

GENERAL DESCRIPTION

The NS240B2 is a driver featuring high speed and wide negative and positive voltage range suited for driving MASW-002103 SP2T and other PIN diode switches.

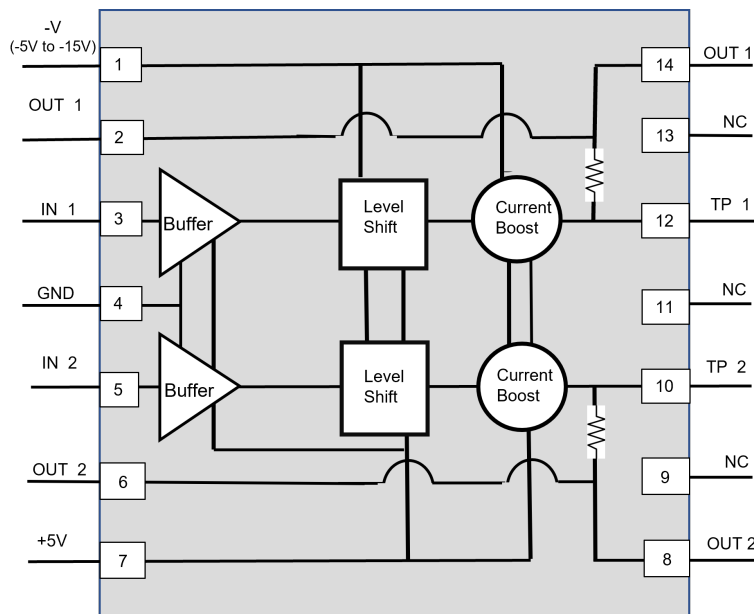
The driver is compatible with 3.3/5.0 V CMOS logic and has 2 independent channels to supply each bias line with up to +/-50 mA current to bias series and shunt.

External current limiting resistors are required to set current.

FEATURES

- Ultra high speed <25nS
- Compatible with CMOS FPGA outputs

FUNCTION BLOCK DIAGRAM

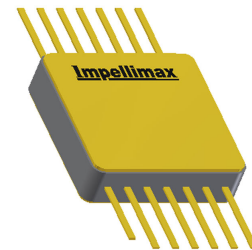


MECHANICAL

The NS240B2 consists of discrete active components and microcircuits mounted on a laminate along with discrete thin passive components, epoxy sealed in a glass to metal .375" square 14-lead SMT package designed for integration into an integrated microwave assembly.

ECCN Code EAR99

NS240B2 is RoHS 3 (EU 2015/863) compliant.



PIN CONNECTIONS

- | | |
|----|-------------|
| 1 | -5 to -15V |
| 2 | Output 1 |
| 3 | Input 1 |
| 4 | Ground |
| 5 | Input 2 |
| 6 | Output 2 |
| 7 | +5V |
| 8 | Output 2 |
| 9 | NC |
| 10 | Testpoint 2 |
| 11 | NC |
| 12 | Testpoint 1 |
| 13 | NC |
| 14 | Output 1 |

TRUTH TABLE

IN1	IN2	OUT1 (B2)	OUT2 (B3)
1	1	+V	+V
0	1	-V	+V
1	0	+V	-V

ELECTRICAL SPECIFICATIONS

Vpos1 +5V, Vneg -15V, TEMP 25C, PRR .5MHz

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
ENVIRONMENTAL						
	Operating Temperature		-55		125	Deg C
INPUT						
VI_hi	Voltage Input High	CMOS	2.8	4	5.5	V
VI_low	Voltage Input Low	CMOS	0	.8	1.2	V
OUTPUT						
VO_hi	Voltage Out High	open load	4.0	4.3	5	V
VO_low	Voltage Out Low	open load	-14.0	-14.2	-15.0	V
IO_hi	Current Out High	steady state into 1V diode load		40		mA
IO_low	Current Out Low	steady state into 1V diode load common arm resistor		-40		mA
lopk	Current Peak Output	sink		-200		mA
SUPPLY						
IQC_pos	Quiescent Current Positive	0.5MHz 50% duty cycle		9		mA
IQC_neg	Quiescent Current Negative	0.5MHz 50% duty cycle		7		mA
DYNAMIC						
Trise	Time Rise			10		nS
Tfall	Time Fall			10		nS
Td_rise	Delay Rise			12		nS
Td_fall	Delay Fall			15		nS
TSW_rise	Switching Speed Rise	10pF load		25		nS
TSW_fall	Switching Speed Fall	10pF load		25		nS
PRR	Pulse Repetition Rate	Max, 10pF load			1	MHz

ESD Sensitivity HBM Class 1B

MECHANICAL SPECIFICATIONS

DRAWING NOT TO SCALE. DIMENSIONS ARE IN INCHES, UNLESS OTHERWISE NOTED.

MSL RATING 4 (refer to JEDEC STD 033B)

Shipping Packaging

Waffle Packs/trays

Package Code 4

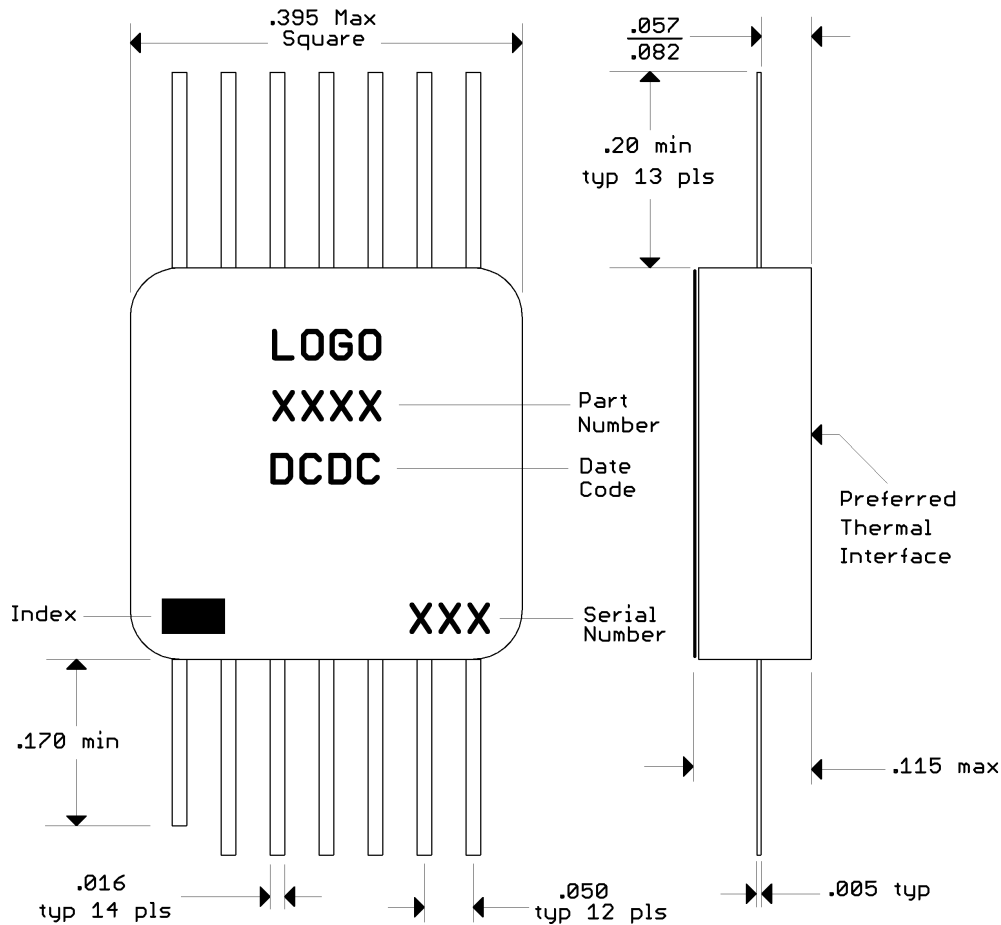
Type: Housing; Lead Finish: Gold

Length .395 in MAX; Width .395 in MAX; Height .115 in MAX

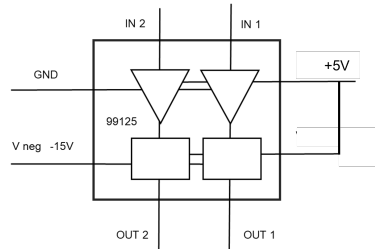
MARKING SPECIFICATIONS

Part Number: NS240B2

Date Code: YYWW



TYPICAL APPLICATION



Example:

J1 to J2 → Low Loss
 R1 = 250Ω
 R2 = 450Ω
 B2 = -15V
 B3 = 6V

