

DN8650

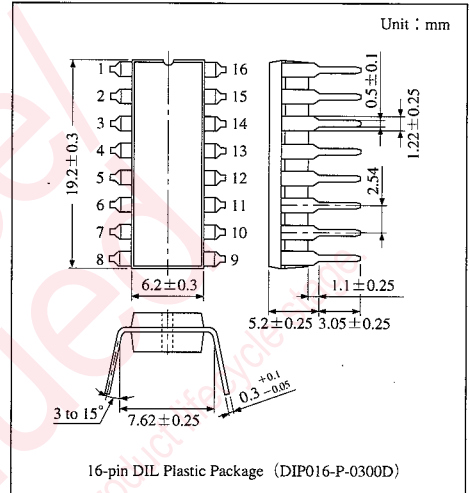
7-circuit Darlington Driver Array

Overview

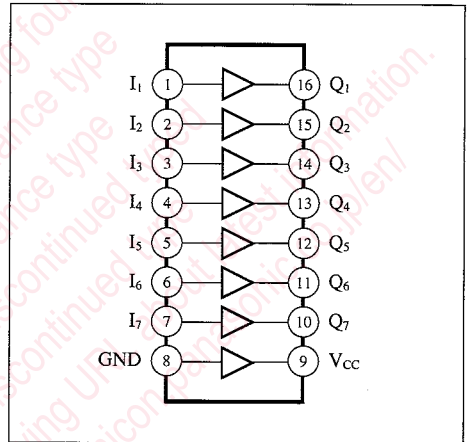
The DN8650, which is an NPN Darlington type buffer with PNP transistor for input, is a 7-circuit non-inverting type driver array.

Features

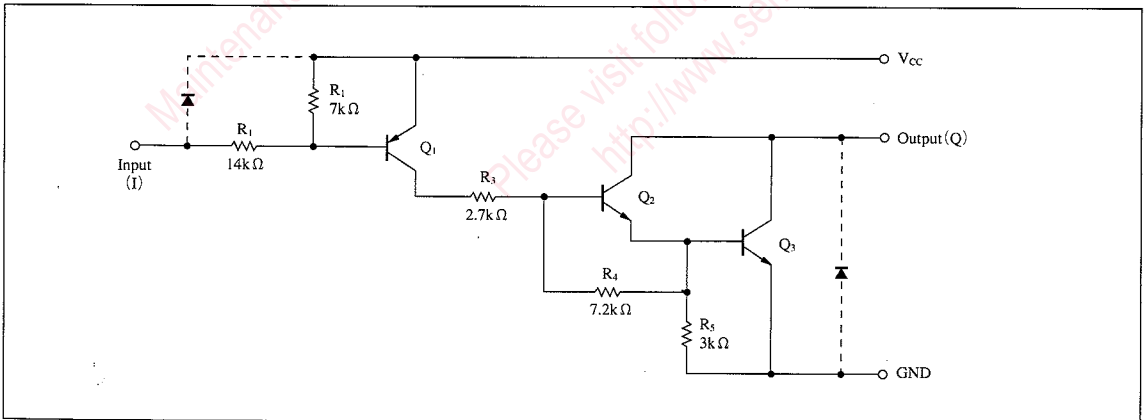
- 7-circuit buffer
- Low output breakdown voltage : $V_{CE(SUS)} = 35V$ (min)
- Large output current : $I_O = 500mA$ (max)
- Low active input
- Directly connectable to MOS LSI and TTL in the 5V power supply system
- 16-pin plastic DIL package



Block Diagram



Schematic Diagram



■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Supply voltage	V _{CC}	-0.5 to +7.0	V
Input voltage	V _I	-22 to V _{CC} +0.5	V
Input current	I _I	10	mA
Output breakdown	V _{CE(SUS)}	-0.5 to +35	V
Output current	I _O	500	mA
GND pin current	I _{GND}	2.3	A
Power dissipation	P _D	1.0	W
Operating ambient temperature	T _{opr}	-20 to +75	°C
Storage temperature	T _{stg}	-55 to +150	°C

■ Recommended Operating Range (Ta=25°C)

Parameter	Symbol	min	typ	max	Unit
Supply voltage	V _{CC}	4.5	5.0	5.5	V
Output voltage	V _O	0	—	35	V
Output current	I _O	0	—	350 *1	mA
		0	—	300 *2	mA
Input voltage	V _I	-20	—	V _{CC}	V
Power consumption	P _O	—	—	0.44	W

*1 When one circuit operates at DC

*2 When all the seven circuits operate at t_{pw}=25ms and D_F=10%

■ Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	min	typ	max	Unit
Output leakage current	I _{OLK}	V _{CC} =5.5V, I _I =0, V _O =35V	—	—	100	μA
Output saturation voltage	V _{CE(sat)}	V _{CC} =4.5V, V _I =0.8V, I _O =350mA	—	1.4	2.2	V
Input current (output ON)	I _{I(ON)}	V _{CC} =5.5V, V _I =0.4V	—	-0.32	-0.45	mA
		V _{CC} =5.5V, V _I =-20V	—	—	-2.6	mA
Input current (output OFF)	I _{I(OFF)}		—	-100	-40	μA
Input voltage (output ON)	V _{I(ON)}		-20	—	V _{CC} -3.5	V
Current consumption (output ON)	I _{CC(ON)}	V _{CC} =5.5V, Total input	—	13.5	18.7	mA
Current consumption (output OFF)	I _{CC(OFF)}	V _{CC} =5.5V, Total input	—	—	100	μA
Turn-on time	t _{ON}	V _{CC} =5V, V _O =35V	—	0.1	—	μs
Turn-off time	t _{OFF}	R _L =100Ω, C _L =15pF	—	3	—	μs

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