

GENERAL DESCRIPTION

The 99199 is a driver featuring high speed and wide negative voltage range suited for driving high power MASW series SP2T monolithic switches.

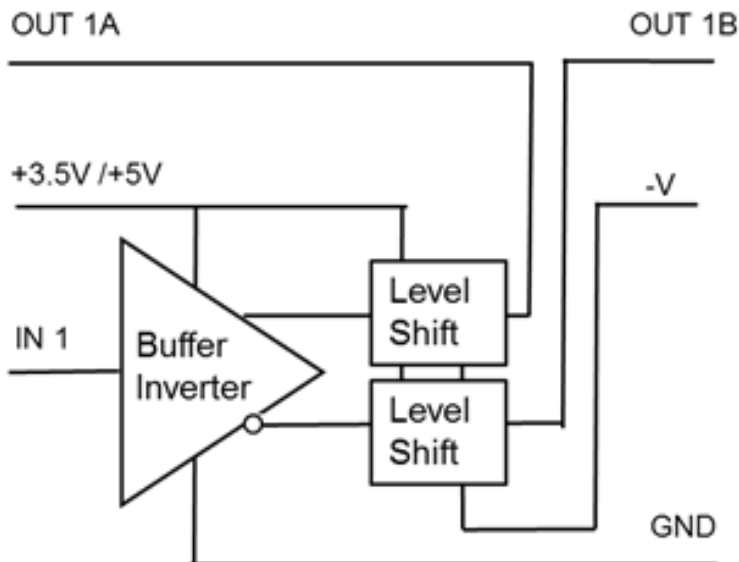
The driver is compatible with 3.3/5.0 V CMOS logic and has a single logic input and 2 outputs to supply each bias line with $-V$ up to $-40V$ and up to ± 40 mA current.

On-board user-modifiable output current-setting resistors and spiking caps are integrated into the unit.

FEATURES

- Ultra high speed $<25nS$
- Compatible with CMOS FPGA outputs
- Drop-in ready module with corner 2-56 mounting holes

FUNCTION BLOCK DIAGRAM

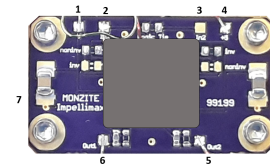


MECHANICAL

The 99199 consists of silicon micro components soldered to a laminate substrate and protected with a dam and fill process. This forms a 7 x 7 mm protected area within a nominal 1" by .55" pcb, with a fully continuous grounded gold-plated backside, designed for integration into an integrated microwave assembly.

ECCN Code EAR99

99199 is RoHS 3 (EU 2015/863) compliant.



PIN CONNECTIONS

Pins 2, 9, 11 (Vneg) internally connected

Pins 5, 8 (Vpos) internally connected

PIN 11 Backside paddle is Vneg

Recommend bypassing Vpos and Vneg with .47 uF

- 1 $-V$ ($-5V$ to $-40V$)
- 2 IN1 (Input)
- 3 NC
- 4 $+5V$ / $+3.3V$
- 5 Output 1B Inverting
- 6 Output 1A Non Invert
- 7 Ground

E2D Sensitivity HBM Class 1B

PRR	Pulse Rejection Rate	Max. Load	1	2	MHz	
T _{SW} Fall	Switching Speed Fall	Load	12		nS	
T _{SW} Rise	Switching Speed Rise	Load	12		nS	
T _d Fall	Delay Fall		2		nS	
T _d Rise	Delay Rise		2		nS	
T _{fall}	Time Fall		1		nS	
T _{rise}	Time Rise		1		nS	
DYNAMIC						
I _{OC} Neg	Quiescent Current Negative	0.2KHz 20% duty cycle	5		Am	
I _{OC} Pos	Quiescent Current Positive	0.2 KHz 20% duty cycle	3		Am	
SUPPLY						
I _{oPK}	Current Peak Output	sink	-100		Am	
I _O Low	Current Out Low	resistor steadily state into 1V diode load common atm	-40		Am	
I _O Hi	Current Out High	steadily state into 1V diode load	40		Am	
V _O Low	Voltage Out Low	open load	-38.8	-38.2	-38.5	V
V _O Hi	Voltage Out High	open load	5.4	5.8	3.0	V
OUTPUT						
V _I Low	Voltage Input Low	CMOS	0	5	1.5	V
V _I Hi	Voltage Input High	CMOS	5.4	3.1	3.3	V
INPUT						

SYMBOL PARAMETER CONDITIONS MIN TYP MAX UNITS

ELECTRICAL SPECIFICATIONS

V_{POS} +3.3V, V_{NEG} -40V, TEMP 25C, PRR 2MHz

0 -V +V

1 +V -V

INPUT I_{IN} I_{OUT} I_{OUT}

TRUTH TABLE