

GENERAL DESCRIPTION

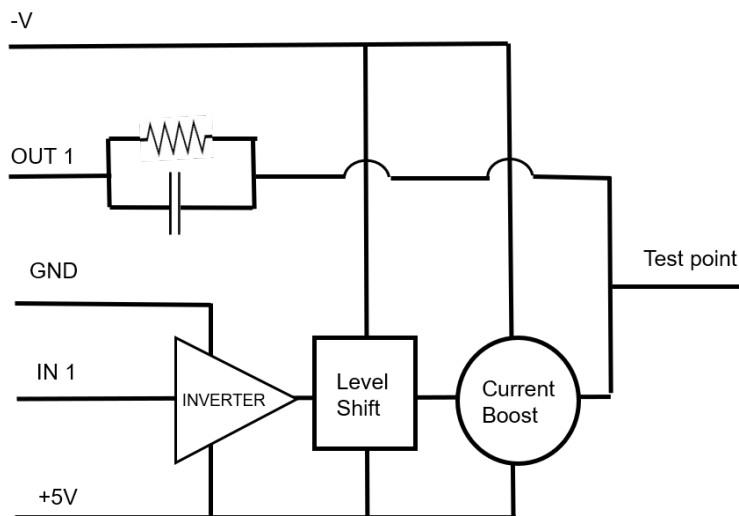
The 9954 is a driver featuring high speed and wide negative voltage range suited for driving PIN diode switches.

The driver is compatible with TTL/3.3V CMOS logic and supplies up to +/50 mA bias the diodes.

FEATURES

- Ultra high speed <10nS
- Hermetic packaged
- TTL/CMOS Compatible inputs

FUNCTION BLOCK DIAGRAM

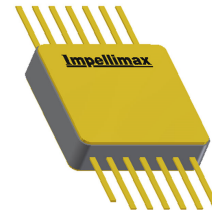


MECHANICAL

The 9954 consists of silicon BJT components wire bonded to an Alumina substrate with integrated TaN resistors. This is housed in a .375" x .375" hermetic flatpack for mounting into an integrated microwave assembly.

ECCN Code EAR99

9954 is RoHS compliant.



PIN CONNECTIONS

- | | |
|----|------------------|
| 1 | -V (-5V to -15V) |
| 2 | OUT |
| 3 | Ground |
| 4 | Input |
| 5 | NC |
| 6 | NC |
| 7 | +5V |
| 8 | NC |
| 9 | NC |
| 10 | NC |
| 11 | Testpoint |
| 12 | NC |
| 13 | NC |
| 14 | NC |

TRUTH TABLE

IN Out

0 -V

1 +V

ELECTRICAL SPECIFICATIONS

Vpos +5V, Vneg -15V, TEMP 25C, PRR 1MHz

NOTE: Tie all unused inputs high or low, but not floating.

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
ABSOLUTE MAXIMUMS						
Vpos	Logic Supply Positive		0		+7	V
Vneg	Supply Voltage Negative		-30		0	V
To	Operating Temperature		-54		+125	Deg C
Ts	Storage Temperature		-65		+150	Deg C
INPUT						
VI_hi	Voltage Input High	TTL	2.5		5.5	V
VI_low	Voltage Input Low	TTL	0	.5	.8	V
OUTPUT						
VO_hi	Voltage Out High	open load	4.2	4.5	5	V
VO_low	Voltage Out Low	open load	-14.2	-14.5	-15	V
IO_hi	Current Out High	steady state into 1V diode load +/-5V		50		mA
IO_low	Current Out Low	steady state into 1V diode load +/-5V		-50		mA
lopk	Current Peak Output	sink		-100		mA
SUPPLY						
IQC_pos	Quiescent Current Positive	0.5MHz 50% duty cycle		1		mA
IQC_neg	Quiescent Current Negative	0.5MHz 50% duty cycle		1		mA
DYNAMIC						
Trise	Time Rise			3		nS
Tfall	Time Fall			3		nS
Td_rise	Delay Rise			5		nS
Td_fall	Delay Fall			5		nS
TSW_rise	Switching Speed Rise	10pF load		9		nS
TSW_fall	Switching Speed Fall	10pF load		10		nS
PRR	Pulse Repetition Rate	Max, 10pF load		1	10	MHz

ESD Sensitivity HBM Class 1B

MECHANICAL SPECIFICATIONS

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

** Recommended backside to be electrically and thermally connected to ground. Recommended Bypassing +5V and -V supply with .1 uf . (01 uf min) to ground.

Package Code 2

Type: Housing; Lead Finish: Gold

Length .395 in MAX; Width .395 in MAX; Height .115 in MAX

MARKING SPECIFICATIONS

Logo: Impellimax

Part Number: 9954

Date Code: YYWW

