

GENERAL DESCRIPTION

The 99139 is a driver featuring high speed and wide negative voltage range suited for driving high speed PIN diode switches.

The driver is compatible with 3.3/5.0 V CMOS logic and has 4 independent inverting channels to supply output high and low up to ± 40 mA at +5V and -5 to -40V

External current limiting resistors are required to set current

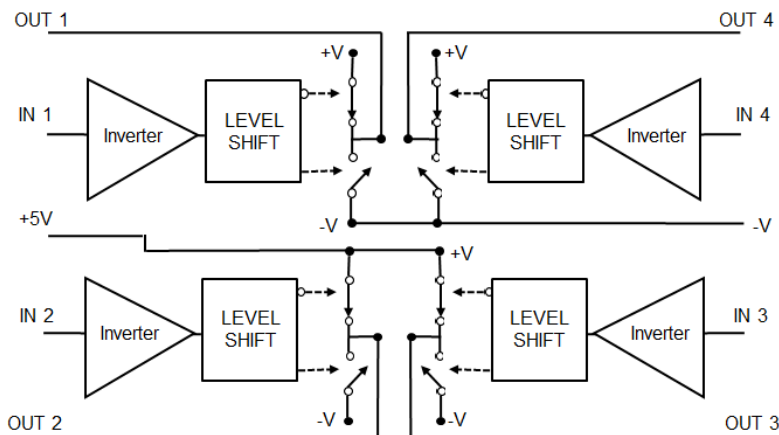
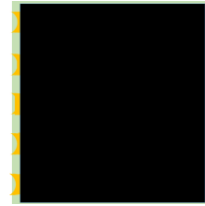
FEATURES

- high speed < 50 nS
- Compatible with cmos FPGA outputs

MECHANICAL

The 99139 consists of silicon BJT and CMOS FETs mounted on a laminate substrate and sealed with a Dam and Fill process. This forms a 6 x 6 mm 10 pos SMT assembly designed for integration into an Integrated Microwave Assembly.

99139 is RoHS compliant



PIN CONNECTION

Pin		Pin	
1	+5V	10	-V -5 to -40V
2	OUT 1	9	IN 4
3	IN 1	8	OUT 4
4	OUT 2	7	IN 3
5	IN 2	6	OUT 3

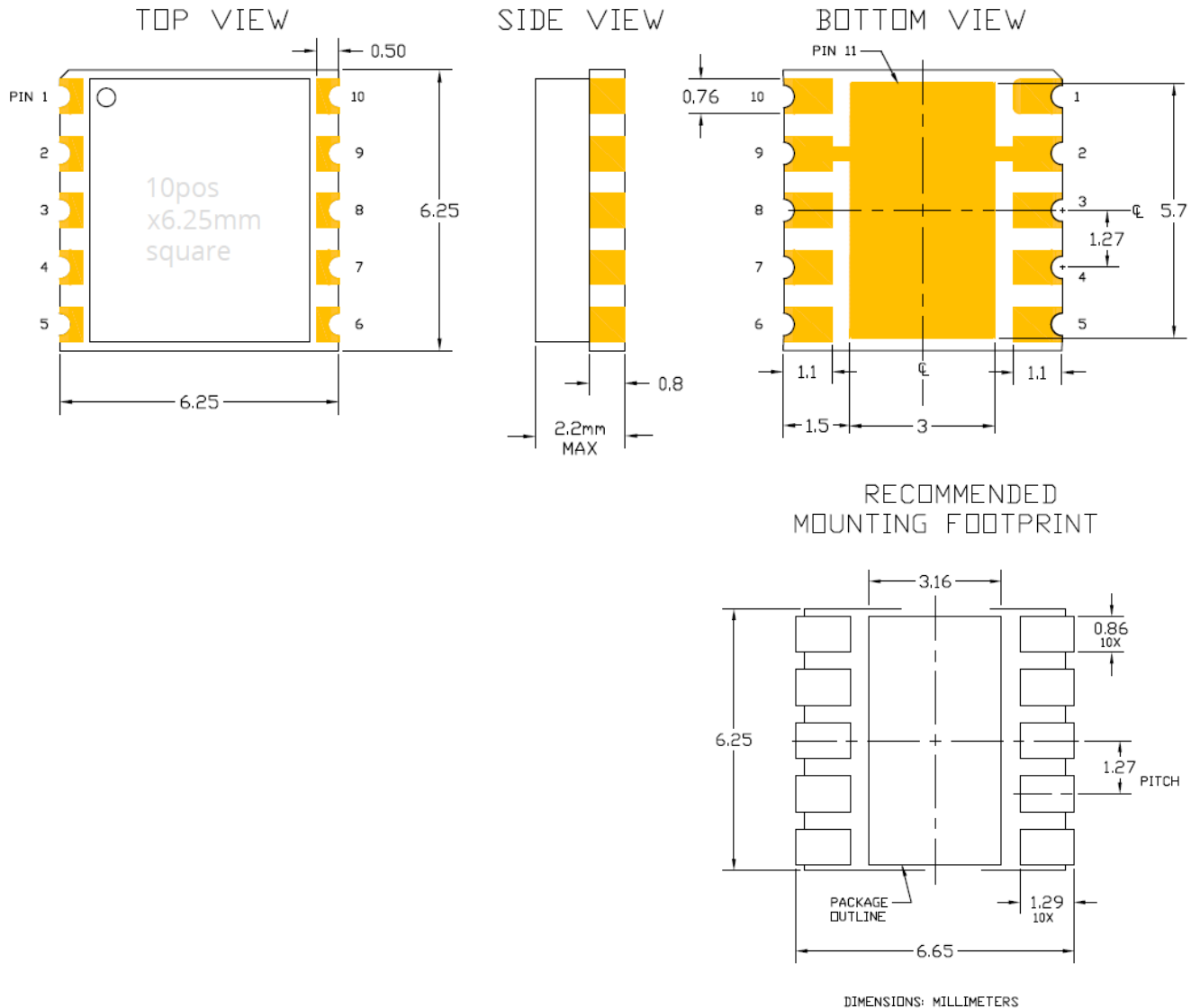
. Recommend bypassing +V and -V with .1 uf capacitor or .01 uf minimum

TRUTH TABLE

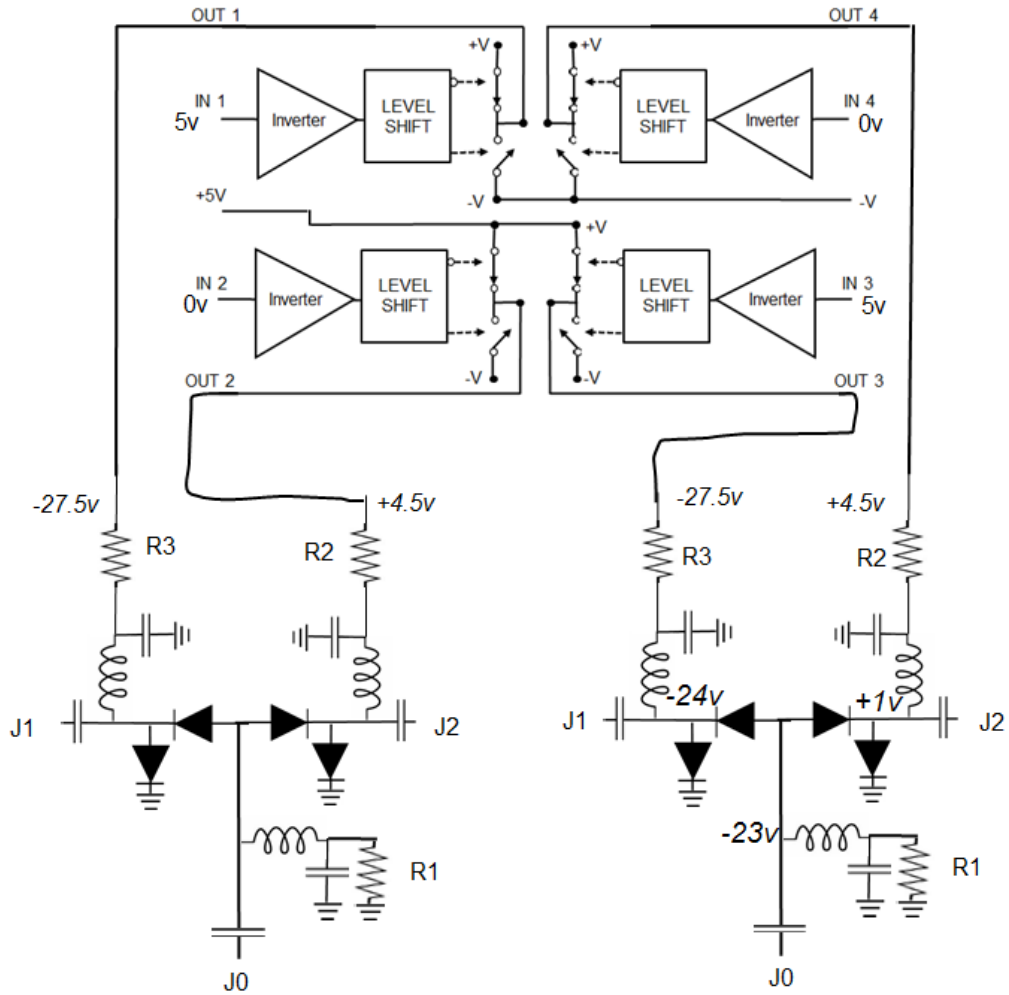
INPUTS				OUTPUTS			
IN1	IN2	IN3	IN4	OUT 1	OUT 2	OUT 3	OUT 4
0	0	0	0	+mA	+mA	+mA	+mA
1	0	0	0	-mA	+mA	+mA	+mA
0	1	0	0	+mA	-mA	+mA	+mA
0	0	1	0	+mA	+mA	-mA	+mA
0	0	0	1	+mA	+mA	+mA	-mA

ELECTRICAL SPECIFICATIONS $V_{+} = +5V$ $V_{-} = -28V$, 25 C 500 KHz PRR

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Input						
V_{IH}	Logic 1 Input Voltage	CMOS	4.0	4.5	5.0	V
V_{IL}	Logic 0 Input Voltage	CMOS	0	.4	.8	V
Output						
V_{OH}	Voltage Out High	Open load	4.0	4.5	5.0	V
V_{OL}	Voltage Out Low	Open load	-27.8	-27.5	-27.0	V
I_{OH}	Current Out High	Steady State into 1v diode load		30		mA
I_{OL}	Current Out Low	Steady State into 1v diode load common arm resistor		-3 0		mA
I_{OPK}	Peak Output Current	Sink		-100		mA
Supply						
$+I_{QC}$	+ Quiescent Current	.5 MHz 50% duty cycle		15		mA
$-I_{QC}$	- Quiescent Current	.5 MHz 50% duty cycle		10		mA
Dynamic						
t_R	Rise Time			7		nS
t_F	Fall Time			7		nS
T_{Doff}	Turn Off Delay			35		nS
T_{Don}	Turn On Delay			30		nS
T_{SWoff}	Switching Speed Off	10 pf load -V to +V		50		nS
T_{SWon}	Switching Speed On	10 pf load +V to -V		45		nS
PRR	Pulse repetition Rate	Max, 10 pF loads		.5	1	MHz



Impellimax Line of Drivers



Application example

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