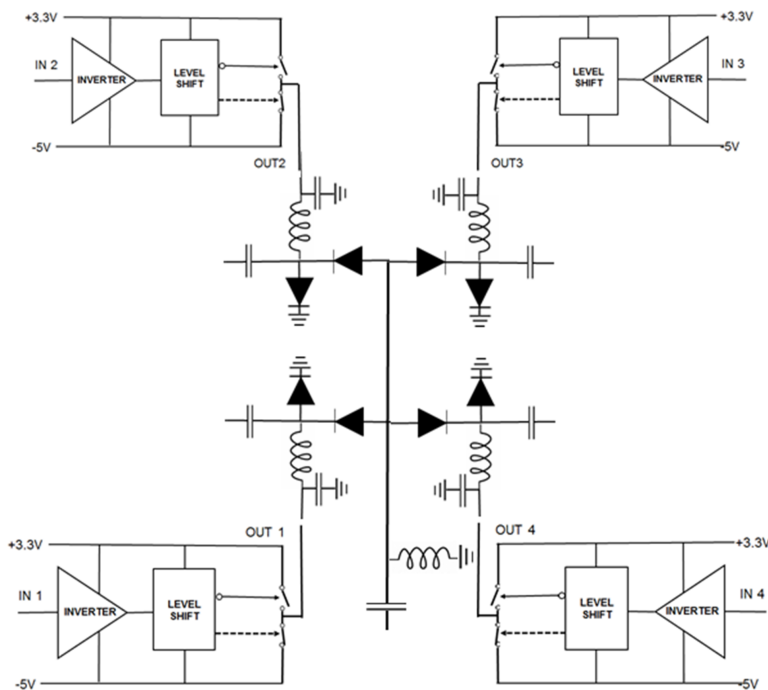


## GENERAL DESCRIPTION

The 6008 is an AlGaAs PIN diode reflective high speed switch covering 2 to 40 GHz. The input accepts 3.3 V CMOS logic. The switch is composed of an integral driver which converts logic levels into positive and negative current to bias the AlGaAs PIN diodes both on and off. The switch is a series shunt configuration and uses the MACOM MA4GSW4.

## FUNCTION BLOCK DIAGRAM



## MECHANICAL

The 6008 is constructed utilizing low loss Rogers 4350 microwave laminate, monolithic PIN diode switch elements and discrete silicon bipolar transistor driver circuitry. RF connections are made with gold wire bonds. The part is an edge wrap surface mount to be mounted directly to 4350 micro-strip//GCPW connection.

## PIN CONNECTIONS

- 1 J2
- 2 J1
- 3 +3.3V
- 4 -5V
- 5 Input 1
- 6 J0
- 7 Input 4
- 8 -5V
- 9 +3.3V
- 10 J4
- 11 J3
- 12 +3.3V
- 13 -5V
- 14 Input 3
- 15 Input 2
- 16 -5V
- 17 +3.3V

**TRUTH TABLE**

E1	E2	E3	E4	J0-J1	J0-J2	J0-J3	J0-J4
1	0	0	0	LOSS	ISO	ISO	ISO
0	1	0	0	ISO	LOSS	ISO	ISO
0	0	1	0	ISO	ISO	LOSS	ISO
0	0	0	1	ISO	ISO	ISO	LOSS

**ELECTRICAL SPECIFICATIONS**

Vpos +3.3V, Vneg -5V, TEMP 25C, PRR 60MHZ

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
<b>ABSOLUTE MAXIMUMS</b>						
Vpos	Supply Voltage Positive		0		+7	V
Vneg	Supply Voltage Negative		-16		0	V
To	Operating Temperature		-54		+125	Deg C
CW	CW Survival				33	dBm
<b>INPUT</b>						
VI_hi	Voltage Input High	TTL	2.8	3.0	3.3	V
VI_low	Voltage Input Low	TTL	0	.3	.8	V
<b>SUPPLY</b>						
IQC_pos	Quiescent Current Positive	0.1KHz 50% duty cycle		+50		mA
IQC_neg	Quiescent Current Negative	100MHz 50% duty cycle		-40		mA
<b>DYNAMIC</b>						
IP3	Intermodulation Distortion	2 tone 3rd order		+40		dBm
P1dB	1dB Compression			+21		dBm
Tfall	Second Harmonic			-50		dBc
Td_rise	Video Transients	.5MHz PRR 100Mhz BW		50		Mv pk
Td_fall	Rise/Fall			1		nS
TSW_rise	Switching Speed Rise	5pF load		5		nS
TSW_fall	Switching Speed Fall	5pF load		5		nS
PRR	Pulse Repetition Rate	Max, 5pF load			60	MHz
<b>RF CHARACTERISTICS LINEAR</b>						
ILOSS	Insertion Loss			1.2		V
ISO	Isolation		65	25	90	V
VSWR	Match J0			1.3	1.8	:1
VSWR	Match Out J1, J2, J3, J4	LOSS & ISO State		1.3	1.8	:1

6 GHz to 18 GHz usable to 40 GHz

**MECHANICAL SPECIFICATIONS**

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

Pins - Electro-less Gold

Finish - Paint Epoxy

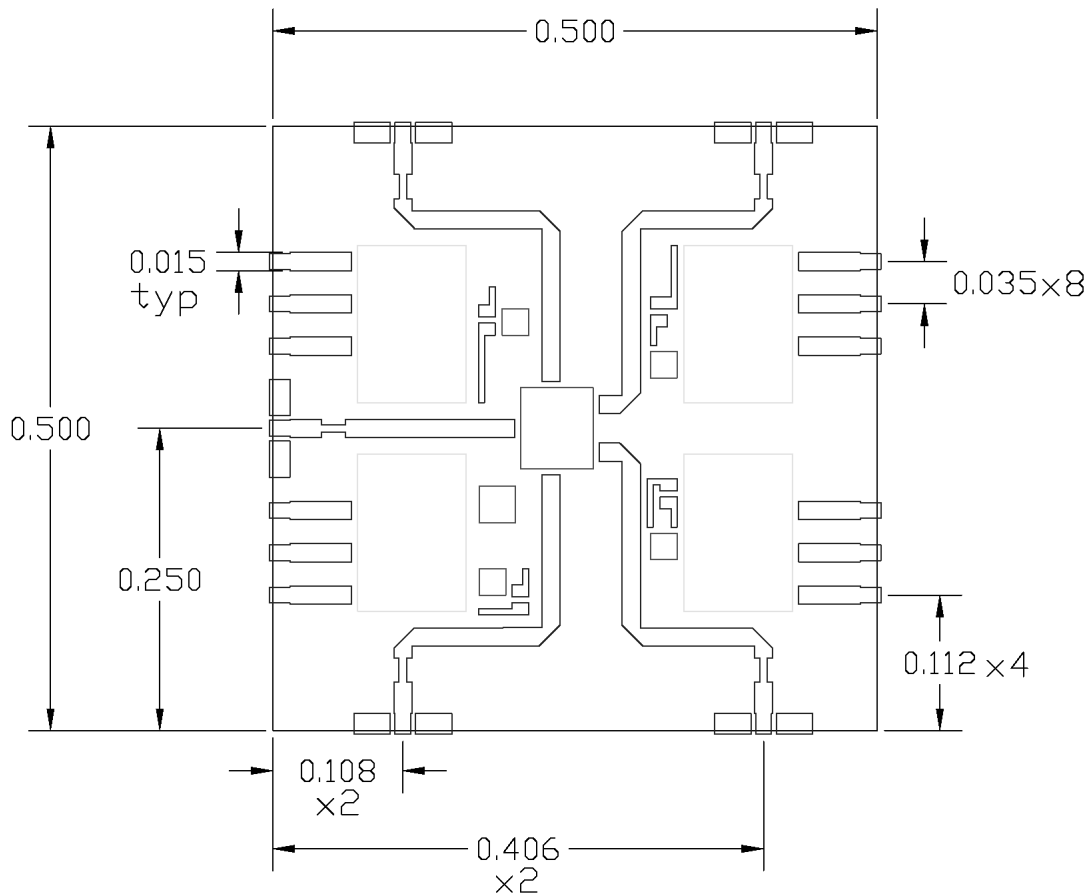
Type: Board

Length 0.500 in TYP; Width 0.500 in TYP; Weight 30 grams TYP

**MARKING SPECIFICATIONS**

Logo: Impellimax

Part Number: 6008



FIGURE

