

### GENERAL DESCRIPTION

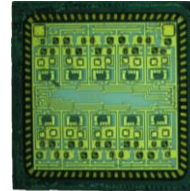
The 9849 is a driver featuring extremely high speed suited for driving AlGaAs PIN diode switches. The driver is compatible with CMOS and TTL logic and has 10 channels each supplying +/- 5v and up to +/-50 ma current into PIN diode load.

### FEATURES

- High PRR 50 MHz
- 7ns switching speed
- Mates to MACOM AlGaAs PIN diode mmic switch

### MECHANICAL

The 9829 is constructed on an alumina thin film substrate with TaN resistors and discrete wire bonded silicon bipolar transistors and housed in a 12mm square 80 lead QFN. This is designed for integration into an Integrated Microwave Assembly which operates in harsh environments of high temperature and vibration.



**CONNECTION TABLE**

Pin		Pin		Pin		Pin	
1	NC	40	GND	41	NC	80	GND
2	NC	39	NC	42	NC	79	+5V
3	NC	38	OUT 5	43	NC	78	OUT 10
4	NC	37	NC	44	NC	77	NC
5	NC	36	NC	45	NC	76	NC
6	NC	35	NC	46	NC	75	NC
7	NC	34	OUT 4	47	NC	74	OUT 9
8	IN 1	33	NC	48	NC	73	NC
9	IN 2	32	NC	49	IN 6	72	NC
10	IN 3	31	OUT 3	50	IN 7	71	NC
11	IN 4	30	NC	51	IN 8	70	OUT 8
12	IN 5	29	NC	52	IN 9	69	NC
13	NC	28	NC	53	IN 10	68	NC
14	NC	27	OUT 2	54	NC	67	OUT 7
15	NC	26	NC	55	NC	66	NC
16	NC	25	NC	56	NC	65	NC
17	NC	24	NC	57	NC	64	NC
18	NC	23	OUT 1	58	NC	63	OUT 6
19	NC	22	NC	59	NC	62	-V
20	NC	21	GND	60	NC	61	GND

**TRUTH TABLE**

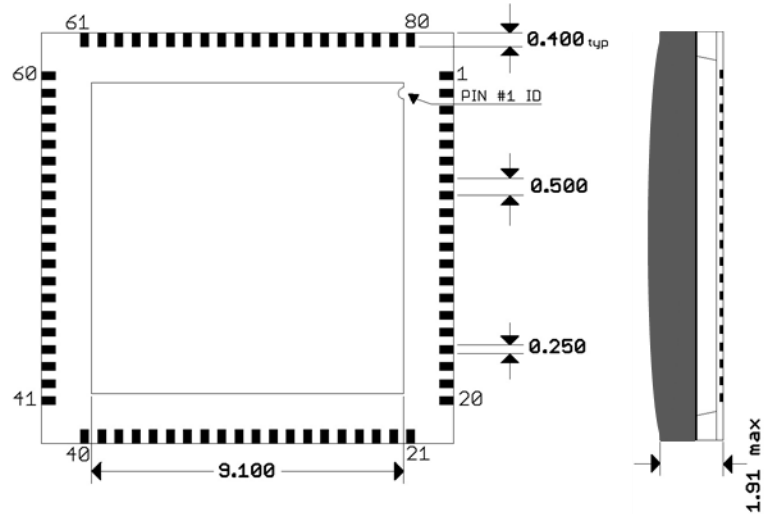
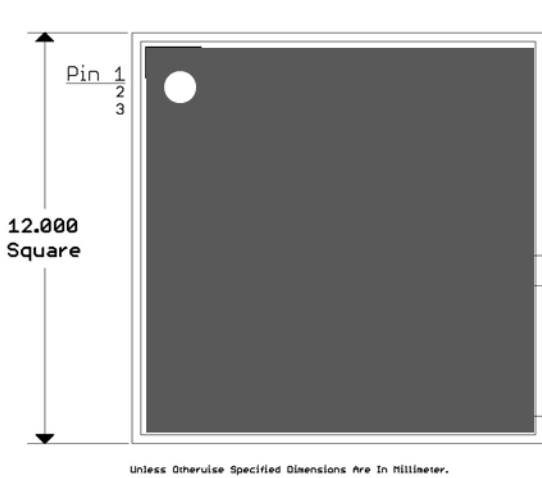
INPUTS										OUTPUTS									
1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
1	0	0	0	0	0	0	0	0	0	-v	+v	+v	+v	+v	+v	+v	+v	+v	+v
0	1	0	0	0	0	0	0	0	0	+v	-v	+v	+v	+v	+v	+v	+v	+v	+v
0	0	1	0	0	0	0	0	0	0	+v	+v	-v	+v	+v	+v	+v	+v	+v	+v
0	0	0	1	0	0	0	0	0	0	+v	+v	+v	-v	+v	+v	+v	+v	+v	+v
0	0	0	0	1	0	0	0	0	0	+v	+v	+v	+v	+v	-v	+v	+v	+v	+v
0	0	0	0	0	1	0	0	0	0	+v	+v	+v	+v	+v	+v	-v	+v	+v	+v
0	0	0	0	0	0	1	0	0	0	+v	+v	+v	+v	+v	+v	+v	-v	+v	+v
0	0	0	0	0	0	0	1	0	0	+v	+v	+v	+v	+v	+v	+v	+v	-v	+v
0	0	0	0	0	0	0	0	1	0	+v	+v	+v	+v	+v	+v	+v	+v	+v	-v
0	0	0	0	0	0	0	0	0	1	+v	+v	+v	+v	+v	+v	+v	+v	+v	-v

**Impellimax** Line of Drivers

ABSOLUTE MAXIMUMS				
Symbol	Parameter	Min	Max	Units
Vcc	Supply Voltage +	0	+6	Volts
Vee	Supply Voltage -		-15	Volts
To	Operating Temperature	-54	+ 100	Deg C
Ts	Storage Temperature	-65	+ 125	Deg C

MECHANICAL SPECIFICATIONS					
Parameter	Conditions	Min	Typ	Max	Units
Width			12		mm
Length			12		mm
Thickness			1.2		mm
Weight				.1	grams
Lead finish	Gold				

ELECTRICAL SPECIFICATIONS Vcc= +5V, Vee=-5V 25 C 10 MHz PRR						
SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
<b>Input</b>						
V <sub>IH</sub>	Logic 1 Input Voltage	TTL	2.8	3.5	5	V
V <sub>IL</sub>	Logic 0 Input Voltage	TTL	0	.8	1.8	V
<b>Output</b>						
V <sub>OH</sub>	Voltage Out High	Open load	4.1	4.5	4.9	V
V <sub>OL</sub>	Voltage Out Low	Open load	-4.9	-4.5	-4.2	V
I <sub>OH</sub>	Current Out High	Steady State into 1v diode load			.1	mA
I <sub>OL</sub>	Current Out Low	Steady State into 1v diode load			50	mA
I <sub>OPK</sub>	Peak Output Current	Sink			200	mA
<b>Supply</b>						
+I <sub>QC</sub>	+ Quiescent Current	10 MHz 50% duty cycle		30		mA
<b>Dynamic</b>						
t <sub>R</sub>	Rise Time			3		nsec
t <sub>F</sub>	Fall Time			3		nsec
T <sub>Off</sub>	Turn Off Delay			4		nsec
T <sub>On</sub>	Turn On Delay			3		nsec
T <sub>SWoff</sub>	Switching Speed Off	330 pf load		7		Nsec
T <sub>SWon</sub>	Switching Speed On	330 pf load		6		Nsec
PRR	Pulse repetition Rate	Max, 10 pF loads		20		MHz



**Impellimax** Line of Drivers