



Current Drivers

NH0006/NH0006C

NH0006/NH0006C current driver

general description

The NH0006/NH0006C is an integrated high voltage, high current driver designed to accept standard DTL or TTL logic levels and drive a load of up to 400 mA at 28 volts. AND inputs are provided along with an Expander connection, should additional gating be required. The addition of an external capacitor provides control of the rise and fall times of the output in order to decrease cold lamp surges or to minimize electro-magnetic interference if long lines are driven.

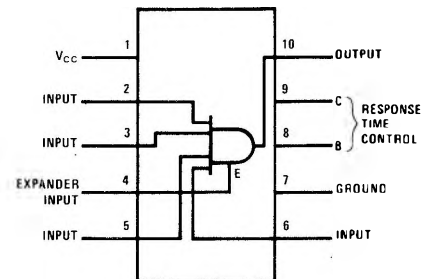
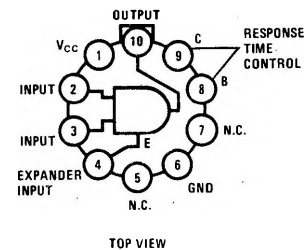
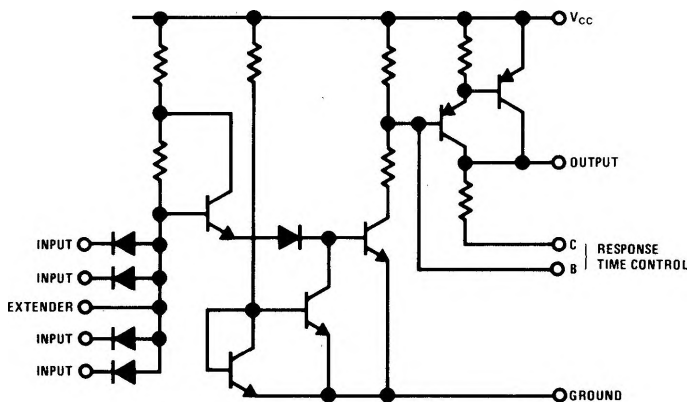
there is less likelihood of false turn-on due to an inadvertent short in the drive line.

Some important design features include:

- Operation from a Single +10V to +45V Power Supply.
- Low Standby Power Dissipation of only 35 mW for 28V Power Supply.
- 1.5A, 50 ms, Pulse Current Capability.

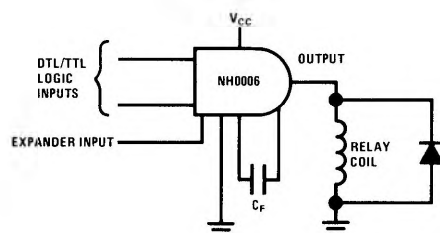
Since one side of the load is normally grounded,

schematic and connection diagrams

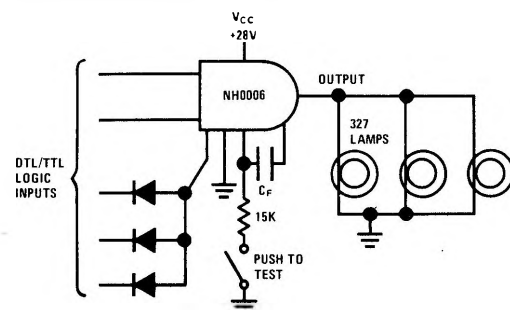


typical applications

Relay Driver



Lamp Driver with Expanded Inputs



absolute maximum ratings

Peak Power Supply Voltage (for 0.1 sec)	60V
Continuous Supply Voltage	45V
Input Voltage	5.5V
Input Extender Current	5.0 mA
Peak Output Current (50 ms On/1 sec Off)	1.5A
Operating Temperature	
NH0006	-55°C to +125°C
NH0006C, NH0006CN	0°C to +70°C
Storage Temperature	-65°C to +150°C

electrical characteristics (Note 1)

PARAMETER	CONDITIONS	MIN	TYP (Note 2)	MAX	UNITS
Logical "1" Input Voltage	$V_{CC} = 45V$ to 10V	2.0			V
Logical "0" Input Voltage	$V_{CC} = 45V$ to 10V			0.8	V
Logical "1" Output Voltage	$V_{CC} = 28V$, $V_{IN} = 2.0V$, $I_{OUT} = 400$ mA	26.5	27.0		V
Logical "0" Output Voltage	$V_{CC} = 45V$, $V_{IN} = 0.8V$, $R_L = 1K$		.001	.01	V
Logical "1" Output Voltage	$V_{CC} = 10V$, $V_{IN} = 2.0V$, $I_{OUT} = 150$ mA	8.8	9.2		V
Logical "0" Input Current	$V_{CC} = 45V$, $V_{IN} = .4V$		0.8	1.0	mA
Logical "1" Input Current	$V_{CC} = 45V$, $V_{IN} = 2.4V$		0.5	5.0	μA
	$V_{CC} = 45V$, $V_{IN} = 5.5V$			100	μA
"Off" Power Supply Current	$V_{CC} = 45V$, $V_{IN} = 0.8V$		1.6	2.0	mA
"On" Power Supply Current	$V_{CC} = 45V$, $V_{IN} = 2.0V$, $I_{OUT} = 0$ mA			8	mA
Rise Time	$V_{CC} = 28V$, $R_L = 82\Omega$		0.10		μs
Fall Time	$V_{CC} = 28V$, $R_L = 82\Omega$		0.8		μs
T_{on}	$V_{CC} = 28V$, $R_L = 82\Omega$		0.26		μs
T_{off}	$V_{CC} = 28V$, $R_L = 82\Omega$		2.2		μs

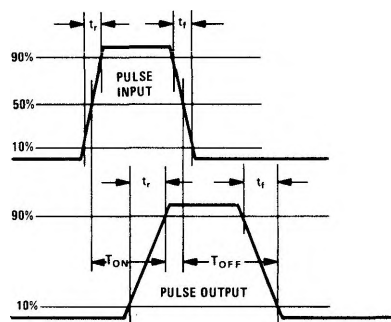
Note 1: Unless otherwise specified, limits shown apply from -55°C to 125°C for NH0006 and 0°C to 70°C for NH0006C/NH0006CN.

Note 2: Typical values are for 25°C ambient.

Note 3: Power ratings for the TO-5 based on a maximum junction temperature of +175°C and a ϕ_{JA} of 210°C/W.

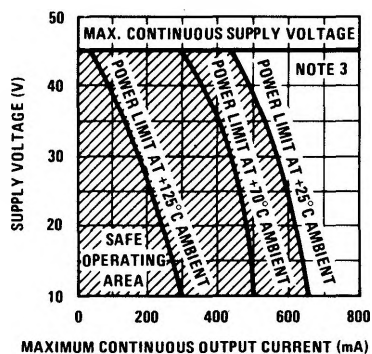
Note 4: Power rating for the NH0006CN Molded DIP based on a maximum junction temperature of +150°C and a thermal resistance of 175°C/W when mounted in a standard DIP socket.

Note 5: Power rating for the NH0006CN Molded DIP based on a maximum junction temperature of +150°C and a thermal resistance of 150°C/W when mounted on a 1/16 inch thick, epoxy-glass board with ten 0.03 inch wide 2 ounce copper conductors.

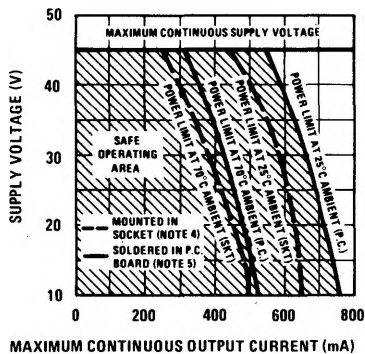
switching time waveforms

typical performance

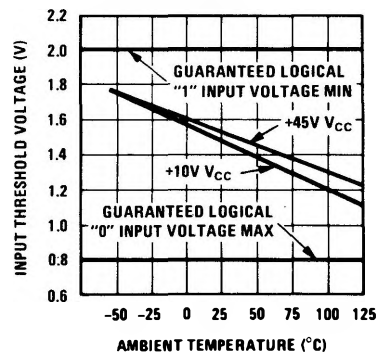
Maximum Continuous Output Current For TO-5



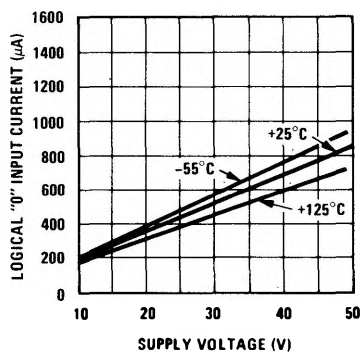
Maximum Continuous Output Current For Molded DIP



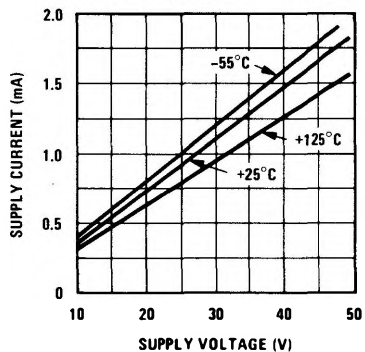
Input Threshold Voltage vs Temperature



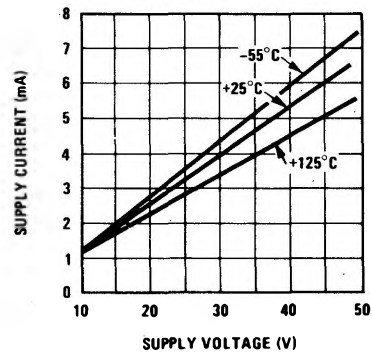
Logical "0" Input Current



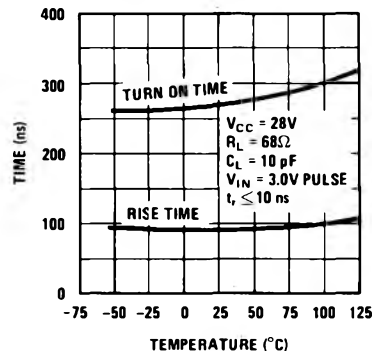
"OFF" Supply Current Drain



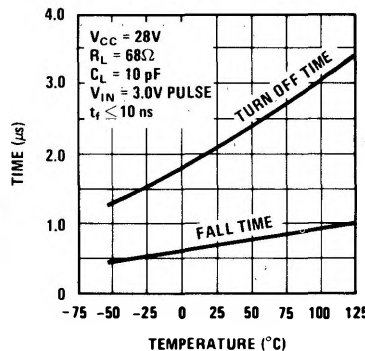
"ON" Supply Current Drain



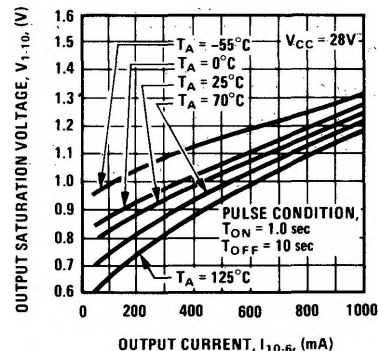
Turn On And Rise Time



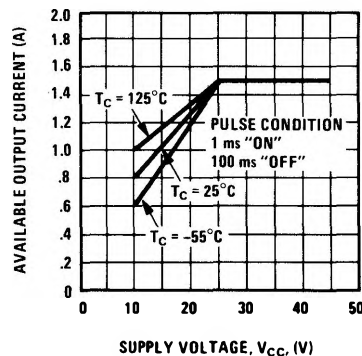
Turn Off and Fall Time



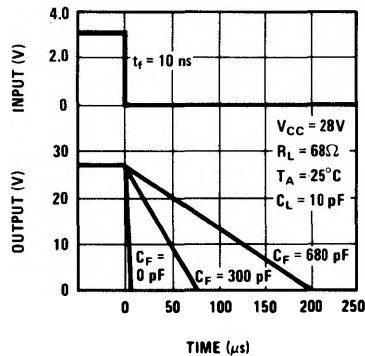
Output Saturation Voltage



Available Output Current



Turn Off Control



Turn On Control

