ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089

NTE2075
Integrated Circuit
5–Stage Transistor Array w/Strobe

Description:
The NTE2075, 5–channel sink driver, consists of 10 NPN transistors connected to form high current gain driver pairs.

Features:
- Output Sustaining Voltage to 20V
- High Output Sink Current to 320mA
- PMOS Compatible Input with Strobe Control
- Wide Operating Temperature (T_A = –20° to +75°C)

Application:
Relay and printer driver, LED or incandescent display digit driver, interfacing for standard MOS/BI POLAR logics.

Function:
The NTE2075 uses a predriver stage. Each input has a diode and 20kΩ resistor in series to have a wide input voltage range from –25V to +20V. All inputs can be controlled simultaneously by a strobe input at Pin1. The power supply of the predrivers is connected to Pin14. All emitters and the substrate are connected together to Pin7. The outputs are capable of sinking 320mA and will withstand 20V in the OFF state.

Absolute Maximum Ratings: (T_A = –20° to +75°C, unless otherwise specified)
Supply Voltage, V_{CC} 10V
Output Sustaining Voltage (Transistor OFF), V_{CEO} . . . . . –0.5 to +20V
Collector Current (Transistor ON), I_C 320mA
Input Voltage, V_I . . . . . –20 to +20V
Strobe Input Voltage, $V_{I(STB)}$ 20V
Power Dissipation (T_A = +25°C), P_d 1.47W
Operating Ambient Temperature Range, T_{opr} . . . . . –20° to +75°C
Storage Temperature Range, T_{stg} . . . . . –55° to +125°C

Electrical Characteristics: (T_A = –20° to +75°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	V_{CC}		3	–	8	V
Output Voltage	V_O		0	–	20	V
Collector Current (Percent duty cycle less than 33%, V_{CC} = 6.5V	$V_{(BR)CEO}$	V_{CC}= 8V, V_I = 7V, $V_{I(STB)}$ = 0.2V, I_{CEO} = 100μA	20	–	–	V

Note 1. All typical values are at T_A = +25°C

Electrical Characteristics (Cont'd): (T_A = –20° to +75°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Saturation Voltage	$V_{CE(sat)}$	V_I = 7V V_{CC} = 6.5V, I_C = 250mA	–	0.05	0.85	V
		$V_{I(STB)}$ = V_{CC} = 3V, I_C = 150mA	–	0.3	0.5	
Input Current	I_I	V_{CC} = 8V, V_I = 18V, $V_{I(STB)}$ = 2.4V	–	0.9	1.8	µA
Input Leakage Current	I_R	V_{CC} = 8V, V_I = –25V	–	0	–20	µA
Strobe Input Current	$I_{I(STB)}$	V_{CC} = 8V, V_I = 7V all input $V_{I(STB)}$ = 0.2V	–	–4	–	mA
Strobe Input Leakage Current	$I_{R(STB)}$	V_{CC} = 8V, V_I = 0V, $V_{I(STB)}$ = 20V	–	0	10	µA
Supply Current	I_{CD}	V_{CC} =8V, V_I = 7V all input, $V_{I(STB)}$ = 2.4V	–	95	170	mA
DC Forward Current Gain	h_{FE}	V_{CE} = 4V, V_{CC} = 6.5V, I_O = 300mA, T_A = +25°C	1000	3000	–	–

Note 1. All typical values are at T_A = +25°C

Pin Connection Diagram