

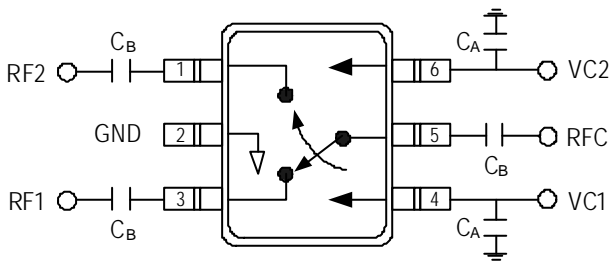
Features

- **Low Insertion Loss:** 0.45 dB @ 2.5 GHz
- **Isolation:** 25 dB @ 2.5 GHz
- **Low DC Power Consumption**
- **Low Cost SOT-363 Using Lead (Pb) free materials with RoHS compliant**
- **1.8V to 5.3V Operation**

Description

The HWS507 is a GaAs SPDT switch operating at 0.5-3 GHz in a low cost SOT-363 plastic lead (Pb) free package. The HWS507 can operate from 1.8V to 5.3V control voltage with low insertion loss and high isolation. This switch can be used in IEEE 802.11b/g WLAN systems for transmit/receive or antenna diversity functions.

Pin Out (Top View)

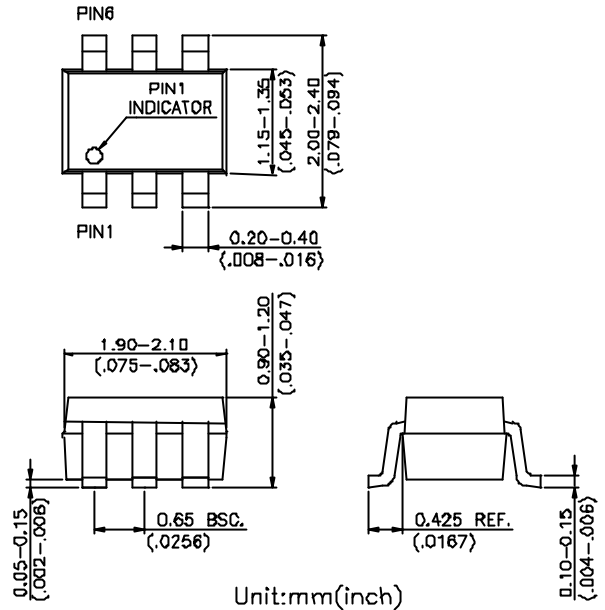


DC blocking capacitors C_B are required on all RF ports.
 $C_B=C_A=51\text{pF}$ for operating frequency > 500MHz.

Logic Table for Switch On-Path

VC1	VC2	RFC-RF1	RFC-RF2
1	0	OFF	On
0	1	On	OFF

SOT-363



Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power 0.5-2.5 GHz	+33 dBm
Control Voltage	+6V
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C

Recommended Operating Conditions ($T_A=+25^\circ\text{C}$)

Parameter	Min.	Typ.	Max.	Unit
Control Voltage (1)	+1.8	+3.0	+5.3	V
Control Voltage (0)	-0.2	0	+0.2	V

Control Voltage(1) – Control Voltage(0) 1.8V

Electrical Specifications at 25° C with 0, +3.0V Control Voltages

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	0.5-3.0 GHz		0.45	0.60	dB
	0.5-1.0 GHz		0.45	0.60	dB
	1.0-2.0 GHz		0.40	0.55	dB
	2.0-3.0 GHz		0.45	0.60	dB
Isolation	0.5-3.0 GHz	22	25		dB
	0.5-1.0 GHz	22	28		dB
	1.0-2.0 GHz	22	28		dB
	2.0-3.0 GHz	22	25		dB
Return Loss	0.5-1.0 GHz	10	13		dB
	1.0-3.0 GHz	13	16		dB
Input Power for One dB Compression	0.5-3.0 GHz @ 0/+3.0V		32		dBm
2nd Harmonics(2fo)	fo = 2.0 GHz, Pin = 15 dBm		-60	-54	dBc
	fo = 2.5 GHz, Pin = 15 dBm		-60	-54	dBc
3rd Harmonics(3fo)	fo = 2.0 GHz, Pin = 15 dBm		-63	-57	dBc
	fo = 2.5 GHz, Pin = 15 dBm		-63	-57	dBc
Switching Time	10% to 90%, 90% to 10% RF		500	1000	ns
Control Current			5	50	uA

Electrical Specifications at 25° C with 0, +1.8V Control Voltages

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	0.5-3.0 GHz		0.45	0.60	dB
	0.5-1.0 GHz		0.45	0.60	dB
	1.0-2.0 GHz		0.40	0.55	dB
	2.0-3.0 GHz		0.45	0.60	dB
Isolation	0.5-3.0 GHz	22	25		dB
	0.5-1.0 GHz	22	28		dB
	1.0-2.0 GHz	22	28		dB
	2.0-3.0 GHz	22	25		dB
Return Loss	0.5-1.0 GHz	10	13		dB
	1.0-3.0 GHz	13	16		dB
Input Power for One dB Compression	0.5-3.0 GHz @ 0/+1.8V		20		dBm
Switching Time	10% to 90%,90% to 10% RF		120	200	ns
Control Current			5	50	uA

Note: All measurements made in a 50 Ohm system.

**Typical Performance Data @ +25° C
with 0, +3.0V Control Voltages**
**Typical Performance Data @ +25° C
with 0, +1.8V Control Voltages**
