

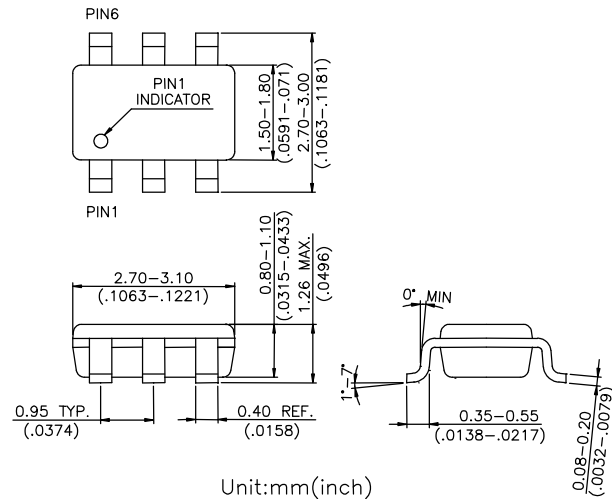
Features

- **Low Insertion Loss:** 0.35 dB @ 2 GHz
- **Isolation:** 26 dB @ 2 GHz
- **P1dB:** +25 dBm Typical @ +3V
- **IP3:** 43 dBm
- **Low DC Power Consumption**
- **Low Cost SOT-26 Plastic Package**

Description

The HWS305 is a GaAs MMIC SPDT switch in a low cost SOT-26 plastic package. The HWS305 features low insertion loss with very low DC power consumption. This general purpose switch can be used in analog and digital wireless communication systems.

SOT-26



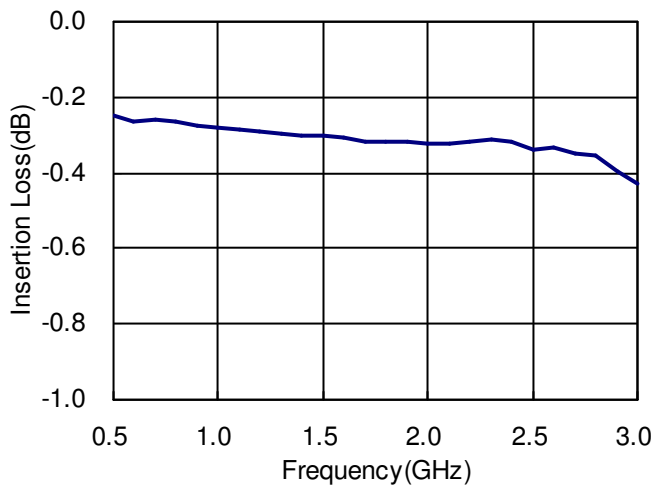
Electrical Specifications at 25 °C with 0, +3V Control Voltages

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	DC-1.0 GHz DC-2.5 GHz		0.30 0.40	0.50 0.60	dB dB
Isolation	DC-1.0 GHz DC-2.0 GHz DC-2.5 GHz	25 23 20	28 26 22		dB dB dB
Return Loss	DC-2.5 GHz		20		dB
Input Power for One dB Compression	0.5-2.5 GHz @ 0/+3V @ 0/+5V		25 30		dBm dBm
Input Third Order Intermodulation Intercept Point	+5 dBm Per Tone @ 0.5-2.5 GHz @ 0/+3V @ 0/+5V		43 48		dBm dBm
Switching Time			50		ns
Control Current			5	50	uA

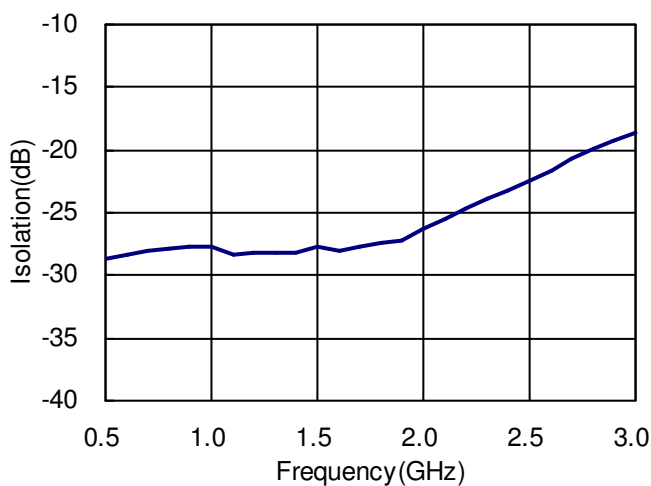
Note: All measurements made in a 50 ohm system with 0/+3V control voltages, unless otherwise specified.

Typical Performance Data @ +25 °C

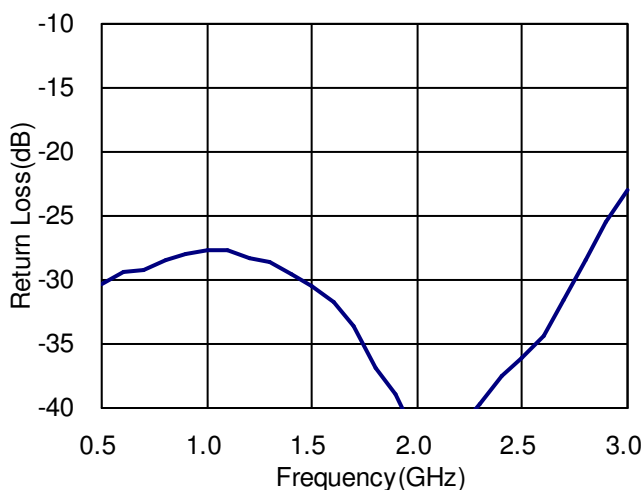
Insertion Loss vs Frequency



Isolation vs Frequency



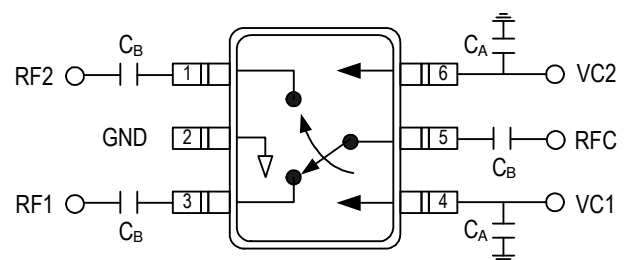
Return Loss vs Frequency



Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power 0.5-2.5 GHz	+30 dBm
Control Voltage	+6V
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-65 °C to +150 °C

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	Insertion Loss	Isolation
0	1	Isolation	Insertion Loss

'1' = +3V to +5V
 '0' = 0V to +0.2V