

GENERAL DESCRIPTION

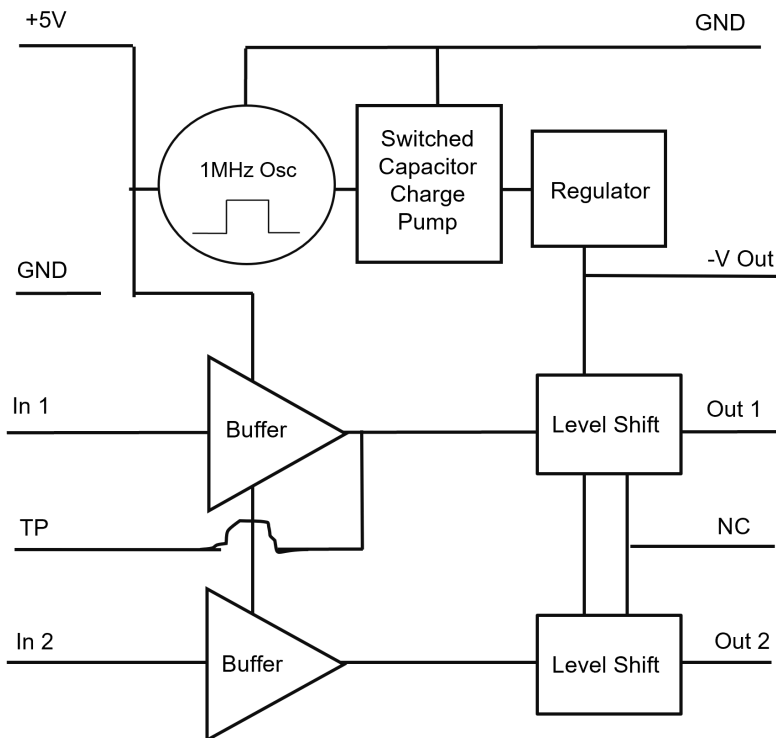
The MDD000N400D10A is a driver featuring high speed and outputs suited for driving SP2T GaN monolithic switch. The driver has integrated charge pump to generate -40V from +5V supply.

The driver is compatible with 3.3V/5.0 V CMOS logic and has 2 independent channels to supply each bias line 0V and -40V to bias the GaN FET on and off.

FEATURES

- Ultra high speed <20nS
- Independent control for all OFF switch conditions
- single +5V supply required
- Integrated -28V charge pump
- Compatible with TGS2352-2, TGS2353-2, QPC2040, QPC1005, QPC2511

FUNCTION BLOCK DIAGRAM

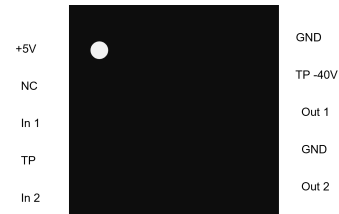


MECHANICAL

The MDD000N400D10A consists of multiple components mounted to a laminate substrate and encapsulated with a low moisture epoxy compound using a transfer mold process. This forms a .275 square 10 lead DFN SMT assembly designed for easy integration into an integrated microwave assembly.

ECCN Code EAR99

MDD000N400D10A is RoHS 3 (EU 2015/863) compliant.



PIN CONNECTIONS

Connect 1 uF capacitor from PIN 9 to ground for minimize ripple

For single input mode connect Pin 5 to Pin 4.

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|----|-----------------|
| 1 | +5V |
| 2 | Ground |
| 3 | IN 1 |
| 4 | Logic Testpoint |
| 5 | IN 2 |
| 6 | OUT 2 |
| 7 | NC |
| 8 | OUT 1 |
| 9 | Testpoint -40V |
| 10 | Ground |

E2D Sensitivity HBM Class 1B

BRF	Pulse Rejection Rate	Max. Load		500	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	
Tfall	Time Fall			3	ns	
Trise	Time Rise			3	ns	
ДИНАМИК						
IOC _{pos}	Onescent Current Positive	Steady State		50	Am	
V _{pos}	Voltage Positive		+2V	2	2.50	
СУББГА						
I _{pk}	Current Peak Output	sink		-100	Am	
IO _{low}	Current Out Low	steady state into load switch		-4	Am	
IO _{hi}	Current Out High	steady state into load switch		4	Am	
VO _{low}	Voltage Out Low	open load	-30.4	-40	-14.8	V
VO _{hi}	Voltage Out High	open load	-1.0	0	2.0	V
OUTPUT						
VI _{low}	Logic Input Low	TTL/CMOS	0	8	1.5	V
VI _{hi}	Logic Input High	TTL/CMOS	8.5	4	0.2	V
INPUT						
ENV10	Storage Temperature		-20		120	Deg C
ENV10	Operating Temperature		-40		110	Deg C
ENVIRONMENTAL						

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNITS
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ELECTRICAL SPECIFICATIONS

V_{pos} +2V, TEMP 25C, BRF 500KHz

1	1	0V	0V
1	0	0V	-V
0	1	-V	0V
0	0	-V	-V

IN C1 IN C2 OUT 1 OUT 2

TRUTH TABLE