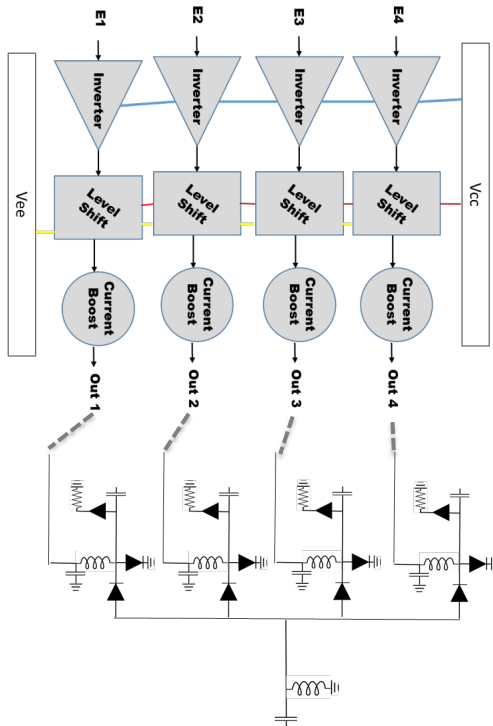


### GENERAL DESCRIPTION

The KSW177307 is a Silicon PIN diode Non Reflective high speed switch covering 2 to 18 GHz. The input accepts TTL and 5.0 V CMOS logic. The switch is composed of an integral driver which converts Logic levels into positive and negative current to bias the microwave silicon diodes both on and off. The switch is a series shunt configuration with a 50 ohm termination in the J1 and J2 arm in the off state

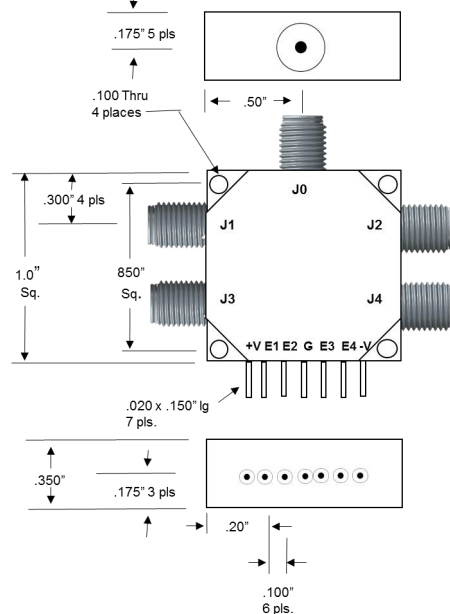


Functional Block Diagram

### MECHANICAL

The KSW177307 is constructed utilizing low loss microwave micro-strip transmission line, monolithic PIN diode switch elements and thin film alumina drive circuitry. All connections are made with gold wire bonds. The housing is gold plated channelized Aluminum with soldered glass/metal seals. DC connections made from rugged 20 mil gold plated pins and RF connection are stainless steel replaceable SMA connectors.

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



MECHANICAL SPECIFICATIONS					
Parameter	Conditions	Min	Typ	Max	Units
Weight			30		grams
Pins	Electro-less Gold				
Finish	Paint Epoxy				

ABSOLUTE MAXIMUM				
Sym1	Parameter	Min	Max	Units
+V	Supply Voltage Positive	0	+7	Volts
V <sub>ee</sub>	Supply Voltage Negative	-16	0	Volts
T <sub>o</sub>	Operating Temperature	-54	+125	Deg C
CW	CW Survival		33	dBm

ELECTRICAL SPECIFICATIONS V+ = +5V, V- = -15V, 25 C 5 MHz PRR						
SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
<b>Input</b>						
V <sub>IH</sub>	Logic 1 Input Voltage	TTL	2.8	3.5	5	V
V <sub>IL</sub>	Logic 0 Input Voltage	TTL	0	.8	1.8	V
<b>RF CHARACTERISTICS Linear</b>						
ILOSS	Insertion Loss		1.6	2.9	3.5	V
ISO	Isolation		65	75	90	V
VSWR	Match JO			1.5	2	:1
VSWR	Match Out J1,J2,J3,J4	LOSS & ISO State		1.5	2	:1
<b>Supply</b>						
+I <sub>QC</sub>	+ Quiescent Current	100 KHz 50% duty cycle		+60	+80	mA
-I <sub>QC</sub>	- Quiescent Current	100 KHz 50% duty cycle		-30	-40	mA
<b>Dynamic/Non Linear</b>						
IP3	Intermodulation distortion	2 tone 3 <sup>rd</sup> order		+46		dBm
P1dB	1 dB compression			+28		dBm
t <sub>F</sub>	Second Harmonic			-60		dBc
T <sub>off</sub>	Video Transients	.5 MHz PRR 100 Mhz BW		50		Mv pk
T <sub>Don</sub>	Rise/Fall			7		nsec
T <sub>SWoff</sub>	Switching Speed Off	5 pf load		20	45	nsec
T <sub>SWon</sub>	Switching Speed On	5 pf load		20	45	nsec
PRR	Pulse repetition Rate	Max, 5 pF loads			3	MHz