

## GENERAL DESCRIPTION

The MDD050N151Q12A is a driver featuring high speed suited for driving high power PIN diode switches.

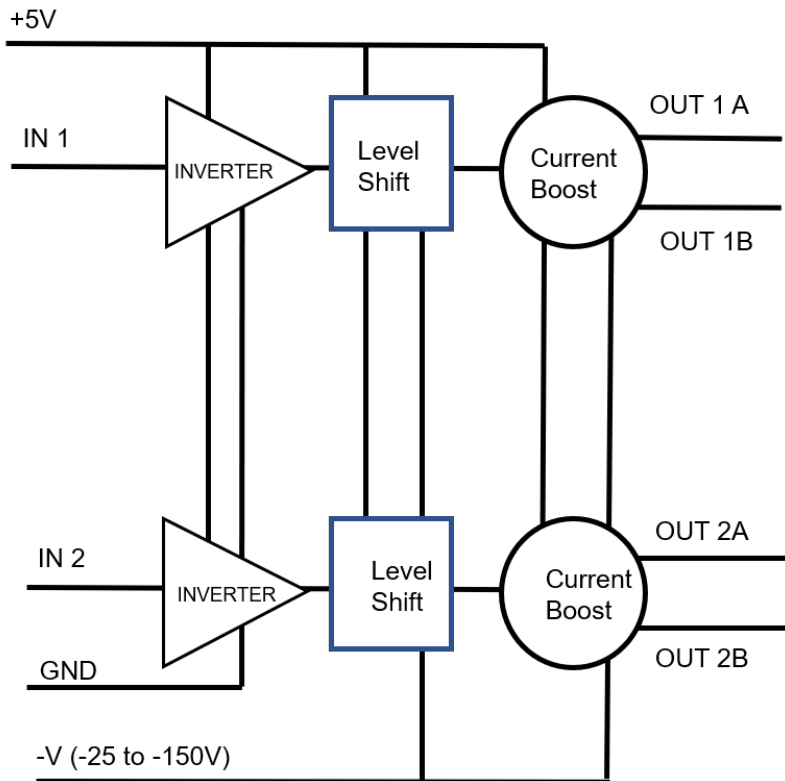
The driver is compatible with TTL logic and has 2 independent channels to supply output high and low up to +/-100 mA and +5V/ (-25V to -150v)

External current limiting resistors are required to set current

## FEATURES

- High speed <100 nS
- Drives high capacitive loads

## FUNCTION BLOCK DIAGRAM



## MECHANICAL

The MDD050N151Q12A consists of discrete components mounted on a laminate and sealed with a Dam and Fill process. This forms a .300" x .300" 16 pos QFN assembly designed for integration into an Integrated Microwave Assembly.

ECCN Code EAR99

MDD050N151Q12A is RoHS 3 (EU 2015/863) compliant.



## PIN CONNECTIONS

Recommend bypassing Vpos and Vneg with .1 uf capacitor minimum.

Un-used inputs must be tied to pin 7 Vref for proper operation

- |    |                    |
|----|--------------------|
| 1  | +5V                |
| 2  | Output 1B          |
| 3  | Output 1A          |
| 4  | -V (-25V to -150V) |
| 5  | Ground             |
| 6  | Ground             |
| 7  | Input 1            |
| 8  | Ground             |
| 9  | Input 2            |
| 10 | +5V                |
| 11 | Ground             |
| 12 | NC                 |
| 13 | +5V                |
| 14 | Output 2B          |
| 15 | Output 2A          |
| 16 | Ground             |

## TRUTH TABLE

IN1	IN2	OUT1A	OUT1B	OUT2A	OUT2B
0	0	-V	-V	-V	-V
0	1	-V	-V	+V	+V
1	0	+V	+V	-V	-V
1	1	+V	+V	+V	+V

## ELECTRICAL SPECIFICATIONS

Vpos +5V, Vneg -150V, TEMP 25C, PRR 50KHz

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
<b>ABSOLUTE MAXIMUMS</b>						
Vpos					6	V
Vneg			-160			V
<b>ENVIRONMENTAL</b>						
Enviro	Operating Temperature		-45		115	Deg C
Enviro	Storage Temperature		-55		150	Deg C
<b>INPUT</b>						
VI_hi	Voltage Input High	3.3V LOGIC	2.5		5.0	V
VI_low	Voltage Input Low	3.3V LOGIC	0	.2	.5	V
<b>OUTPUT</b>						
VO_hi	Voltage Out High	open load	4.5	4.8	5.0	V
VO_low	Voltage Out Low	open load	-149.5	-149.8	-150	V
IO_hi	Current Out High	steady state into 1V diode load		100	125	mA
IO_low	Current Out Low	steady state into 1V diode load common arm resistor		-100	-125	mA
lopk	Current Peak Output	sink and source	+/-300			mA
<b>SUPPLY</b>						
IQC_pos	Quiescent Current Positive	per driver		2		mA
IQC_neg	Quiescent Current Negative	per driver		-2		mA
<b>DYNAMIC</b>						
TSW_rise	Switching Speed Rise	opposed 1N4148 diode load		120		nS
TSW_fall	Switching Speed Fall	opposed 1N4148 diode load		80		nS
PRR	Pulse Repetition Rate	Max, 10pF load		50	5	KHz

ESD Sensitivity HBM Class 1B

**MECHANICAL SPECIFICATIONS**

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

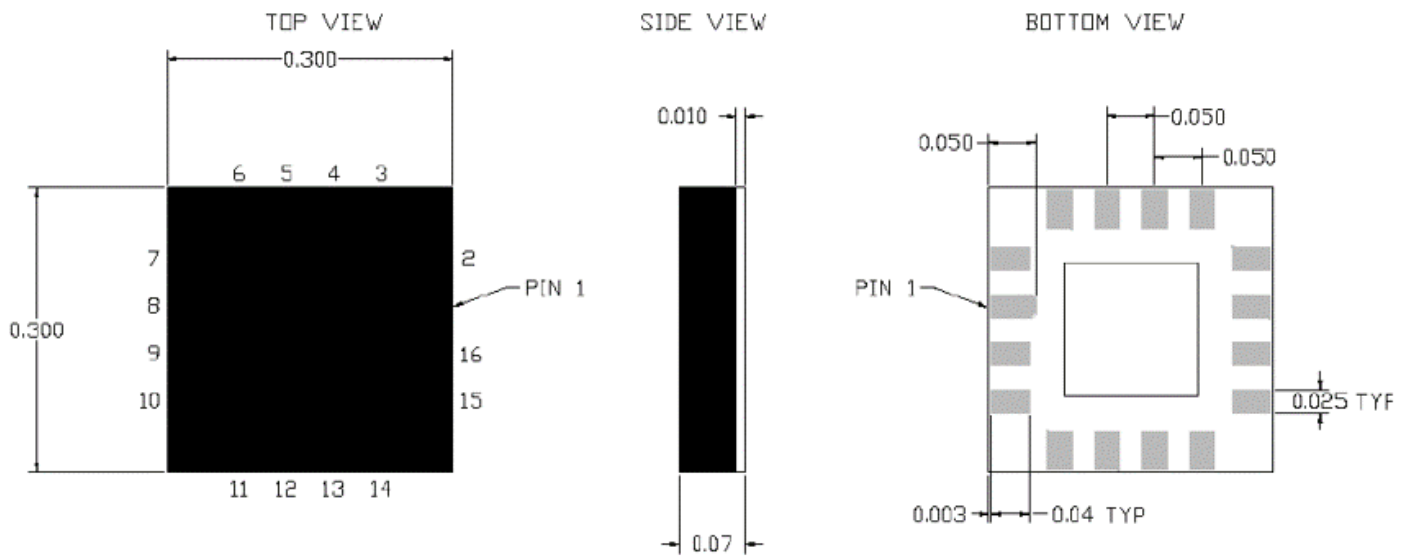
MSL RATING 4 (refer to JEDEC STD 033B)

Shipping Packaging  
Waffle Packs/trays

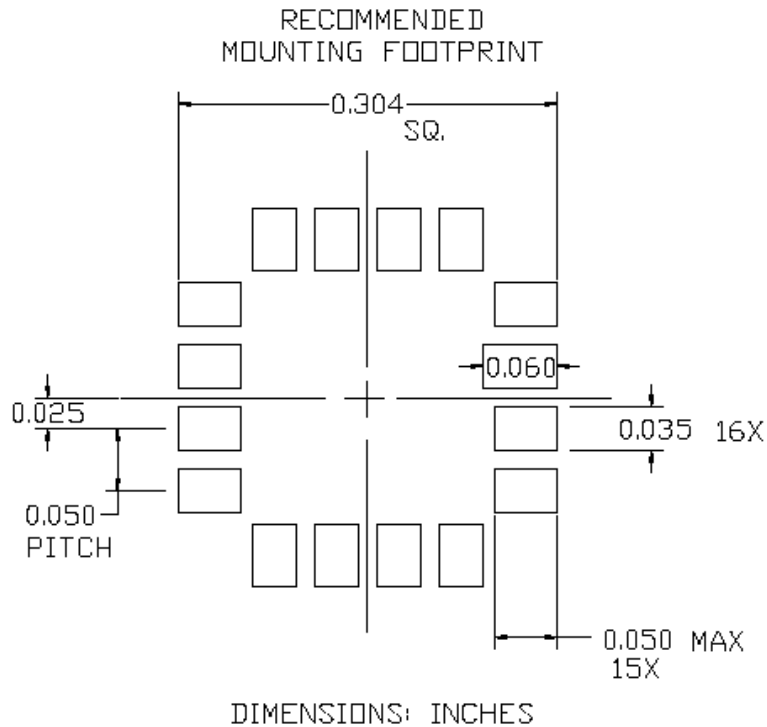
Length .300 in NOM; Width .300 in NOM

**MARKING SPECIFICATIONS**

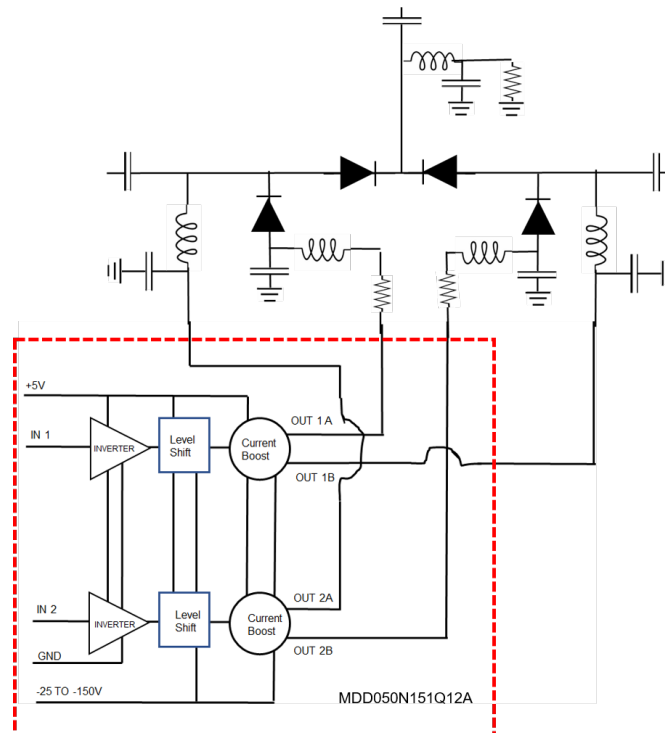
Part Number: CNEX8  
Date Code: YYWW



FOOTPRINT

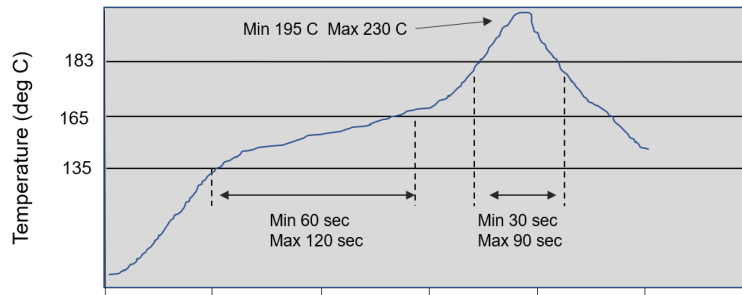


TYPICAL APPLICATION



**SOLDER PROFILE**

SnPb Temperature Profile example



Pb-Free Temperature Profile example

