedance

Note 2. Relative to the Considerate Channel

