



# ISW30A

## 0.1 – 2.7 GHz, 10W SPDT SWITCH

REV A  
February 2015

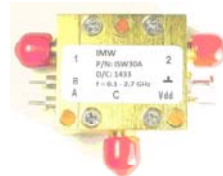
### Key Features



- 0.5 dB Low Insertion Loss
- 0.1 ~ 2.7 GHz Wide Band
- 40 dBm Power Handling
- 25 ns Speed, SPDT
- Built in DC BLOCK
- RoHS Compliant
- Precision Machined Housing

### Applications

- LTE
- Radio Front End
- RF Bench Test
- Mobile Base Station Applications



### Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	-0.2, 12
RF Input CW Power	dBm	40
Maximum Hot Switch	dBm	39
Storage Temperature	°C	-40 ~ +85
Operating Temperature	°C	-40 ~ +85

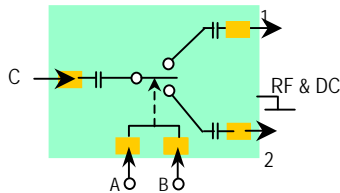
Operation of this device beyond any one of these parameters may cause permanent damage.

### Specifications

Summary of the key electrical specifications at 25°C

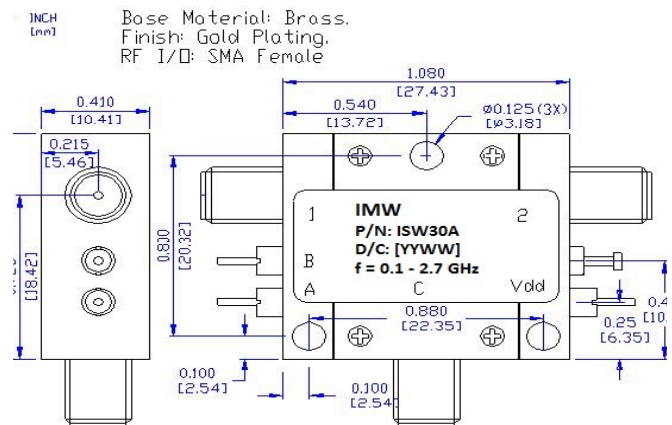
Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Frequency Range	BW	50 Ohm Impedance	0.1		2.7	GHz
2	Insertion Loss	$S_{21}, S_{31}$	0.1 – 2.7 GHz, in Contact Path, with SMA Connectors		0.5	0.8	dB
3	Isolation	$S_{21}, S_{31}$	0.1 – 2.7 GHz, In Isolation Path	18			dB
4	VSWR	$SWR_i$	0.1 – 2.7 GHz, all ports		1.25:1	1.5:1	Ratio
5	Maximum Power Handling	$P_{MAX}$	0.1 – 2.7 GHz, CW			40	dBm
6	Switching Speed	$t_s$	0.1 – 2.7 GHz, 10% to 90% RF and 90% to 10% RF		25	80	nS
7	Output-Third-Order Interception Point	$IP_3$	0.1 – 2.7 GHz		70		dBm
8	Control Voltage, High	$V_{ch}$		$V_{dd} - 0.20$	$V_{dd}$	$V_{dd} + 0.20$	V
9	Control Voltage, Low	$V_{cl}$				0.2	V
10	Power Supply Operating Voltage	$V_{dd}$		+3	+9	+10	V
11	Operating Temperature	$T_o$		-40		+85	°C

### Functional Block Diagram



Control Input		Signal Path State	
A	B	C to 1	C to 2
Low	Low	Off	Off
Low	High	Off	On
High	Low	On	Off

### Outline,



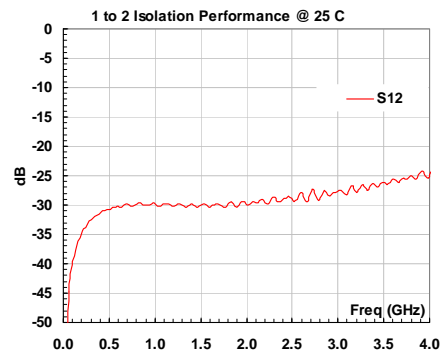
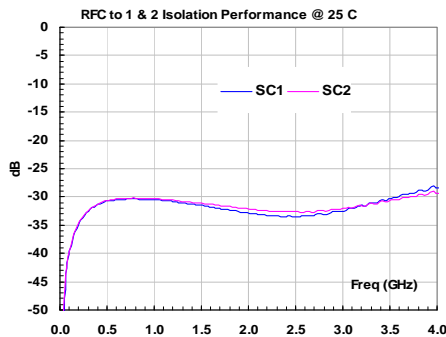
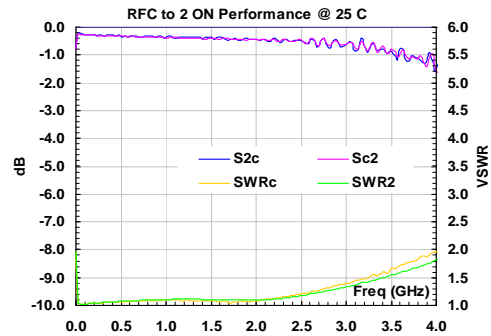
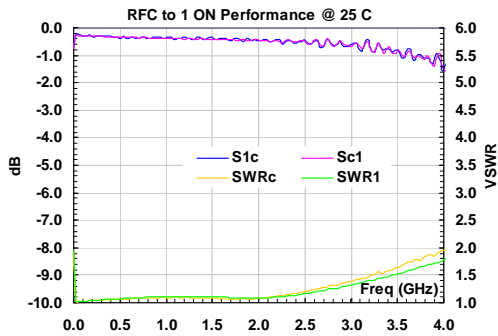
### Ordering Information

Model Number	ISW30A
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Specifications and information are subject to change without notice.



## Typical Data



## Application Notes:

### A. SMA Torque Wrench Selection

Always use a torque wrench with 5 ~ 6 inch-lb coupling torque setting for mating the SMA cables to the amplifier. Never use torque more than 8 inch-lb wrench for tightening the mating cable to the connector. Otherwise, the permanent damage will occur to the SMA connectors of the amplifier. 8710-1582 (5 inch-lb) is one of the ideal torque wrench choice from Agilent Technology.

### B. Mounting the Amplifier

Use three pieces of #2-56 with longer than 9/16" screws for mounting the amplifier on a metal-based chase. Flat and spring washers are needed to prevent the screw loosening during the shock and vibration. Always use the appropriate torque setting of the power screwdriver to mount them.

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