

# DH0011A

*DH0011A High Voltage High Current Driver*



Literature Number: SNOSBQ0A

## DH0011A High Voltage High Current Driver

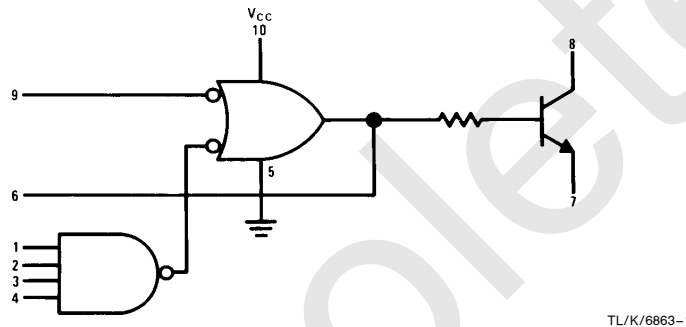
### General Description

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



### 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

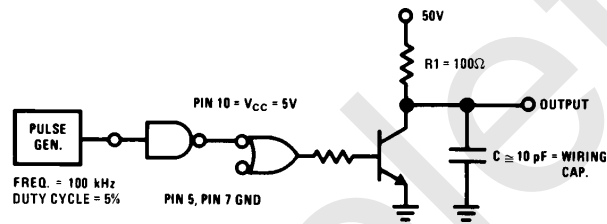
## Forcing Functions

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

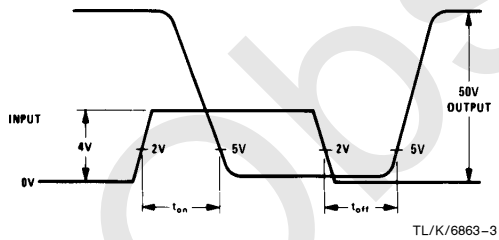
## Limits

Parameter	-55°C		+25°C		+125°C		Units
	Min	Max	Min	Max	Min	Max	
V <sub>OL1</sub>		0.6		0.6		0.6	V
V <sub>OL2</sub>		0.45		0.45		0.45	V
V <sub>OH</sub>	1.95		1.85		1.65		V
I <sub>R</sub>				60		60	μA
-I <sub>F</sub>		1.6		1.6		1.6	mA
I <sub>OX</sub>				5.0		200	μA
I <sub>PD</sub>				12.2			mA
I <sub>MAX</sub>				10			mA
t <sub>ON</sub>				160			ns
t <sub>OFF</sub>				220			ns

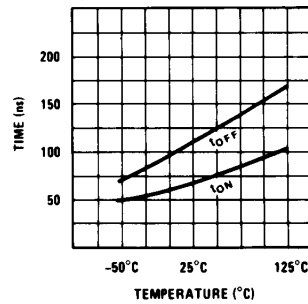
## Switching Time Test Circuit



## Switching Time Waveforms

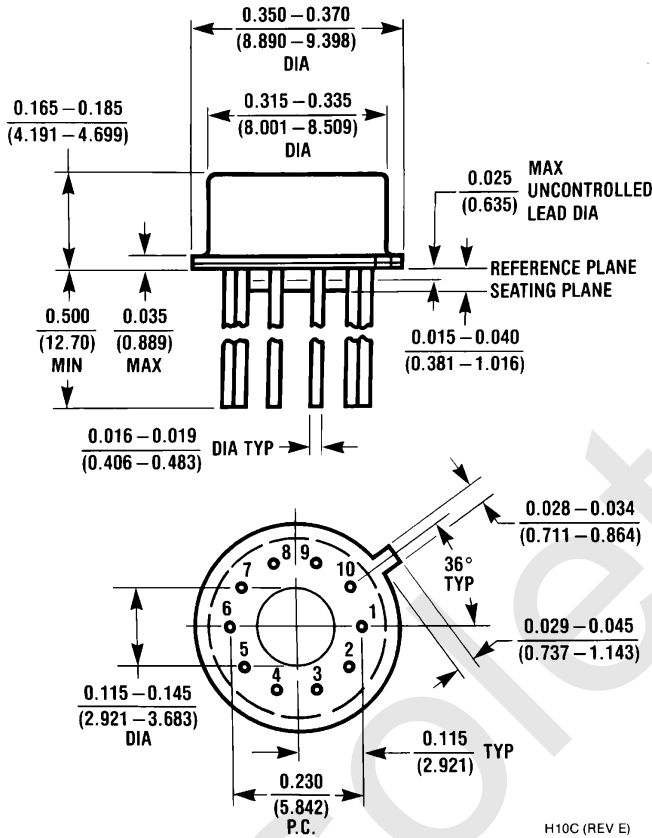


Typical Switching Times



TL/K/6863-4

**Physical Dimensions** inches (millimeters)



**10-Lead TO-5 Metal Can Package (H)**  
**Order Number DH0011A**  
**NS Package H10C**

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