

GENERAL DESCRIPTION

The MDD050N450Q12A is a high speed driver suited for driving high speed PIN diode switches.

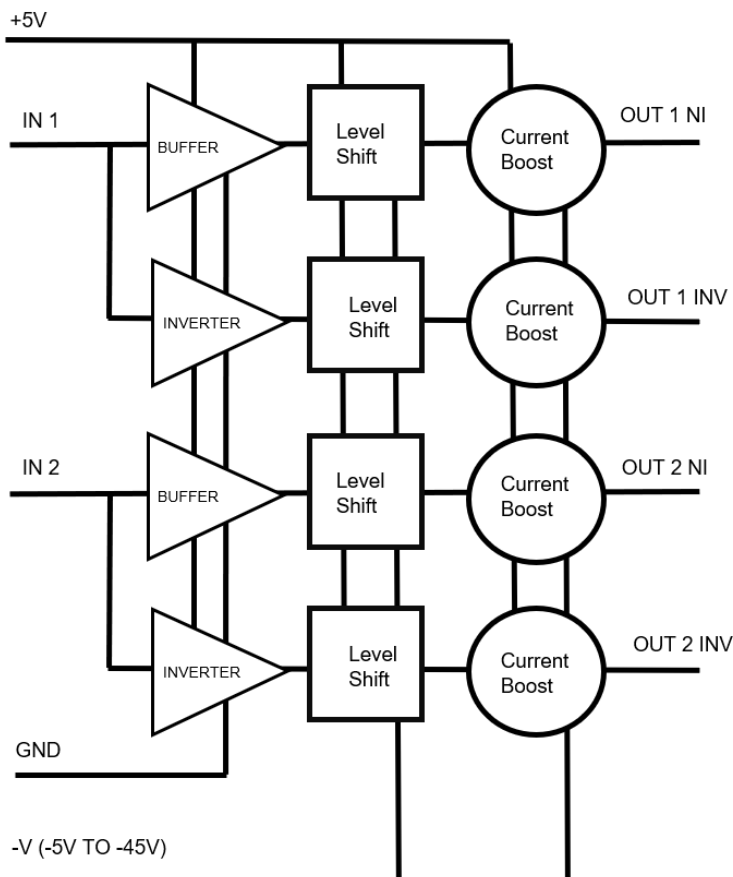
The driver is compatible with TTL logic and has 2 independent channels with complementary outputs to supply output high and low up to +120 mA at +5V and 1 mA at -45V output for driving all shunt switches.

External current limiting resistors are required to set current.

FEATURES

- Two independent drivers in one package
- high speed 20 nS
- Inverting and Non-Inverting outputs
- Low Power Dissipation (1 mA Iq)
- Compatible with: MASW-011036, MASW-010646, MASW-011068, MASW-011071, MASW-011094, MASW-011098, MASW-011198, MASW-011021

FUNCTION BLOCK DIAGRAM

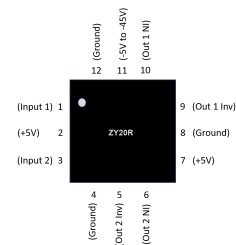


MECHANICAL

The MDD050N450Q12A consists of multiple components mounted and encapsulated with an epoxy sealant. This forms a 6mm x 6mm 12 pos QFN assembly designed for integration into an Integrated Microwave Assembly .

ECCN Code EAR99

MDD050N450Q12A is RoHS 3 (EU 2015/863) compliant.



PIN CONNECTIONS

Recommend bypassing Vpos and Vneg with .1 uf capacitor minimum.

Pins 2 and 7 internally connected

- 1 Input 1
- 2 +5V
- 3 Input 2
- 4 Ground
- 5 Output 2 Inverting
- 6 Output 2 Noninverting
- 7 +5V
- 8 Ground
- 9 Output 1 Inverting
- 10 Output 1 Noninverting
- 11 -V (-5V to -45V)
- 12 Ground

TRUTH TABLE

IN1	IN2	OUT1 NI	OUT1 INV	OUT2 NI	OUT2 INV
0	0	-V	+V	-V	+V
1	1	+V	-V	+V	-V

ELECTRICAL SPECIFICATIONS

Vpos +5V, Vneg -45V, TEMP 25C, PRR 500KHz

	SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
INPUT							
	VI_hi	Voltage Input High	TTL/CMOS	2.8	4.5	5.0	V
	VI_low	Voltage Input Low	TTL/CMOS	0	.2	.5	V
OUTPUT							
	VO_hi	Voltage Out High	open load	4.5	4.8	5.0	V
	VO_low	Voltage Out Low	open load	-44.5	-44.8	-45.0	V
	IO_hi	Current Out High	steady state into 1V diode load		50		mA
	IO_low	Current Out Low	steady state into 1V diode load		50		mA
	lopk	Current Peak Output	sink and source	+/-300			mA
SUPPLY							
	IQC_pos	Quiescent Current Positive	per driver		.1		mA
	IQC_neg	Quiescent Current Negative	per driver		-.1		mA
DYNAMIC							
	TSW_rise	Switching Speed Rise	opposed 1N4148 diode load		15	20	nS
	TSW_fall	Switching Speed Fall	opposed 1N4148 diode load		15	18	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.

MSL RATING 4 (refer to JEDEC STD 033B)

Shipping Packaging

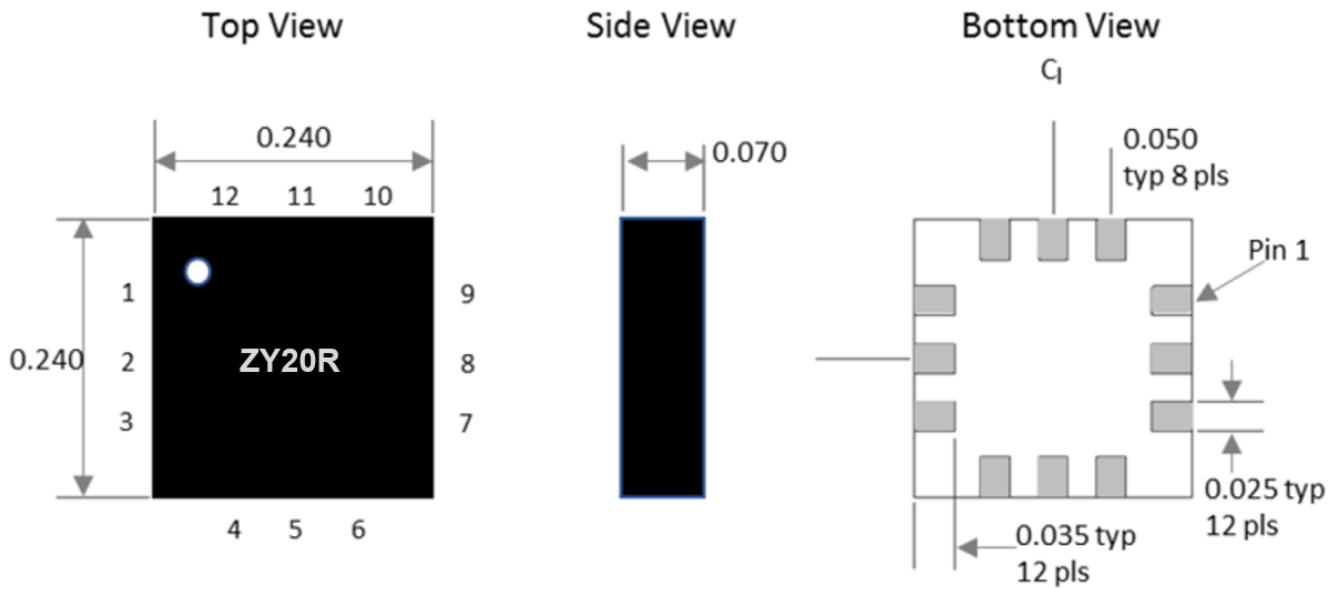
Waffle Packs/trays

Lead Finish: Gold

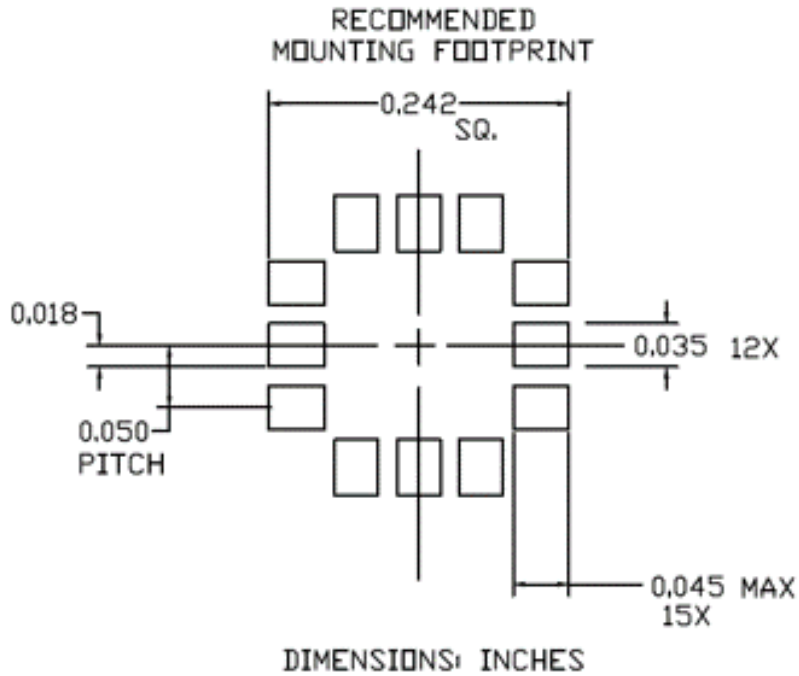
Length 0.24; Width 0.24; Height 0.07

MARKING SPECIFICATIONS

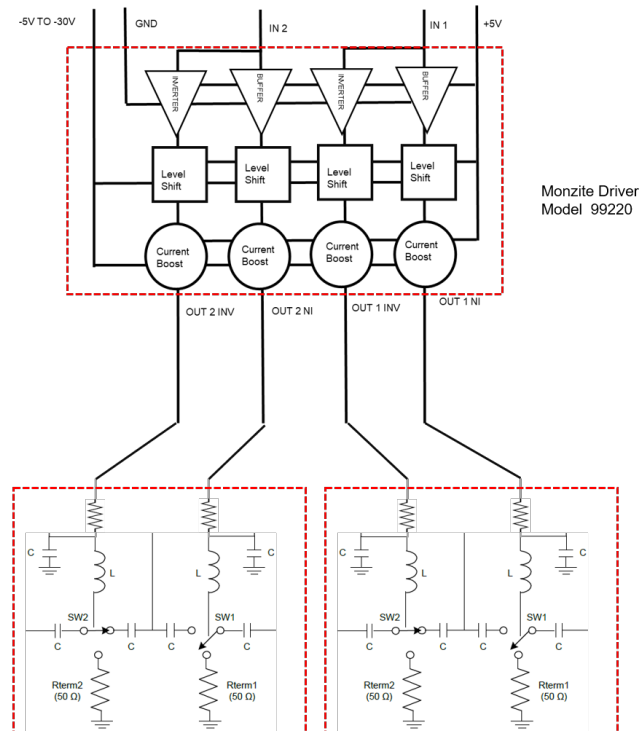
Part Number: ZY20R



FOOTPRINT

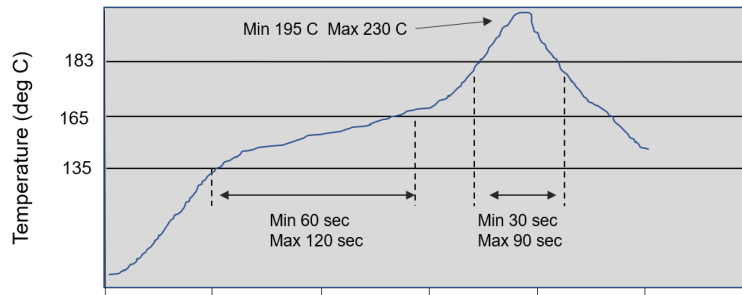


TYPICAL APPLICATION



SOLDER PROFILE

SnPb Temperature Profile example



Pb-Free Temperature Profile example

