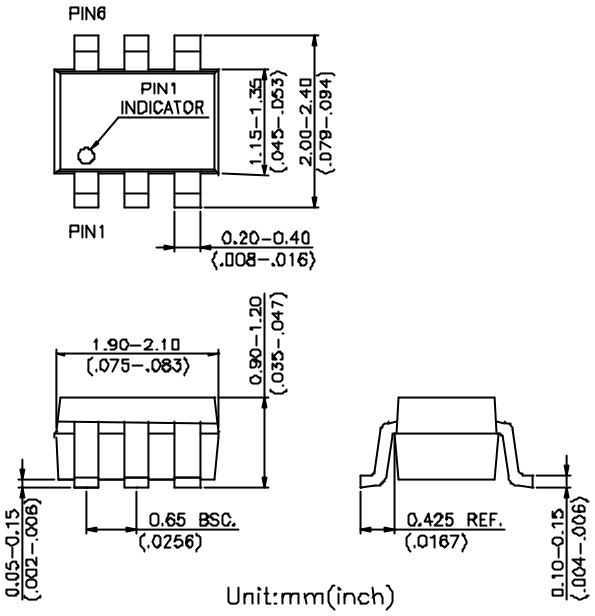
Features

- **Low Insertion Loss:** 0.55 dB @ 2.5 GHz
- **Isolation:** 22 dB @ 2.5 GHz
- **Low DC Power Consumption**
- **Low Cost SOT-363 Plastic Lead (Pb) Free Package**
- **Using Lead (Pb) free materials with RoHS compliant**
- **PHEMT process**

SOT-363



Description

The HWS517 is a GaAs PHEMT MMIC SPDT switch with 50 Ω termination operating at 0.5 -3.0 GHz in a plastic lead (Pb) free SOT363 package. The HWS517 features low insertion loss and high isolation with very low DC power consumption. This switch can be used in Bluetooth or IEEE 802.11b/g/n WLAN applications as transmit/receive switch, antenna diversity switch, or band-selection switch.

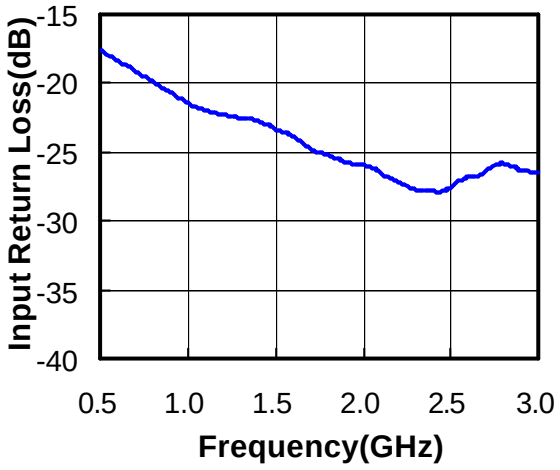
Electrical Specifications at 25°C with 0, +3V Control Voltages

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	0.5-1.0 GHz 1.0-2.0 GHz 2.0-2.5 GHz 2.5-3.0 GHz		0.40 0.45 0.50 0.55	0.55 0.60 0.65 0.70	dB dB dB dB
Isolation	0.5-2.0 GHz 2.0-3.0 GHz	22 20	24 22		dB dB
Input (Output) Return Loss	0.5-3.0 GHz	15	20		dB
Unused Port Return Loss	2.0-2.4 GHz 2.4-2.5 GHz 2.5-3.0 GHz		12 15 18		dB dB dB
Input Power for One dB Compression	0.5-3.0 GHz @ 0/+3V	27	31		dBm
2nd & 3rd Harmonics	20 dBm @2.5GHz		70		dBc
Switching Time			300		ns
Control Current			5	20	uA

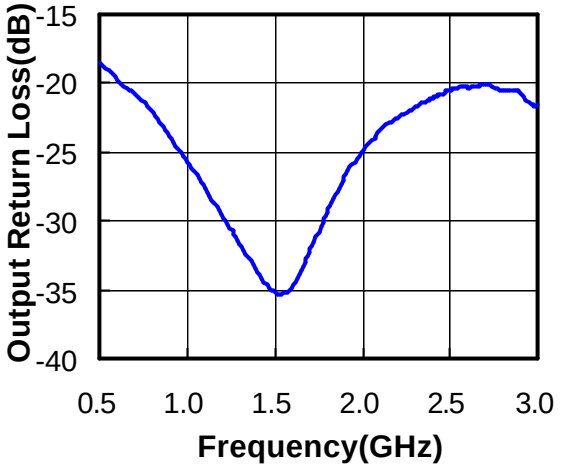
Note: All measurements made in a 50 Ohm system with 0/+3V control voltages, unless otherwise specified.

Typical Performance Data with 47pF Capacitors @ +25°C

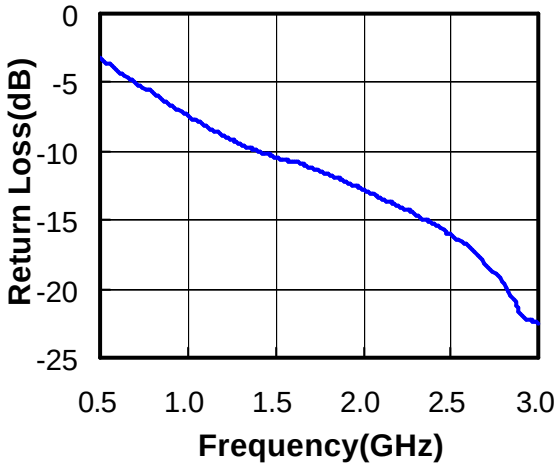
Input (RFC)
Return Loss vs. Frequency



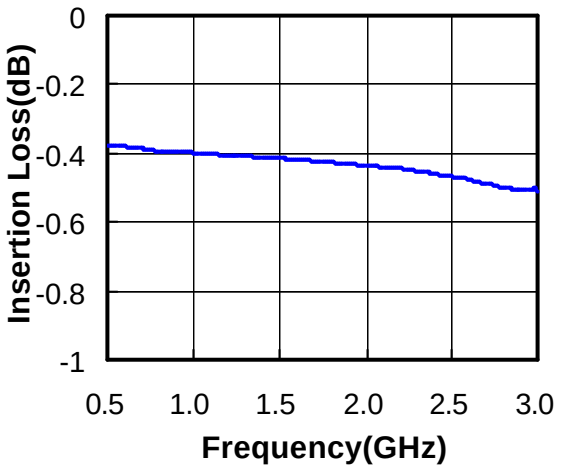
Output (RF1/RF2)
Return Loss vs. Frequency



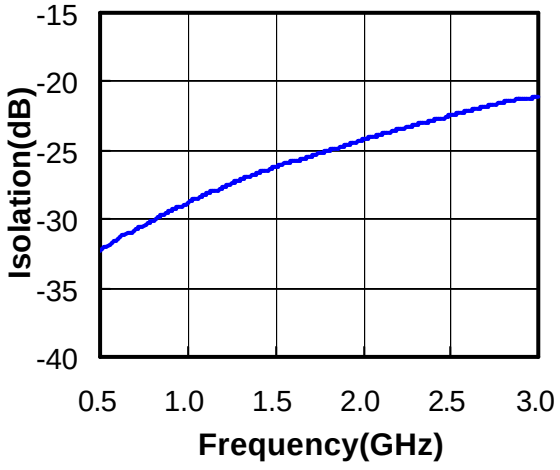
Unused Port (RF1/RF2)
Return Loss vs. Frequency



RFC→RF1/RF2
Insertion Loss vs. Frequency



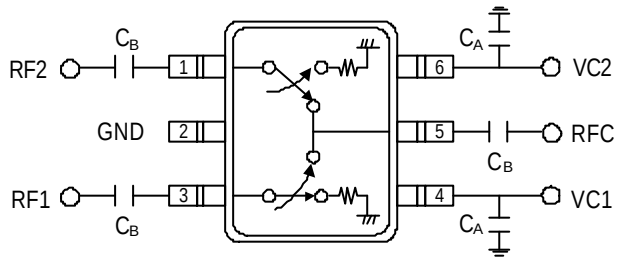
RFC→RF1/RF2
Isolation vs. Frequency



Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power 0.5-3.0 GHz	+33 dBm
Control Voltage	+6V
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C
Electrostatic Discharge Machine Model	Class M1

Pin Out (Top View)



Note:
DC blocking capacitors C_B are required on all RF ports.
C_B=C_A=47pF for operating frequency > 500MHz.

Logic Table for Switch On-Path

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

'1' = +2.7V to +5V
'0' = 0V to +0.2V