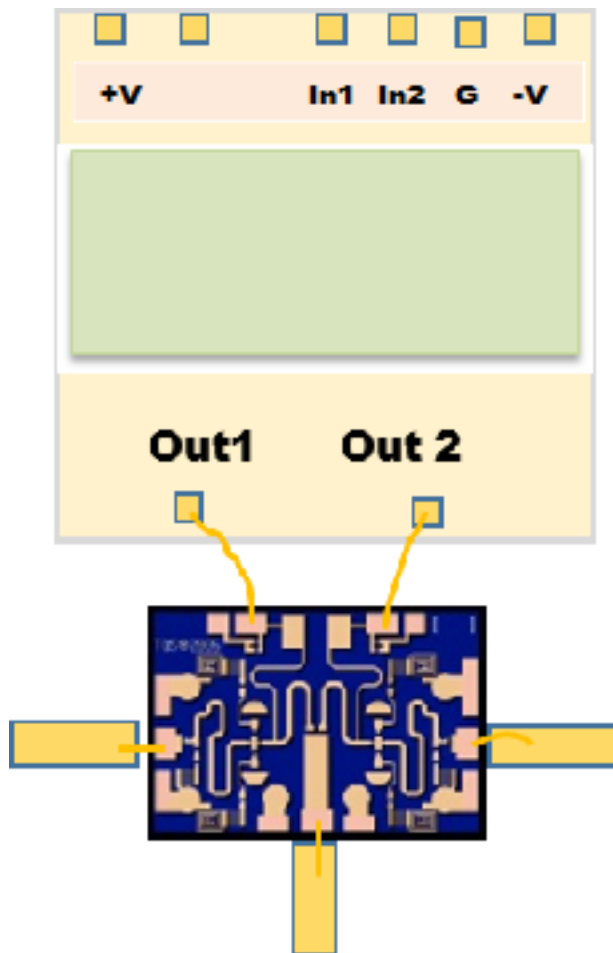


GENERAL DESCRIPTION

The 9979 is a dual channel complementary output high speed driver suitable for high power GaAs, GaN, and SiC PIN diode switches.

The 9979 accepts negative CMOS logic, which uses the negative supply rail as the logic low nominal output voltage. It was designed specifically to drive industry standard GaN and GaAs PIN MMIC's which need negative current for forward diode bias and positive voltage for back bias. Driver is capable of driving up to -150mA so one driver can supply multiple switches. It is ideally suited for driving TGS4304 and similar devices.

TYPICAL APPLICATION



MECHANICAL

The 9979 is an alumina substrate assembly with gold bond pads for integration into a chip & wire construction, either open or optionally covered with alumina cover. It is designed for integration into a hermetic module which operates in harsh environments of high temperature and vibration.

PIN CONNECTIONS

- 1 Output 1
- 2 Output 2
- 3 Vneg
- 4 Ground
- 5 Input 2
- 6 Input 1
- 7 NC
- 8 Vpos

TRUTH TABLE
 $V_{pos} = +30V$ $V_{neg} = -5V$ Logic Negative CMOS

IN2	IN1	OUT2	OUT1
-5V	0V	+29V	-4V
0V	-5V	-4V	+29V

ELECTRICAL SPECIFICATIONS
 $V_{pos} +30V$, $V_{neg} -5V$, TEMP 25C, PRR 2MHz

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
ABSOLUTE MAXIMUMS						
V_{pos}	Logic Supply Positive		0		+40	V
V_{neg}	Supply Voltage Negative		-5.5		0	V
T_o	Operating Temperature		-54		+125	Deg C
T_s	Storage Temperature		-65		+150	Deg C
INPUT						
V_{I_hi}	Voltage Input High	Negative CMOS	-2.1	0	-1.7	V
V_{I_low}	Voltage Input Low	Negative CMOS	-5	-5	-4.6	V
OUTPUT						
V_{O_hi}	Voltage Out High	open load	29	29.5	30	V
V_{O_low}	Voltage Out Low	open load	-4.5	-4.2	-4.0	V
I_{O_hi}	Current Out High	steady state into 1V diode load		3		mA
I_{O_low}	Current Out Low	steady state into 1V diode load		-150		mA
I_{opk}	Current Peak Output	sink		-160		mA
SUPPLY						
I_{QC_pos}	Quiescent Current Positive	1MHz 50% duty cycle		9		mA
I_{QC_neg}	Quiescent Current Negative	1MHz 50% duty cycle		8		mA
DYNAMIC						
T_{rise}	Time Rise			5		nS
T_{fall}	Time Fall			5		nS
T_{d_rise}	Delay Rise			12		nS
T_{d_fall}	Delay Fall			12		nS
TSW_rise	Switching Speed Rise	5pF load		18		nS
TSW_fall	Switching Speed Fall	5pF load		18		nS
PRR	Pulse Repetition Rate	Max, 5pF load		4		MHz

MECHANICAL SPECIFICATIONS

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

Type: Substratable

Length .250 in TYP; Width .250 in TYP; Height .045 in TYP; Weight .1 grams

MARKING SPECIFICATIONS

Logo: Impellimax

Part Number: 9979

