

GENERAL DESCRIPTION

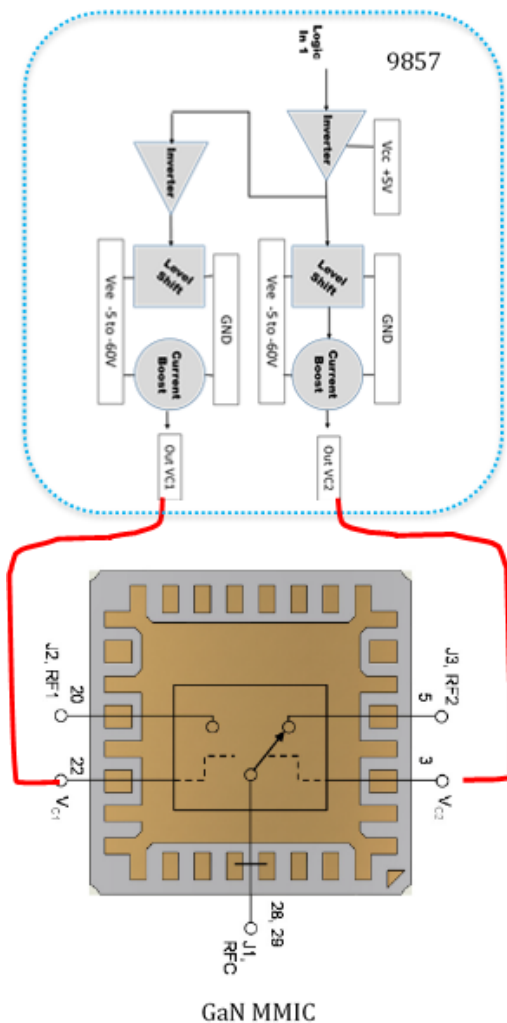
The 9857 is a driver with 2 toggling channels featuring high speed and wide negative voltage range suited for driving SP2T GaN and GaAs switch MMICs.

The driver is compatible with 3.3/5.0 V CMOS logic and supplies 0V and -V (from -5 to -60V) to bias the FETs.

FEATURES

- Ultra high speed <25nS
- Compatible with CMOS FPGA outputs

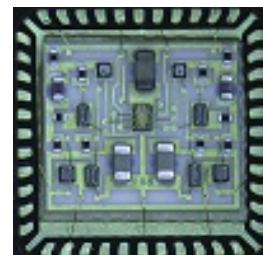
FUNCTION BLOCK DIAGRAM



MECHANICAL

The 9857 is constructed on an alumina thick film substrate with TaN resistors and discrete wire bonded silicon bipolar transistors. The driver is housed in a 7mm square 44 lead 0.5 mm pitch AIN QFN and is designed for integration into an integrated microwave assembly which operates in harsh environments of high temperature and vibration.

9857 contains no solder and is RoHS compliant.



PIN CONNECTIONS

1	NC	23	NC
2	NC	24	NC
3	NC	25	NC
4	NC	26	-5 TO -60V
5	NC	27	NC
6	NC	28	NC
7	-5 TO -60V	29	NC
8	NC	30	NC
9	NC	31	NC
10	NC	32	NC
11	NC	33	NC
12	NC	34	+5V
13	OUT VC1	35	NC
14	NC	36	NC
15	NC	37	NC
16	NC	38	NC
17	Ground	39	NC
18	NC	40	INPUT 1
19	NC	41	NC
20	NC	42	NC
21	OUT VC2	43	NC
22	NC	44	+5V

TRUTH TABLE

INPUT1	OUTVC 1	OUTVC 2
0	0V	-60V
1	-60V	0V

ELECTRICAL SPECIFICATIONS

Vpos +5V, Vneg -60V, TEMP 25C, PRR 1MHz

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
ABSOLUTE MAXIMUMS						
Vpos	Logic Supply Positive		0		+7	V
Vneg	Supply Voltage Negative		-67		0	V
To	Operating Temperature		-54		+125	Deg C
Ts	Storage Temperature		-65		+150	Deg C
INPUT						
VI_hi	Voltage Input High	TTL	2.8	3.5	5	V
VI_low	Voltage Input Low	TTL	0	.8	1.8	V
OUTPUT						
VO_hi	Voltage Out High	open load	-2	-.1	0	V
VO_low	Voltage Out Low	open load	-59.2	-59.8	-60	V
IO_hi	Current Out High	steady state		15		mA
IO_low	Current Out Low	steady state		15		mA
SUPPLY						
IQC_pos	Quiescent Current Positive	1MHz 50% duty cycle		4		mA
IQC_neg	Quiescent Current Negative	1MHz 50% duty cycle		8		mA
DYNAMIC						
Trise	Time Rise			8		nS
Tfall	Time Fall			8		nS
Td_rise	Delay Rise			12		nS
Td_fall	Delay Fall			12		nS
TSW_rise	Switching Speed Rise	10pF load		25		nS
TSW_fall	Switching Speed Fall	10pF load		25		nS
PRR	Pulse Repetition Rate	Max, 10pF load		1		MHz

MECHANICAL SPECIFICATIONS

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

Package Code Q

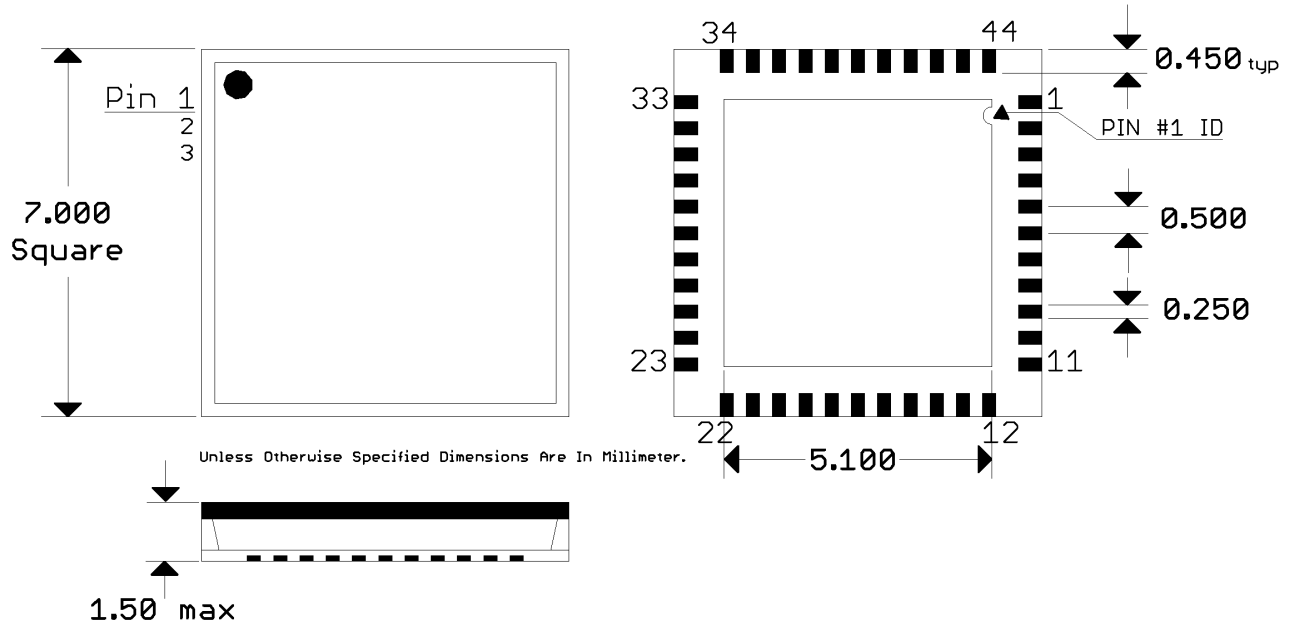
Type: Housing; Lead Finish: Gold

Length 7.000 mm; Width 7.000 mm; Height 1.50 mm MAX; Weight .4 grams TYP

MARKING SPECIFICATIONS

Logo: Impellimax

Part Number: 9857



SWITCH STATE

Switch State
RFC-RF1 Loss RFC-RF2 ISO
RFC-RF1 ISO RFC-RF2 Loss