

GENERAL DESCRIPTION

The XS420A4 is a driver featuring high speed suited for driving high speed PIN diode switches.

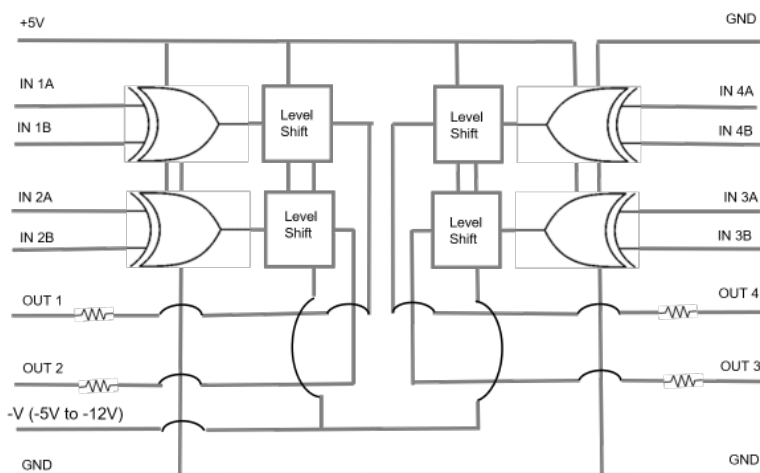
The driver is compatible with TTL logic and has 4 independent channels. Channels are independent and provide Exclusive-Or logic function. Apply logic low to one input to cause the remaining input to be noninverting. Allow one input to float hi (or pull high) to cause the remaining input to be inverting.

Each driver nominally supplies +/-50 mA into 1V load

FEATURES

- high speed <70 nS
- Inverting or Non-Inverting operation with mode control
- * internal current limiting

FUNCTION BLOCK DIAGRAM

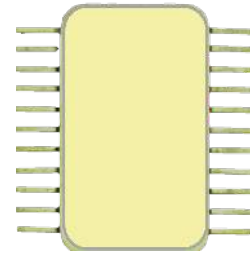


MECHANICAL

The XS420A4 consists of discrete BJT mounted on a laminate with discrete thin film AlN passive components epoxy sealed in a glass to metal .625" x .395" package.

ECCN Code EAR99

XS420A4 is RoHS 3 (EU 2015/863) compliant.



PIN CONNECTIONS

Recommend bypassing V_{pos} and V_{neg} with .1 uf capacitor minimum.

Mode control and input pins are interchangeable within one channel

- 1 +5 VDC
- 2 Input 1A
- 3 Input 1B
- 4 Input 2A
- 5 Input 2B
- 6 NC
- 7 Output 1
- 8 NC
- 9 Output 2
- 10 NC
- 11 -V (-5V to -12V)
- 12 Ground
- 13 NC
- 14 Output 4
- 15 NC
- 16 Output 3
- 17 NC
- 18 Input 4B
- 19 Input 4A
- 20 Input 3A
- 21 Input 3B
- 22 Ground

TRUTH TABLE

IN1A	IN 1B	IN 2A	IN 2B	IN 3A	IN 3B	IN 4A	IN 4B	OUT 4	OUT 3	OUT 2	OUT 1
0	1	0	1	0	1	0	1	+V	+V	+V	+V
1	1	1	1	1	1	1	1	-V	-V	-V	-V
0	0	0	0	0	0	0	0	-V	-V	-V	-V
1	0	1	0	1	0	1	0	+V	+V	+V	+V

ELECTRICAL SPECIFICATIONS

Vpos +5V, Vneg -12V, TEMP 25C, PRR 5MHz

	SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
INPUT							
	VI_hi	Voltage Input High	TTL	2.5	3.5	5.0	V
	VI_low	Voltage Input Low	TTL	0	.8	1.8	V
OUTPUT							
	VO_hi	Voltage Out High	open load	4.0	4.3	4.9	V
	VO_low	Voltage Out Low	open load -V	-11.0	-11.3	-12	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 and source	+/-300			mA
SUPPLY							
	IQC_pos	Quiescent Current Positive			25	32	mA
	IQC_neg	Quiescent Current Negative			-25	-32	mA
DYNAMIC							
	TSW_rise	Switching Speed On	opposed 1N4148 diode load		10	12	nS
	TSW_fall	Switching Speed Off	opposed 1N4148 diode load		12	15	nS
	PRR	Pulse Repetition Rate	Max, 10pF load		.5	1	MHz

ESD Sensitivity HBM Class1B

MECHANICAL SPECIFICATIONS

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

Package Code 5

Type: Housing; Lead Finish: Gold

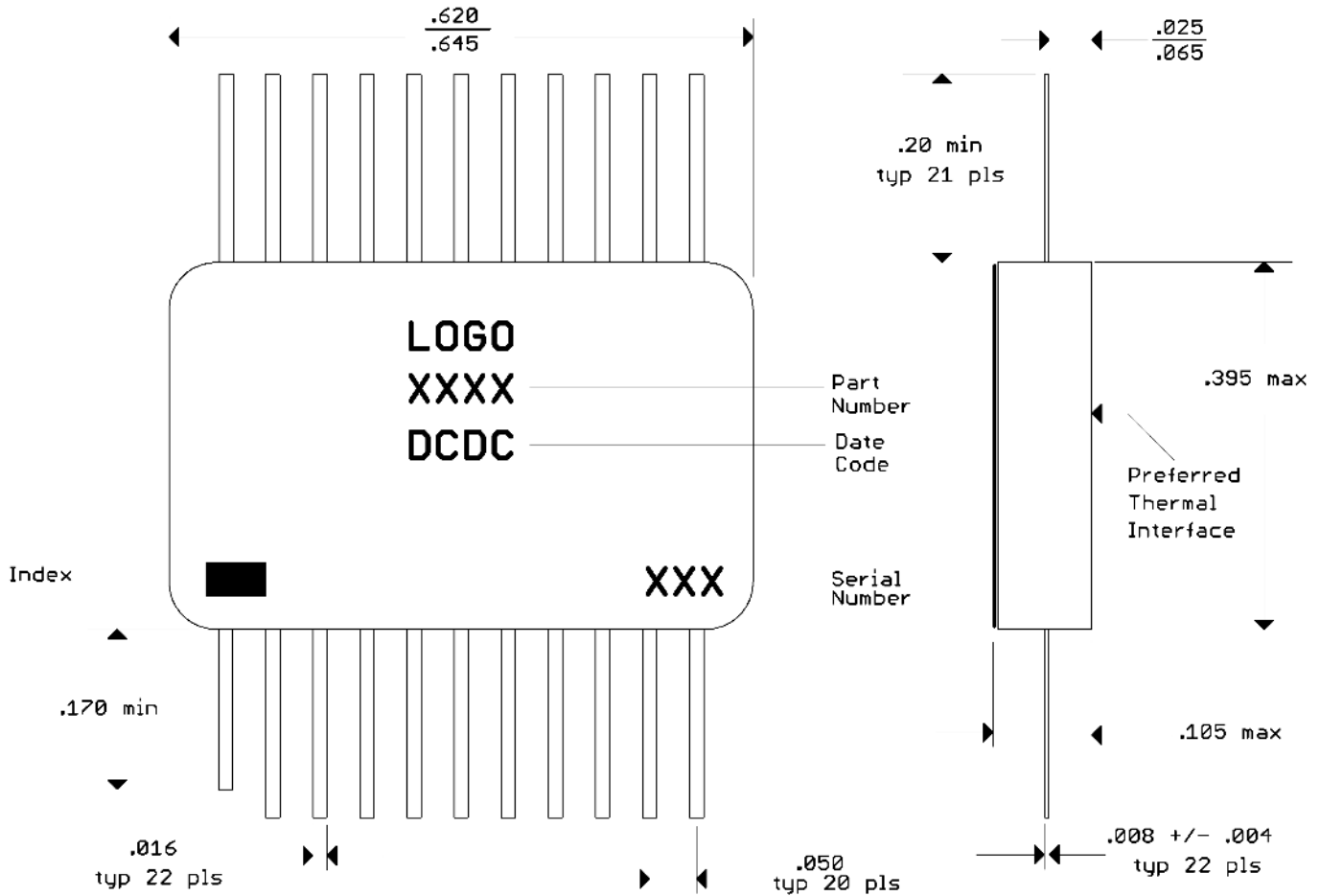
Length .645 in MAX; Width .395 in MAX; Height .105 in MAX

MARKING SPECIFICATIONS

Logo: IMPELLIMAX

Part Number: XS420A4

Date Code: YYWW



TYPICAL APPLICATION

