

## GENERAL DESCRIPTION

The MDQ050N050Q16A is a driver featuring high speed suited for driving high speed PIN diode switches.

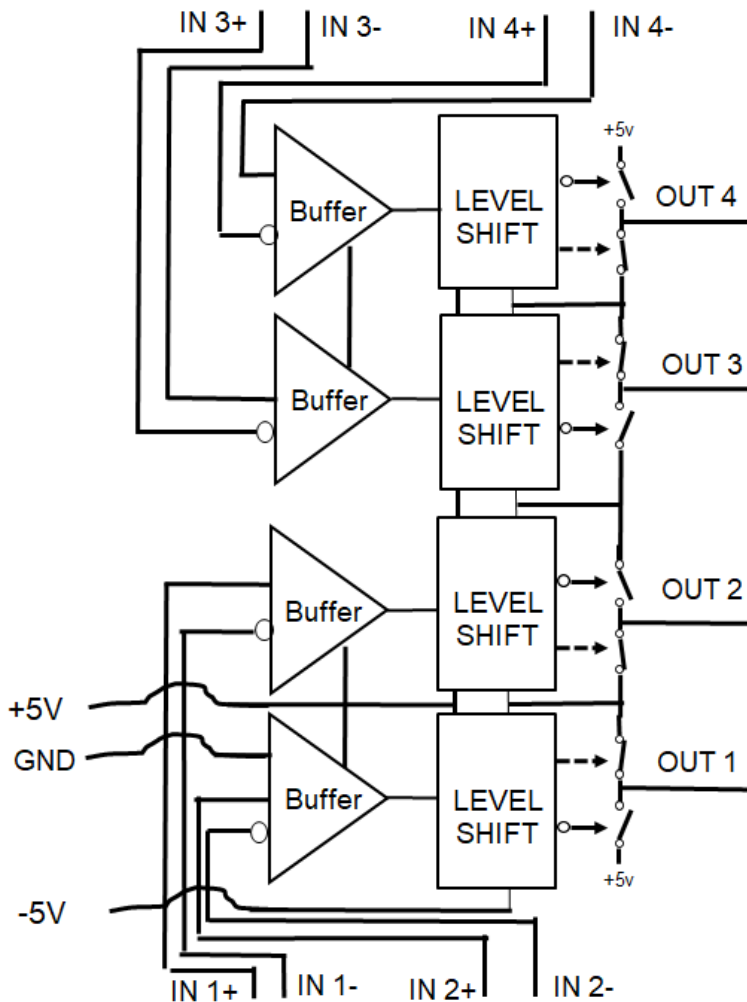
The driver is compatible with TTL logic and has 4 independent channels to supply output high and low up to +/-120 mA at +/-4V output.

External current limiting resistors are required to set current

## FEATURES

- high speed 8 nS Max
- Inverting or Non-Inverting operation

## FUNCTION BLOCK DIAGRAM

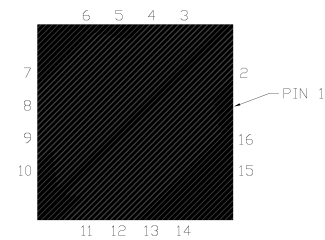


## MECHANICAL

The MDQ050N050Q16A consists of discrete MOSFETS 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

MDQ050N050Q16A is RoHS 3 (EU 2015/863) compliant.



## PIN CONNECTIONS

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

Un-used input leave floating for proper operation, do not ground or connect to +5V or pin 7

- |    |          |
|----|----------|
| 1  | Output 4 |
| 2  | Output 3 |
| 3  | Input 4- |
| 4  | Input 4+ |
| 5  | Input 3- |
| 6  | Input 3+ |
| 7  | NC       |
| 8  | +5V      |
| 9  | Ground   |
| 10 | -5V      |
| 11 | Input 1+ |
| 12 | Input 1- |
| 13 | Input 2+ |
| 14 | Input 2- |
| 15 | Output 1 |
| 16 | Output 2 |

**TRUTH TABLE**

IN1+	IN1-	IN2+	IN2-	IN3+	IN3-	IN4+	IN4-	OUT1	OUT2	OUT3	OUT4
0	NC	0	NC	0	NC	0	NC	-V	-V	-V	-V
1	NC	1	NC	1	NC	1	NC	+V	+V	+V	+V
NC	0	NC	0	NC	0	NC	0	+V	+V	+V	+V
NC	1	NC	1	NC	1	NC	1	-V	-V	-V	-V

**ELECTRICAL SPECIFICATIONS**

Vpos +5V, Vneg -5V, TEMP 25C, PRR 500KHz

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
<b>INPUT</b>						
VI_hi	Voltage Input High	TTL	2.8		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	-4.5	-4.8	-5.0	V
IO_hi	Current Out High	steady state into 1V diode load	120			mA
IO_low	Current Out Low	steady state into 1V diode load common arm resistor	-120			mA
lopk	Current Peak Output	sink and source	+/-300			mA
<b>SUPPLY</b>						
IQ_pos	Quiescent Current Positive	per driver		25	32	mA
IQ_neg	Quiescent Current Negative	per driver		-25	-32	mA
<b>DYNAMIC</b>						
TSW_rise	Switching Speed Rise	2 nS rise/fall drive and into resistive load		6	8	nS
TSW_fall	Switching Speed Fall	2 nS rise/fall drive and into resistive load		6	8	nS
PRR	Pulse Repetition Rate	Max, 10pF load		.1	.5	MHz

ESD Sensitivity HBM Class 1B

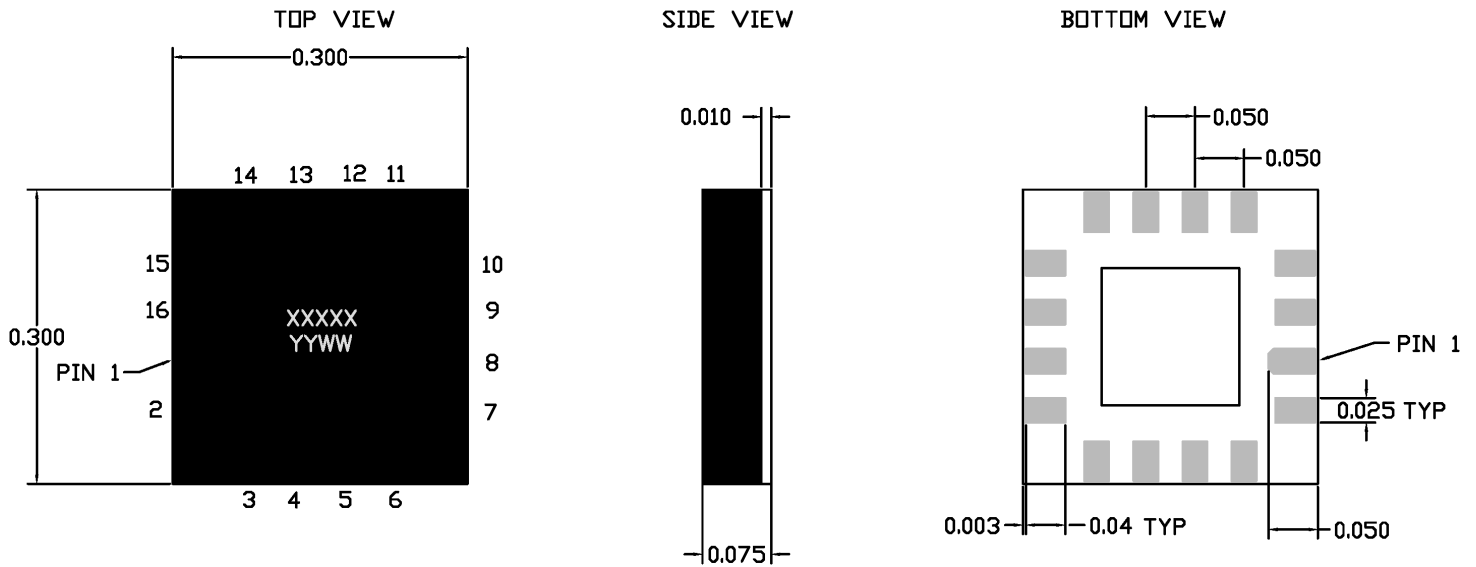
**MECHANICAL SPECIFICATIONS**

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

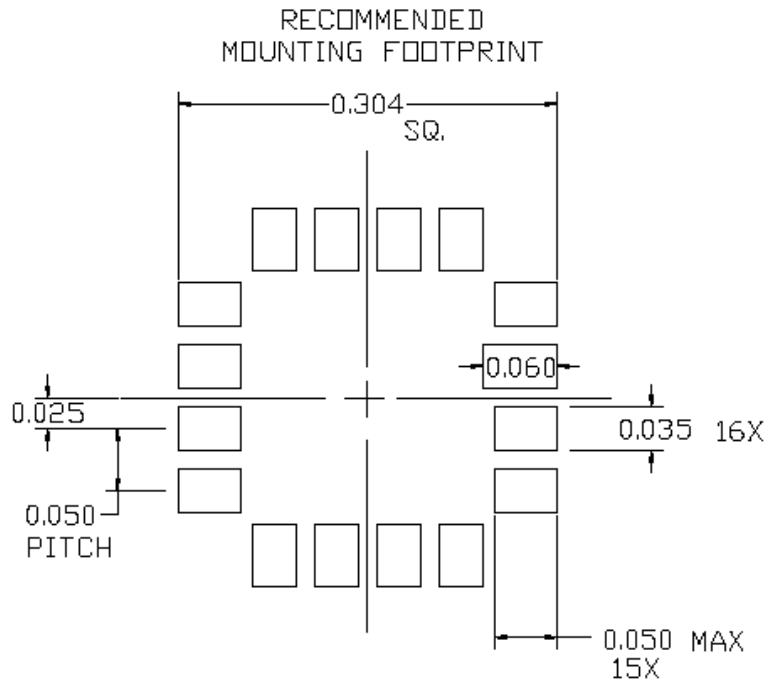
MSL RATING 4 (refer to JEDEC STD 033B)  
 Shipping Packaging  
 Waffle Packs/trays  
 Type: Board  
 Length .300 in NOM; Width .300 in NOM; Height .075 in MAX

**MARKING SPECIFICATIONS**

Part Number: Z3FD2  
 Date Code: YYWW



**FOOTPRINT**



DIMENSIONS: INCHES