

## GENERAL DESCRIPTION

The MDD050N181Q16A is a driver featuring high speed suited for driving high power PIN diode switches.

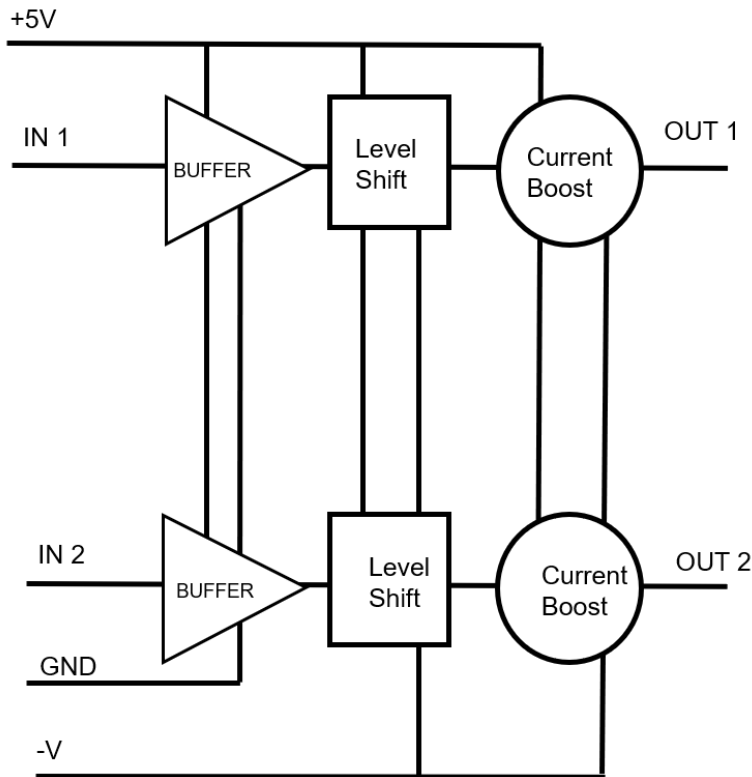
The driver is compatible with TTL logic and has 2 independent channels to supply output high and low up to +/-100 mA and +5v/-180v

External current limiting resistors are required to set current

## FEATURES

- High speed <100 nS
- Drives high capacitive loads

## FUNCTION BLOCK DIAGRAM

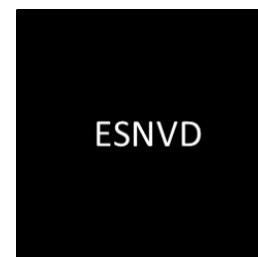


## MECHANICAL

The MDD050N181Q16A 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

MDD050N181Q16A is RoHS 3 (EU 2015/863) compliant.



## PIN CONNECTIONS

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

- 1 OUT 1
- 2 -V (-25V to -180V)
- 3 Ground
- 4 NC
- 5 NC
- 6 Ground
- 7 Input 1
- 8 Ground
- 9 Input 2
- 10 +5V
- 11 +5V
- 12 Ground
- 13 -V (-25V to -180V)
- 14 Ground
- 15 OUT 2
- 16 +5V

**TRUTH TABLE**

IN1	IN2	OUT1	OUT2
0	0	-V	-V
0	1	-V	+V
1	0	+V	-V
1	1	+V	+V

**ELECTRICAL SPECIFICATIONS**

Vpos +5V, Vneg -180V, TEMP 25C, PRR 50KHz

	SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
<b>INPUT</b>							
	VI_hi	Voltage Input High	TTL	2.5		5.0	V
	VI_low	Voltage Input Low	TTL	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	-179.5	-179.8	-180	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	1KHz 50% duty cycle		2		mA
	IQC_neg	Quiescent Current Negative	1KHz 50% duty cycle		-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	100pF load		50	75	KHz

ESD Sensitivity HBM Class 1B

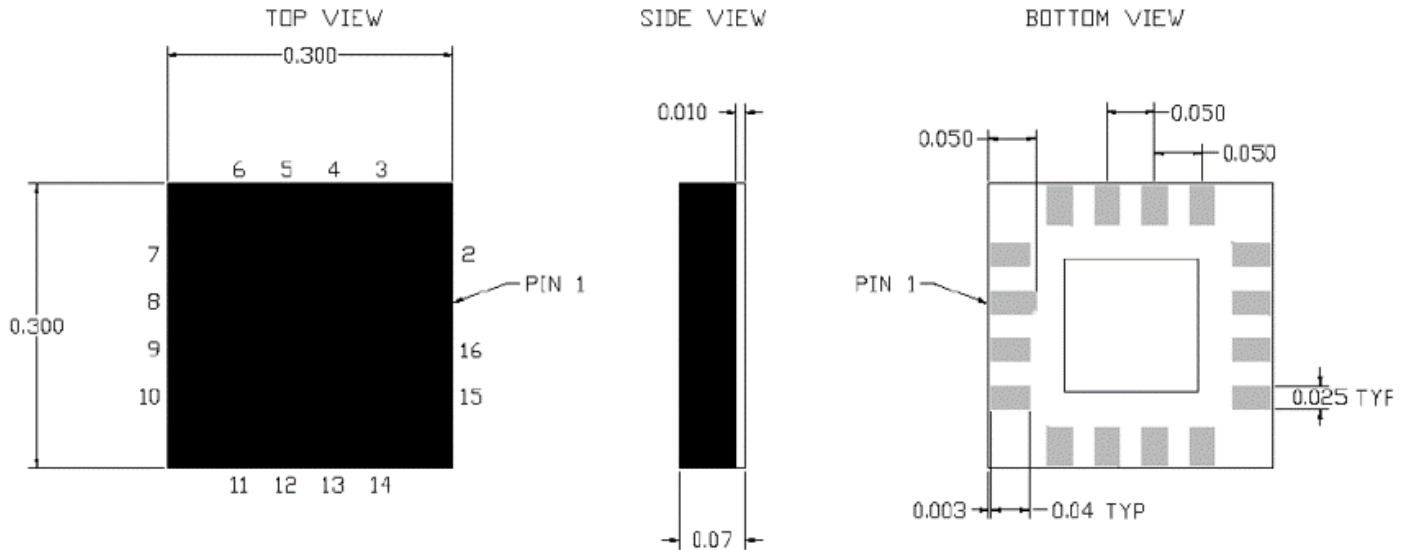
**MECHANICAL SPECIFICATIONS**

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**

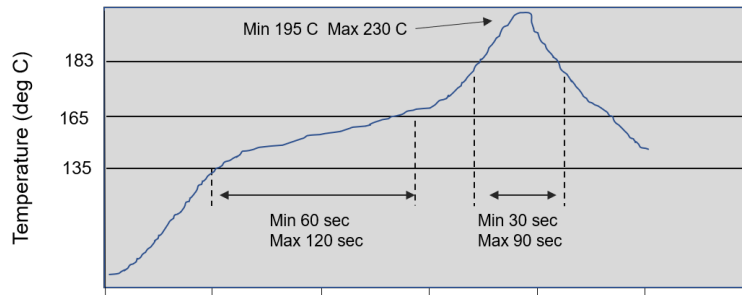
Part Number: ESNVD  
Date Code: YYWW





**SOLDER PROFILE**

SnPb Temperature Profile example



Pb-Free Temperature Profile example

