



Applications

- Tx/Rx and diversity for WLAN
- Band switches for WCDMA handsets
- Basestation infrastructure switching
- LNB/DBS matrix switches

Features

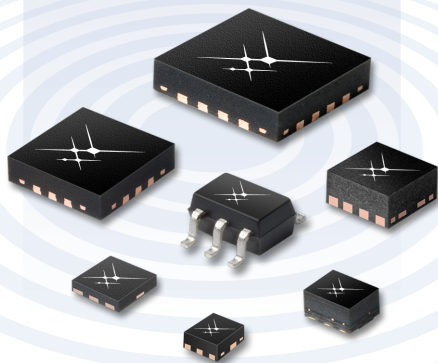
- SPST to SP4T
- Low insertion loss
- High isolation
- High linearity
- Ultraminiature lead (Pb)-free and Skyworks Green™ packaging

Switches

Skyworks Solutions is pleased to offer a broad selection of GaAs switches for diverse markets such as WLAN, handset, wireless infrastructure, SatCom (LNB/DBS-CATV), automotive, test & measurement, energy management, and other microwave applications. Skyworks switches are available in many different configurations including broadband, high power, high isolation, low insertion loss, reflective, and non-reflective. Our lead (Pb)-free, RoHS-compliant and Green™ high quality products are available for applications including antenna transmit/receive (T/R) switches for use in cellular handsets and WLAN systems, synthesizer switches for infrastructure needs, and many other high volume, high performance requirements. These products are fabricated in our high volume GaAs pHEMT facility. All switches are packaged in industry-standard, plastic surface-mount packages. These switch product solutions leverage the extensive design knowledge, technical leadership, manufacturing expertise and superior quality of Skyworks.



Skyworks Green™ products are RoHS (Restriction of Hazardous Substances)-compliant, conform to the EIA/EICTA/JEITA Joint Industry Guide (JIG) Level A guidelines, are halogen free according to IEC-61249-2-21, and contain <1,000 ppm antimony trioxide in polymeric materials.



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Applications

The switching FET functions as a three port device, where the source and drain ports form a conduction path or channel for the RF signal and the gate port controls whether the channel is opened or closed. A DC control voltage applied to the gate is required to create this function. Most switching FETs use a depletion mode configuration, which means that the channel is normally open (low resistance) with no voltage applied and a negative voltage closes off the channel (high resistance). A complete switch can be fabricated by arranging switching FETs in various configurations depending upon the end application. Shown below is a typical SP2T switch comprised of series and shunt FETs. Capacitors are used to level shift the switch to operate with positive control voltage as shown in Figure 1.

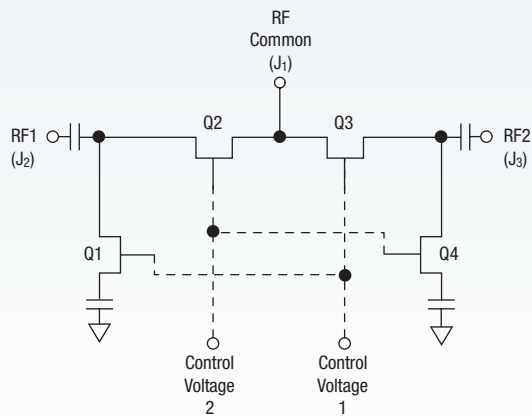


Figure 1.0 SP2T Switch Schematic

Transmit-Receive Switch

A SPDT switch can be used as a transmit-receive (Tx/Rx) switch, to alternately connect a transmitter and a receiver to a single antenna in a single duplex system.

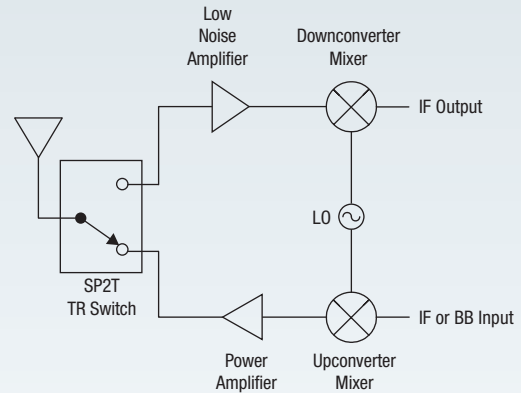










Figure 2.0 Typical SP2T Tx/Rx Switch Application

Multiport RF Switches

Part Number	Description (Absorptive/ Reflective)	Frequency (GHz)	Typ. IL (dB)	Typ. Isol. (dB)	Typ. IIP3 (dBm)	Typ. IP _{1dB} (dBm)	Package (mm)
AS179-92LF	SPDT (R)	LF-3.0	0.3-0.4	25-23	48	30	SC-88
AS211-334	SPDT (R)	LF-4.0	0.3-0.60	26-22	50	34	LGA-6 1.5 x 1.2
SKY13270-92LF	SPDT (R)	0.1-2.5	0.3-0.55	30-17	56	37 @ 0.1 dB	SC-88
SKY13286-359LF	SPDT (A)	0.1-6.0	0.8-1.50	62-42	46	30	QFN-16 4 x 4
SKY13290-313LF	SPDT (R)	0.5-2.5	0.4-0.55	26-18	63	40.5 @ 0.1 dB	QFN-6 2 x 3
SKY13299-321LF	SPDT (R)	0.1-4.0	0.3-0.65	30-29	60	38.5 @ 0.1 dB	QFN-12 3 x 3
SKY13306-313LF	SPDT (R)	0.1-6.0	0.4-0.55	26-18	53	35 @ 0.1 dB	QFN-6 2 x 3
 SKY13314-374LF	SPDT (R)	0.1-6.0	0.2-0.6	35-21	47	31	QFN-6 1.5 x 1.5 x 0.45
 SKY13320-374LF	SPDT (R)	0.1-6.0	0.4-0.6	30-24	53	33 @ 0.1 dB	QFN-6 1.5 x 1.5 x 0.45
 SKY13321-360LF	SPDT (R)	0.1-6.0	0.4-0.9	30-15	62	40 @ 0.1 dB	QFN-8 2 x 2 x 0.9
 SKY13323-378LF	SPDT (R)	0.1-6.0	0.2-0.6	35-22	47	29	QFN-6 1 x 1 x 0.45
 SKY13309-370LF	SP3T (R)	0.1-3.0	0.5-0.6	26-25	45	29	QFN 2 x 2 x 0.6
 SKY13317-373LF	SP3T (R)	0.1-6.0	0.2-0.8	40-22	50	29	QFN-8 1.5 x 1.5 x 0.45
AS204-80LF	SP4T (A)	0.5-3.0	0.4-0.9	45-25	40	26	SSOP-16
AS221-306LF	SP4T (R)	0.1-2.5	0.6-1.1	34-22	55	38	QFN-16 4 x 4
 SKY13322-375LF	SP4T (R)	0.1-6.0	0.5-1.3	50-24	47	30	QFN-10 2 x 3
AS218-321LF	DPDT (R)	LF-6.0	1.2-1.6	28-19	47	33	QFN-12
AS236-321LF	DPDT (R)	LF-6.0	0.95-1.15	22-15	56	34	QFN-12
SKY13267-321LF	DPDT (R)	2.4-6.0	0.7-0.9	32-20	49	30	QFN-12
 SKY13318-321LF	DPDT (R)	0.1-6.0	0.95-1.15	22-15	57	34	QFN-12

LNB/DBS Matrix Switches

Part Number	Description (Absorptive/ Reflective)	Frequency (GHz)	Typ. IL (dB)	Typ. Isol. (dB)	Typ. IP _{1dB} (dBm)	Package (mm)
SKY13264-340LF	LNB/DBS (R)	0.25–2.15	7.5–8.5	40–33	15	QFN-20 4 x 4
SKY13272-340LF	LNB/DBS (A)	0.25–2.15	7.5–8.5	40–31	15	QFN-20 4 x 4
SKY13292-365LF	LNB/DBS (R)	0.25–2.15	7.5–9.0	40–30	15	QFN-20 4 x 4
SKY13293-340LF	LNB/DBS (A)	0.25–2.15	8.0–9.0	70–45	15	QFN-20 4 x 4



Through our Green Initiative™, we are committed to manufacturing products that comply with global government directives and industry requirements.

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