

GENERAL DESCRIPTION

The MDD050N280D10A is a driver featuring high speed and outputs suited for driving high power all shunt PIN diode switches. The driver has integrated charge pump to generate a regulated -28V from +5V supply.

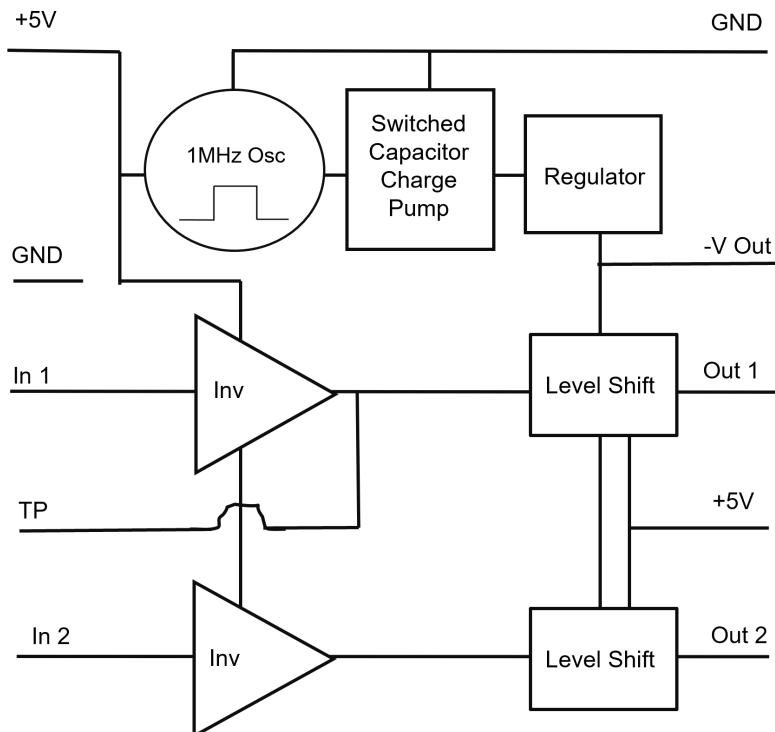
The driver is compatible with 3.3V/5.0 V CMOS logic and has 2 independent channels to supply each output +5V to forward bias the diode and -28V to back bias the PIN diode.

FEATURES

- Ultra high speed <20ns
- Independent control for all OFF switch conditions
- single +5V supply required
- Integrated regulated -28V charge pump
- Compatible with MASW-011036 MASW-010646

MASW010647

FUNCTION BLOCK DIAGRAM

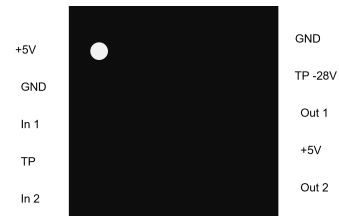


MECHANICAL

The MDD050N280D10A consists of multiple components mounted to a laminate substrate and encapsulated with a low moisture epoxy using a transfer mold process. This forms a .25 sq 10 pos DFN SMT assembly designed for easy integration into an integrated microwave assembly.

ECCN Code EAR99

MDD050N280D10A is RoHS 3 (EU 2015/863) compliant.



PIN CONNECTIONS

Pins 1, 7 +5v are not internally connected, need connection

For single input operation connect Pin 5 to Pin 4

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|----|-----------------|
| 1 | +5V |
| 2 | Ground |
| 3 | IN C1 |
| 4 | Logic Testpoint |
| 5 | IN C2 |
| 6 | OUT 2 |
| 7 | +5V |
| 8 | OUT 1 |
| 9 | Testpoint -28V |
| 10 | Ground |

E2D Sensitivity HBM Class 1B

PARAMETER	DESCRIPTION	TEST CONDITION	MIN	TYP	MAX	UNITS
PRR	Pulse Rejection Rate	Max. Load			50	KHz
T2W _{fall}	Switching Speed Fall	Load			50	nS
T2W _{rise}	Switching Speed Rise	Load			50	nS
Td _{fall}	Delay Fall				10	nS
Td _{rise}	Delay Rise				10	nS
T _{fall}	Time Fall				3	nS
T _{rise}	Time Rise				3	nS
DYNAMIC						
IO _{C_pos}	Quiescent Current Positive	Steady State			10	mA
IO _C	Current Peak Output	sink			-100	mA
IO _{low}	Current Out Low	resistor steady state into 1V diode load common an			-4	mA
IO _{hi}	Current Out High	steady state into 1V diode load			100	mA
VO _{low}	Voltage Out Low	open load	-30	-58	-5.2	V
VO _{hi}	Voltage Out High	open load	4.8		2	V
OUTPUT						
VI _{low}	Voltage Input Low	TTL CMOS	0	.8	1.5	V
VI _{hi}	Voltage Input High	TTL CMOS	5.8	4	2.2	V
INPUT						
ENV _{io}	Storage Temperature		-22		120	Deg C
ENV _{io}	Operating Temperature		-42		112	Deg C
ENVIRONMENTAL						

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
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ELECTRICAL SPECIFICATIONS

V_{pos} +2V, GND, V_{neg} -58V, TEMP 25C, PRR 200KHz

1	1	+2V	+2V
1	0	+2V	-V
0	1	-V	+2V
0	0	-V	-V

IN C1 IN C2 OUT 1 OUT 2

TRUTH TABLE