

## GENERAL DESCRIPTION

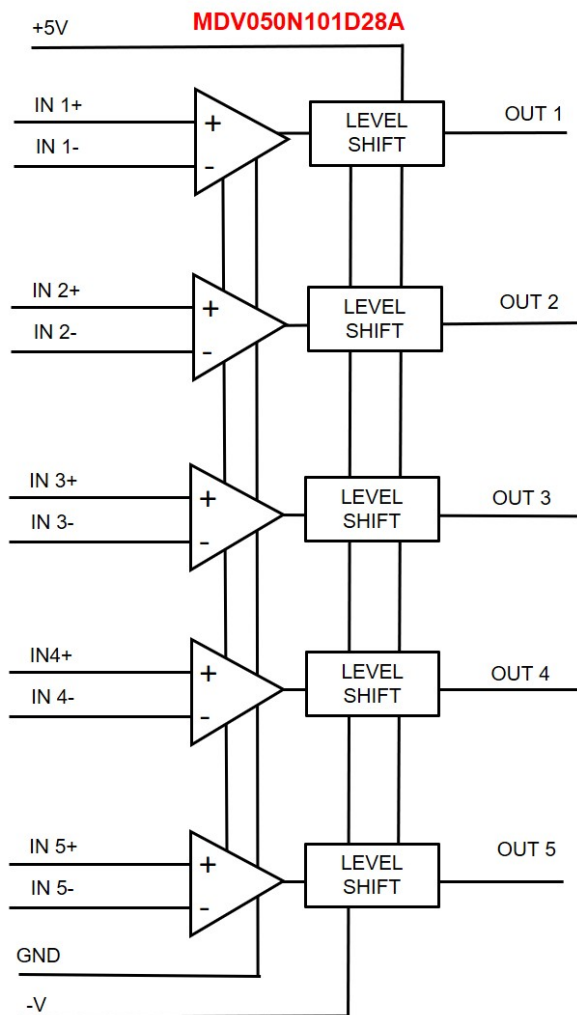
The MDV050N101D28A is a 5 channel driver suitable for driving PIN diode elements in loaded line phase shifter.

The MDV050N101D28A accepts standard TTL and CMOS logic, and level shifts them to +4V/ -V adjustable Voltage levels. The driver needs external current limiting for driving individual pin diodes

## FEATURES

fast switching less than 250 nS

## FUNCTION BLOCK DIAGRAM



## MECHANICAL

The MDV050N101D28A is laminate base with discrete bipolar and FETR switching elements encapsulated creating 28 POS DFN package

ECCN Code EAR99

MDV050N101D28A is RoHS 3 (EU 2015/863) compliant.



## PIN CONNECTIONS

1	Input 1+	15	NC
2	Input 1-	16	NC
3	Input 2+	17	Output 5
4	Input 2-	18	NC
5	Input 3+	19	Output 4
6	Input 3-	20	NC
7	Input 4+	21	Output 3
8	Input 4-	22	NC
9	Input 5+	23	Output 2
10	Input 5-	24	NC
11	NC	25	Output 1
12	NC	26	NC
13	NC	27	+5V
14	-V -5V to -100V	28	Ground

## TRUTH TABLE

IN 1+	IN 1-	IN 2+	IN2-	IN 3+	IN3-	IN 4+	IN 4-	IN 5+	IN 5-	OUT1	OUT2	OUT3	OUT4	OUT5
1	0	1	0	1	0	1	0	1	0	+V	+V	+V	+V	+V
0	1	1	0	1	0	1	0	1	0	-V	+V	+V	+V	+V
1	0	0	1	1	0	1	0	1	0	+V	-V	+V	+V	+V
1	0	1	0	0	1	1	0	1	0	+V	+V	-V	+V	+V
1	0	1	0	1	0	0	1	1	0	+V	+V	+V	-V	+V
1	0	1	0	1	0	1	0	0	1	+V	+V	+V	+V	-V
0	1	0	1	0	1	0	1	0	1	-V	-V	-V	-V	-V

## ELECTRICAL SPECIFICATIONS

Vpos1 +5V, Vneg -100V, TEMP 25C, PRR 1KHz

NOTE: Tie unused inputs NI low, INV high

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
<b>ABSOLUTE MAXIMUMS</b>						
Vpos	Logic Supply Positive		0		+7	V
Vneg	Supply Voltage Negative		-7		0	V
To	Operating Temperature		-54		+105	Deg C
Ts	Storage Temperature		-65		+150	Deg C
<b>INPUT</b>						
VI_hi	Voltage Input High	TTL/CMOS	2.8	4.5	5.5	V
VI_low	Voltage Input Low	TTL/CMOS	0	.5	1.8	V
<b>OUTPUT</b>						
VO_hi	Voltage Out High	open load	3.7	4.0	5	V
VO_low	Voltage Out Low	open load	-98.7	-99	-100	V
IO_hi	Current Out High	steady state into 1V diode load		100	125	mA
IO_low	Current Out Low	-5V into 1V diode load		-.01	.1	mA
lopk	Current Peak Output	sink		1		A
<b>SUPPLY</b>						
IQC_pos	Quiescent Current Positive	10KHz 50% duty cycle		40		mA
IQC_neg	Quiescent Current Negative	100KHz 50% duty cycle		5		mA
<b>DYNAMIC</b>						
Trise	Time Rise	resistive 1V load		20		nS
Tfall	Time Fall	resistive 1V load		20		nS
Td_rise	Delay Rise	resistive 1V load		100		nS
Td_fall	Delay Fall	resistive 1V load		100		nS
TSW_rise	Switching Speed Rise	resistive 1V load		150		nS
TSW_fall	Switching Speed Fall	resistive 1V load		150		nS
PRR	Pulse Repetition Rate	47pF +200mA resistive and cathode GND PIN diode array		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

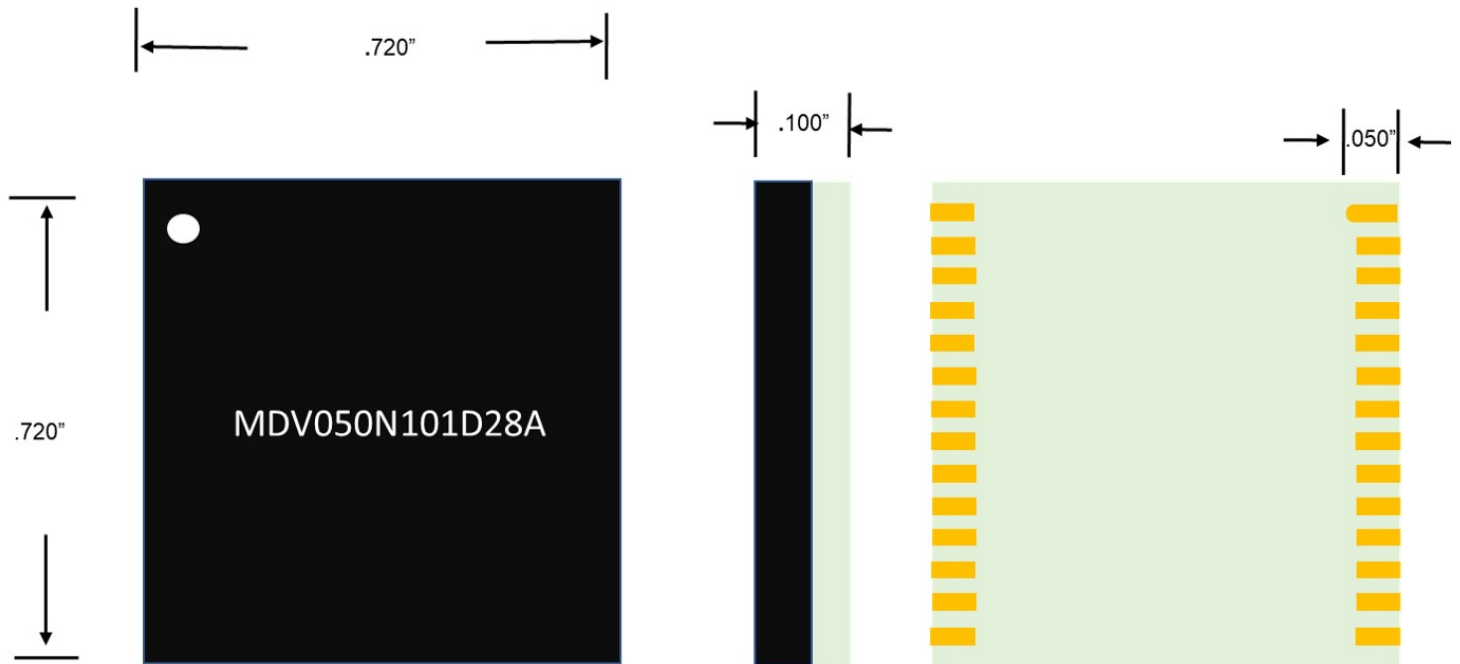
Waffle Packs/trays

## MARKING SPECIFICATIONS

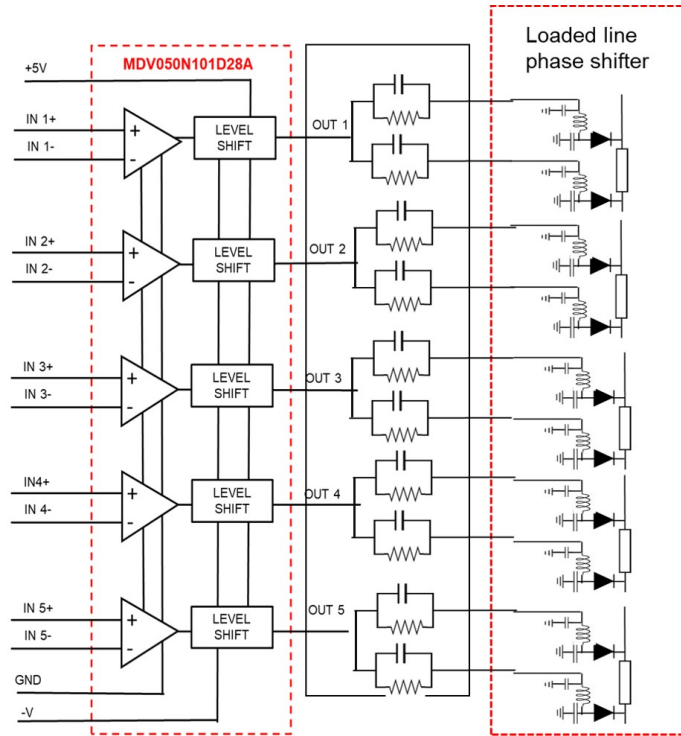
Logo: Impellimax

Part Number: MDV050N101D28A

Date Code: YYWW

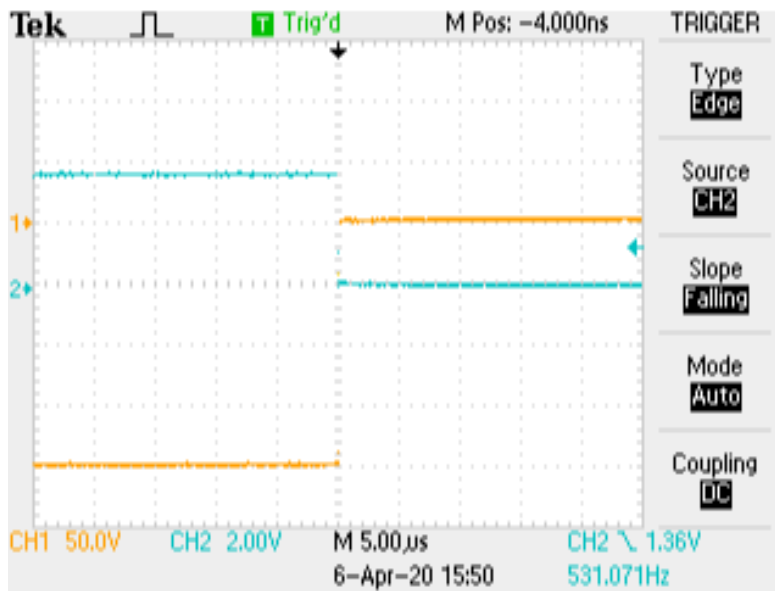


TYPICAL APPLICATION



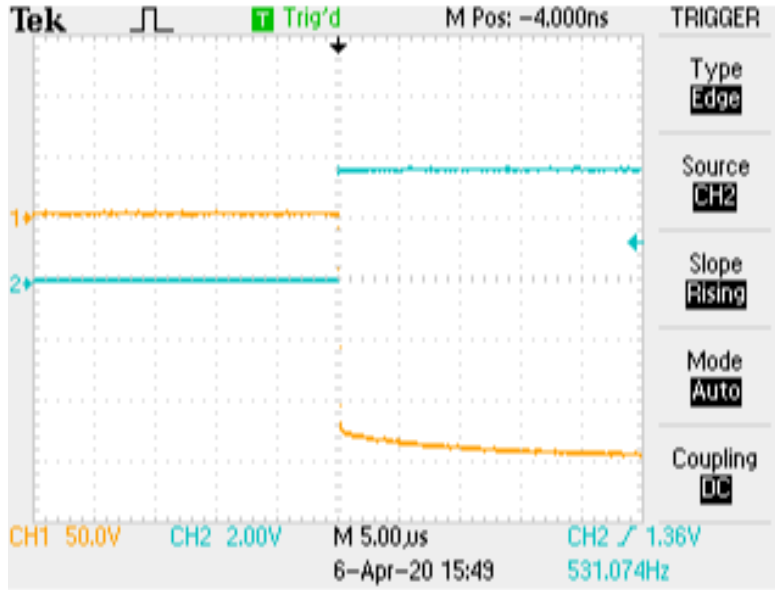
TYPICAL SWITCHING SPEED

WAVEFORM



9848 switching speed rise-1

**TYPICAL SWITCHING SPEED**



9848 switching speed fall