

## GENERAL DESCRIPTION

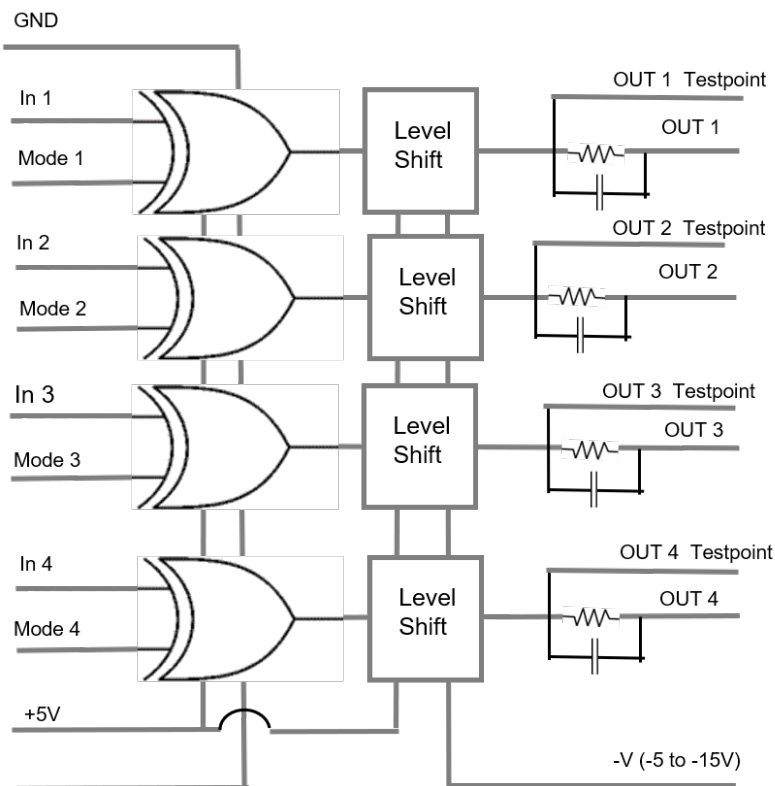
The 9431 is a driver featuring high speed suited for driving high speed PIN diode switches.

The driver is compatible with TTL logic and has 4 independent channels with mode control. Inputs are inverting when mode control has logic low input. Each driver nominally supplies +12 mA and -30 mA at +5V and -15V input.

## FEATURES

- high speed <8 nS
- Inverting or Non-Inverting operation with mode control
- \* internal current limit and spiking outputs

## FUNCTION BLOCK DIAGRAM

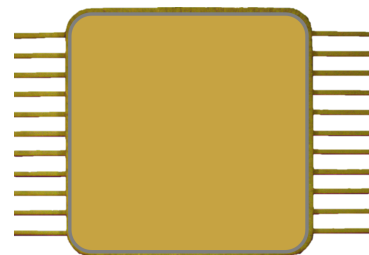


## MECHANICAL

The 9431 consists of discrete BJT mounted on a laminate with discrete thin film AIN passive components epoxy sealed in a glass to metal .625" square package.

ECCN Code EAR99

9431 is RoHS 3 (EU 2015/863) compliant.



## PIN CONNECTIONS

Recommend bypassing Vpos and Vneg with .1 uF capacitor minimum.

Mode control and input pins are interchangeable within one channel

- |    |             |
|----|-------------|
| 1  | Ground      |
| 2  | Input 1     |
| 3  | Mode 1      |
| 4  | Input 2     |
| 5  | Mode 2      |
| 6  | Input 3     |
| 7  | Mode 3      |
| 8  | Input 4     |
| 9  | Mode 4      |
| 10 | +5V         |
| 11 | Ground      |
| 12 | -5 to -15V  |
| 13 | NC          |
| 14 | Output 4    |
| 15 | Testpoint 4 |
| 16 | Output 3    |
| 17 | Testpoint 3 |
| 18 | NC          |
| 19 | Output 2    |
| 20 | Testpoint 2 |
| 21 | Output 1    |
| 22 | Testpoint 1 |

**TRUTH TABLE**

IN1	Mode 1	IN 2	Mode 2	IN 3	Mode 3	IN 4	Mode 4	OUT 4	OUT 3	OUT 2	OUT 1
0	1	0	1	0	1	0	1	-V	-V	-V	-V
1	1	1	1	1	1	1	1	+V	+V	+V	+V
0	0	0	0	0	0	0	0	+V	+V	+V	+V
1	0	1	0	1	0	1	0	-V	-V	-V	-V

**ELECTRICAL SPECIFICATIONS**

Vpos +5V, Vneg -15V, TEMP 25C, PRR 5MHz

	SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
<b>INPUT</b>							
	VI_hi	Voltage Input High	TTL	2.5	3.5	5.0	V
	VI_low	Voltage Input Low	TTL	0	.8	1.8	V
<b>OUTPUT</b>							
	VO_hi	Voltage Out High	open load	4.0	4.3	4.9	V
	VO_low	Voltage Out Low	open load -V -12	-14.0	-14.3	-15.0	V
	IO_hi	Current Out High	steady state into 1V diode load		12		mA
	IO_low	Current Out Low	steady state into 1V diode load common arm resistor		-30		mA
	lopk	Current Peak Output	sink and source	+/-300			mA
<b>SUPPLY</b>							
	IQC_pos	Quiescent Current Positive			25	32	mA
	IQC_neg	Quiescent Current Negative			-25	-32	mA
<b>DYNAMIC</b>							
	TSW_rise	Switching Speed On	opposed 1N4148 diode load		10	12	nS
	TSW_fall	Switching Speed Off	opposed 1N4148 diode load		12	15	nS
	PRR	Pulse Repetition Rate	Max, 10pF load		.5	1	MHz

ESD Sensitivity HBM Class1B

**MECHANICAL SPECIFICATIONS**

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

Package Code 5

Type: Housing; Lead Finish: Gold

Length .645 in MAX; Width .645 in MAX; Height .135 in MAX

**MARKING SPECIFICATIONS**

Logo: IMPELLIMAX

Part Number: 9431

Date Code: YYWW

