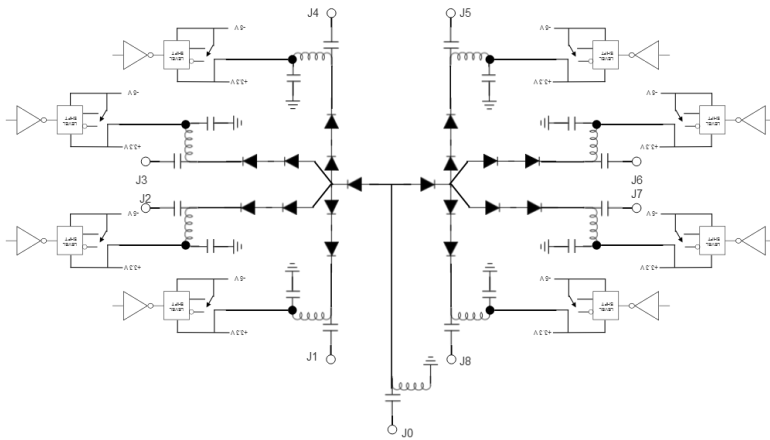


GENERAL DESCRIPTION

The 6011 is an AlGaAs PIN diode reflective high speed SP8T switch covering 2 to 18 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 an all series configuration and uses the MACOM MA4AGSW8-1.

FUNCTION BLOCK DIAGRAM



MECHANICAL

The 6011 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	J3	18	+3.3V
2	+3.3V	19	-5V
3	-5V	20	Input 7
4	Input 3	21	J7
5	J2	22	+3.3V
6	+3.3V	23	-5V
7	-5V	24	Input 6
8	Input 2	25	J6
9	J1	26	J5
10	+3.3V	27	+3.3V
11	-5V	28	-5V
12	Input 1	29	Input 5
13	J0	30	+3.3V
14	+3.3V	31	-5V
15	-5V	32	Input 4
16	Input 8	33	J4
17	J8		

TRUTH TABLE

E1	E2	E3	E4	E5	E6	E7	E8	J0-J1	J0-J2	J0-J3	J0-J4	J0-J5	J0-J6	J0-J7	J0-J8
1	0	0	0	0	0	0	0	LOSS	ISO	ISO	ISO	ISO	ISO	ISO	ISO
0	1	0	0	0	0	0	0	ISO	LOSS	ISO	ISO	ISO	ISO	ISO	ISO
0	0	1	0	0	0	0	0	ISO	ISO	LOSS	ISO	ISO	ISO	ISO	ISO
0	0	0	1	0	0	0	0	ISO	ISO	ISO	LOSS	ISO	ISO	ISO	ISO
0	0	0	0	1	0	0	0	ISO	ISO	ISO	ISO	LOSS	ISO	ISO	ISO
0	0	0	0	0	1	0	0	ISO	ISO	ISO	ISO	ISO	LOSS	ISO	ISO
0	0	0	0	0	0	1	0	ISO	ISO	ISO	ISO	ISO	ISO	LOSS	ISO
0	0	0	0	0	0	0	1	ISO	ISO	ISO	ISO	ISO	ISO	ISO	LOSS

ELECTRICAL SPECIFICATIONS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
ABSOLUTE MAXIMUMS						
Vpos	Supply Voltage Positive		0		+7	V
Vneg	Supply Voltage Negative		-16		0	V
To	Operating Temperature		-54		+125	Deg C
CW	CW Survival				23	dBm
INPUT						
VI_hi	Voltage Input High	TTL	2.8	3.0	3.3	V
VI_low	Voltage Input Low	TTL	0	.3	.8	V
SUPPLY						
IQC_pos	Quiescent Current Positive	0.1KHz 50% duty cycle		+50		mA
IQC_neg	Quiescent Current Negative	100MHz 50% duty cycle		-40		mA
DYNAMIC						
IP3	Intermodulation Distortion	2 tone 3rd order		+40		dBm
P1dB	1dB Compression			+20		dBm
Tfall	Second Harmonic			-50		dBc
Td_rise	Video Transients	.5MHz PRR 100Mhz BW		50		Mv pk
Td_fall	Rise/Fall			3		nS
TSW_rise	Switching Speed Rise	5pF load		7		nS
TSW_fall	Switching Speed Fall	5pF load		8		nS
PRR	Pulse Repetition Rate	Max, 5pF load			60	MHz
RF CHARACTERISTICS LINEAR						
ILOSS	Insertion Loss	12 GHz		1.7		V
ISO	Isolation	12 GHz	65	25	90	V
VSWR	Match J0	12 GHz		1.3	1.8	:1
VSWR	Match Out J1, J2, J3, J4	LOSS & ISO State		1.3	1.8	:1

8 GHz to 18 GHz

MECHANICAL SPECIFICATIONS

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

Pins - Electro-less Gold

Finish - Paint Epoxy

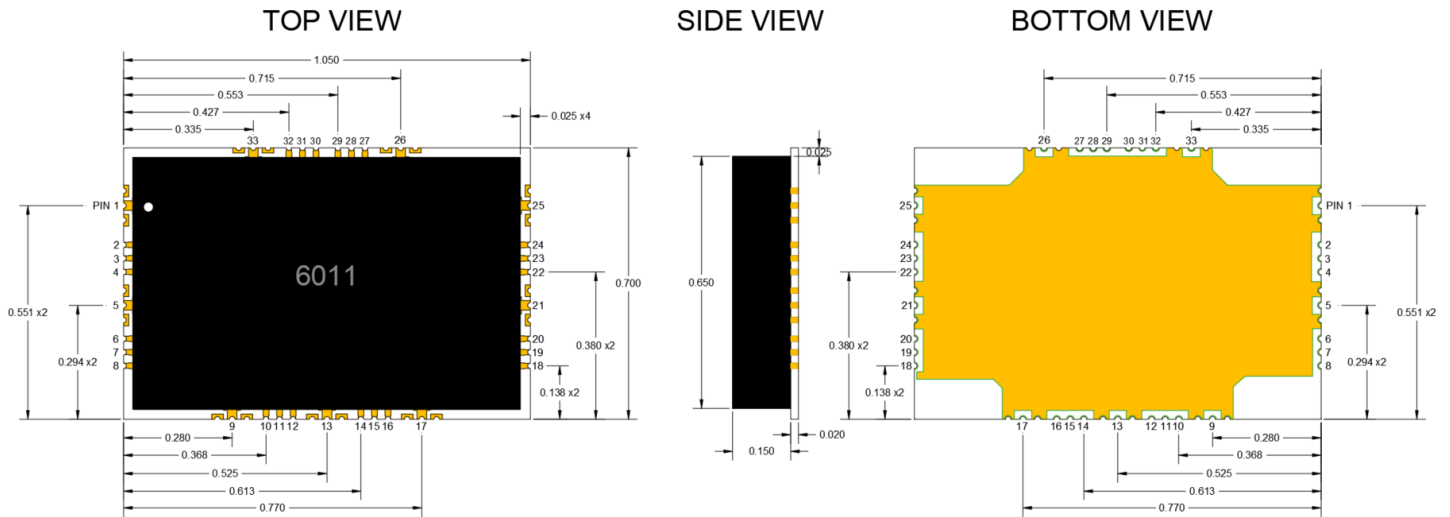
Type: Board

Length 1.050 in TYP; Width 0.700 in TYP; Height 0.170 in TYP

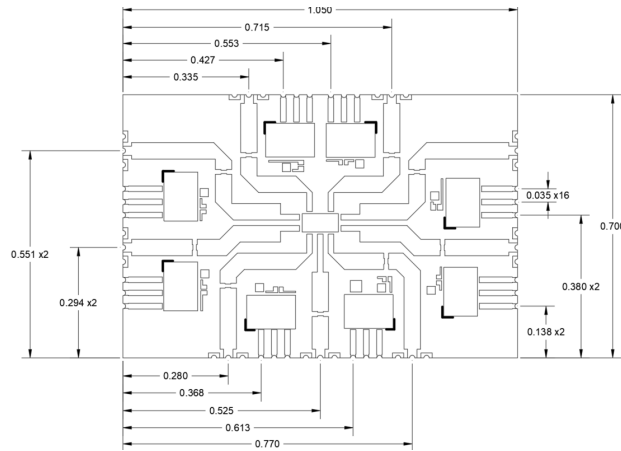
MARKING SPECIFICATIONS

Logo: Impellimax

Part Number: 6011



FIGURE



FIGURE

