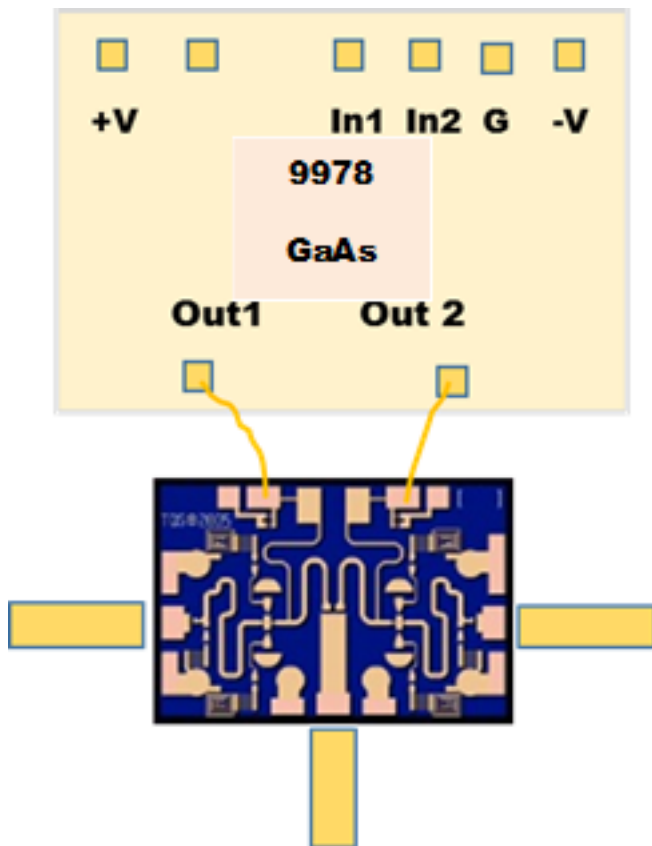


GENERAL DESCRIPTION

The 9978 is a dual channel complementary output high speed driver suitable for high power GaAs, GaN, and SiC PIN diode switches.

The 9978 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 -30 mA so it is ideally suited for driving TGS4304 and similar devices.

TYPICAL APPLICATION



MECHANICAL

The 9978 is an alumina substrate assembly with gold bond pads for integration into a chip & wire construction either open or 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

Vpos = +30V Vneg = -5V Logic Negative CMOS

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

ELECTRICAL SPECIFICATIONS

Vpos +30V, Vneg -5V, TEMP 25C, PRR 2MHz

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
ABSOLUTE MAXIMUMS						
Vpos	Logic Supply Positive		0		+40	V
Vneg	Supply Voltage Negative		-5.5		0	V
To	Operating Temperature		-54		+125	Deg C
Ts	Storage Temperature		-65		+150	Deg C
INPUT						
VI_hi	Voltage Input High	Negative CMOS	-2.1	0	-1.7	V
VI_low	Voltage Input Low	Negative CMOS	-5	-5	-4.6	V
OUTPUT						
VO_hi	Voltage Out High	open load	29	29.5	30	V
VO_low	Voltage Out Low	open load	-4.5	-4.2	-4.0	V
IO_hi	Current Out High	steady state into 1V diode load		3		mA
IO_low	Current Out Low	steady state into 1V diode load		-35		mA
lopk	Current Peak Output	sink and source		-40		mA
SUPPLY						
IQC_pos	Quiescent Current Positive	1MHz 50% duty cycle		8		mA
IQC_neg	Quiescent Current Negative	1MHz 50% duty cycle		7		mA
DYNAMIC						
Trise	Time Rise			5		nS
Tfall	Time Fall			5		nS
Td_rise	Delay Rise			12		nS
Td_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."

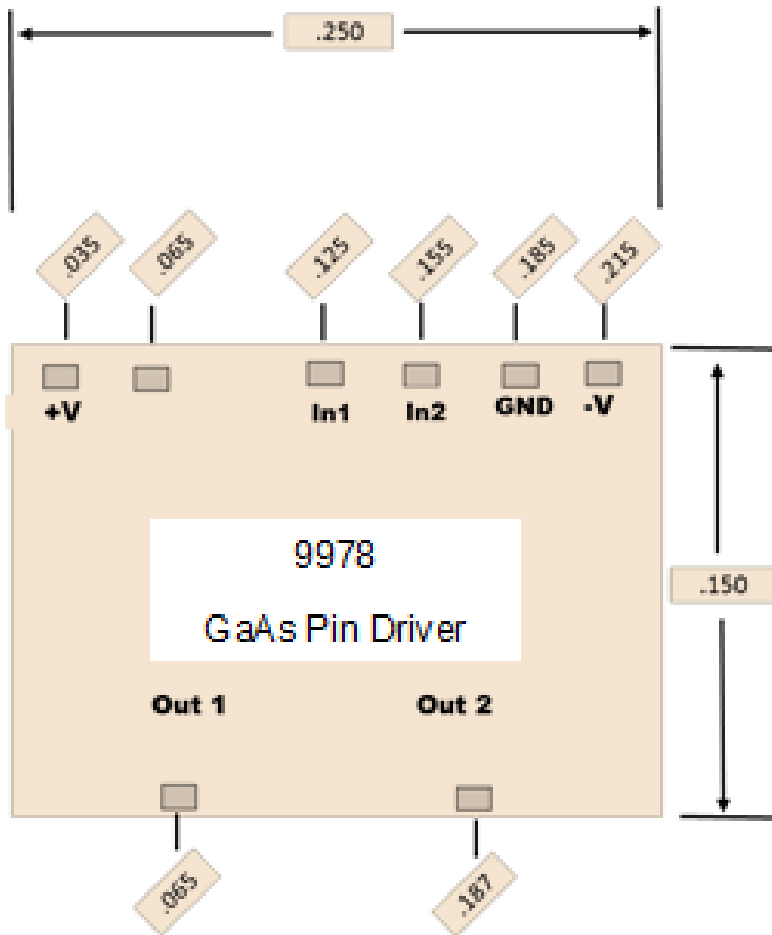
Type: Substratable

Length .250 in TYP; Width .150 in TYP; Height .045 in TYP; Weight .05 grams TYP

MARKING SPECIFICATIONS

Logo: Impellimax

Part Number: 9978



PACKAGING

WAFFLE PACK

