

DN8690

4-circuit Darlington Driver Array (High Breakdown Voltage : 60V, Large Drive Current : 1.5A)

Overview

The DN8690 is a 4-circuit non-inverting type driver array composed of PNP transistors and 1.5A NPN Darlington transistors.

Features

- 4 circuits
- High breakdown voltage : $V_{CE(SUS)} = 60V$ (min)
- Large output current : $I_O = 1.5A$ (max)
- Built-in output clamp diode : $V_R = 60V$ (min)
 $I_F = 1.5A$ (max)
- Low active input
- Directly connectable to the 5V TTL/CMOS

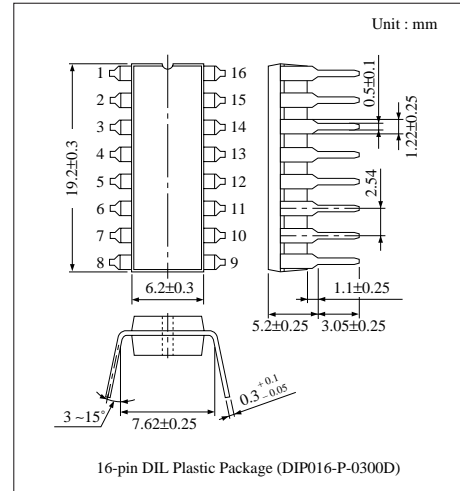
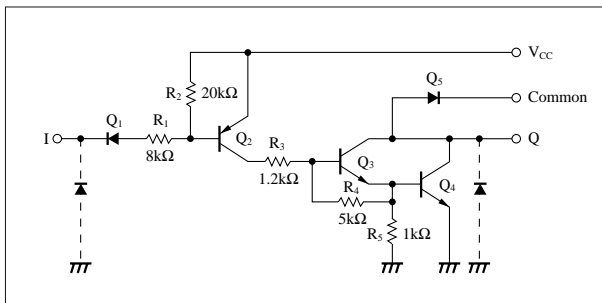
Applications

- Driving of the printer motors, etc.
- Driving of the LEDs, lamps, and various relays

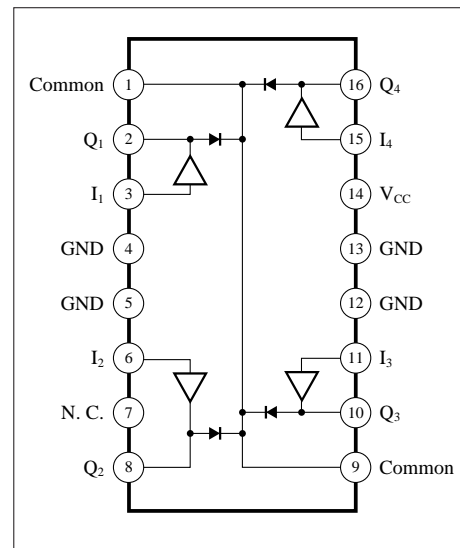
Function Table

Input (I_n)	Output (Q_n)
L	L
H	H
OPEN	H

Schematic Circuit (1 Circuit)



Block Diagram



Pin Descriptions

Symbol	Pin name
Common	Clamp diode pin
Q_1 to Q_4	Output pin
I_1 to I_4	Input pin
GND	Ground pin
V_{CC}	Power pin
NC	No connection

■ Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Rating	Unit
Supply voltage	V _{CC}	7.0	V
Output breakdown	V _{CE(sus)}	60	V
Output current	I _O	1.5	A
Input voltage	V _I	0 to 30	V
Clamp diode breakdown	V _R	60	V
Clamp diode forward current	I _F	1.5	A
Power dissipation	P _D	2.0	W
Operating ambient temperature	T _{opr}	- 20 to + 75	°C
Storage temperature	T _{stg}	- 55 to + 150	°C

■ Electrical Characteristics (V_{CC}= 5V, Ta= 25°C)

Parameter	Symbol	Condition	min	typ	max	Unit
Input voltage	V _{IH}	V _{CC} = 3.5 to 7V	V _{CC} - 0.3	—	30	V
	V _{IL}	V _{CC} = 3.5 to 7V	0	—	V _{CC} - 2.6	V
Output saturation voltage	V _{CE(sat) 1}	V _I = 0V, I _O = 0.5A	—	—	1.2	V
	V _{CE(sat) 2}	V _I = 0V, I _O = 1A	—	—	1.5	V
	V _{CE(sat) 3}	V _I = 0V, I _O = 1.5A	—	—	2.0	V
Input current	I _I	V _{CC} = 7V, V _I = 0V	—	—	1.0	mA
Output breakdown	V _{CE(sus)}	I _O = 100μA	60	—	—	V
Supply current	I _{CCH}	V _{CC} = 7V, Total V _I = 7V	—	—	50	μA
	I _{CCL}	V _{CC} = 7V, V _I = 0V (1 circuit)	—	—	8.0	mA
Clamp diode forward voltage	V _F	I _F = 1.5A	—	—	3.0	V
Clamp diode reverse current	I _R	V _R = 60V, V _O = 0V	—	—	30	μA
Propagation delay time	t _{PHL}	V _M = 60V, R _I = 50Ω	—	0.2	—	μs
	t _{PLH}	V _{CC} = 5V, C _I = 15pF	—	5.0	—	μs



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