

DH0011A High Voltage High Current Driver

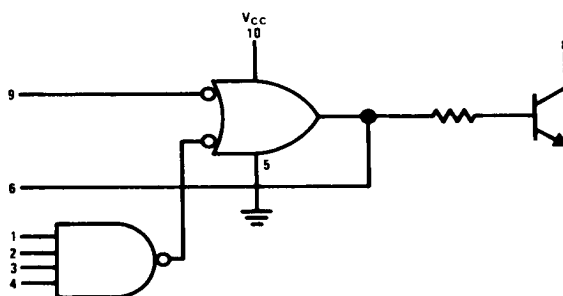
General Description

The DH0011A High Voltage, High Current Driver family consists of hybrid integrated circuits which provide a wide range of variations in temperature range, package, and output current drive capability.

Applications include driving lamps, relays, cores, and

other devices requiring several hundred milliamp currents at voltages up to 50V. Logic flexibility is provided through a 4-input NAND gate, a NOR input and an input which bypasses the gating and connects to the base of the output transistor.

Logic Diagram



TL/K/6863-1

Ordering Information

NSC Designation	Package	Temperature Range	Output Capability
DH0011AH	H10C	-55°C to +125°C	500mA

Absolute Maximum Ratings

V_{CC}	8V	Power Dissipation	800 mW
Collector Voltage (Output)	50V	Operating Temperature Range	-55°C to +125°C
Input Reverse Current	1.0 mA	Storage Temperature	-65°C to +150°C

Electrical Characteristics

Test Pin	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Pin 10	Sense	Min	Max
1	V_{IH}	V_{IH}	V_{IH}	V_{IH}	GND		GND	I_{OL1}		V_{CC}	V_8		V_{OL1}
2	V_{IL}				GND		GND	I_{OL1}	V_{IL}	V_{CC}	V_8		V_{OL1}
3	V_{IL}				GND	I_{OL2}				V_{CC}	V_6		V_{OL2}
4		V_{IL}			GND	I_{OL2}				V_{CC}	V_6		V_{OL2}
5			V_{IL}		GND	I_{OL2}				V_{CC}	V_6		V_{OL2}
6				V_{IL}	GND	I_{OL2}				V_{CC}	V_6		V_{OL2}
7				GND	GND	I_{OL2}			V_{IH}	V_{CC}	V_6		V_{OL2}
8	V_R	GND	GND	GND	GND					V_{CC}	I_1		I_R
9	GND	V_R	GND	GND	GND					V_{CC}	I_2		I_R
10	GND	GND	V_R	GND	GND					V_{CC}	I_3		I_R
11	GND	GND	GND	V_R	GND					V_{CC}	I_4		I_R
12					GND				V_R	V_{CC}	I_9		I_R
13	V_F	V_R	V_R	V_R	GND					V_{CC}	I_1		$-I_F$
14	V_R	V_F	V_R	V_R	GND					V_{CC}	I_2		$-I_F$
15	V_R	V_R	V_F	V_R	GND					V_{CC}	I_3		$-I_F$
16	V_R	V_R	V_R	V_F	GND					V_{CC}	I_4		$-I_F$
17				GND	GND				V_F	V_{CC}	I_9		$-I_F$
18					GND		GND			V_{CC}	V_6	V_{OH}	
19	GND				GND		GND	V_{OX}		V_{CC}	I_8		I_{OX}
20					GND					V_{PD}	I_{10}		I_{PD}
21	GND				GND					V_{MAX}	I_{10}		I_{MAX}
22*					GND					V_{PD}			t_{ON}
23*					GND					V_{PD}			t_{OFF}

*See Test Circuits and Waveforms

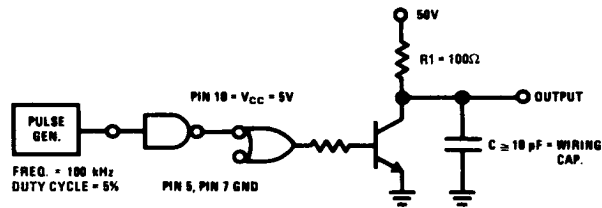
Forcing Functions

Parameter	-55°C	+25°C	+125°C	Units
				V
V_{CC}	5.0	5.0	5.0	V
V_{PD}		5.0		V
V_{MAX}		8.0		V
V_{IL}	0.85	0.85	0.85	V
V_{IH}	1.9	1.8	1.6	V
V_R	4.5	4.5	4.5	V
V_F	0.45	0.45	0.45	V
I_{OL1}	400	400	400	mA
I_{OL2}	20	20	20	mA
V_{OX}	50.0	50.0	50.0	V

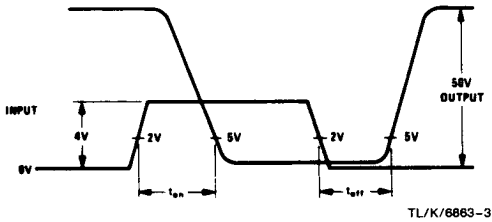
Limits

Parameter	-55°C		+25°C		+125°C		Units
	Min	Max	Min	Max	Min	Max	
V_{OL1}		0.6		0.6		0.6	V
V_{OL2}		0.45		0.45		0.45	V
V_{OH}	1.95		1.85		1.65		V
I_R				60		60	μ A
$-I_F$		1.6		1.6		1.6	mA
I_{OX}				5.0		200	μ A
I_{PD}				12.2			mA
I_{MAX}				10			mA
t_{ON}				160			ns
t_{OFF}				220			ns

Switching Time Test Circuit



Switching Time Waveforms



Typical Switching Times

