

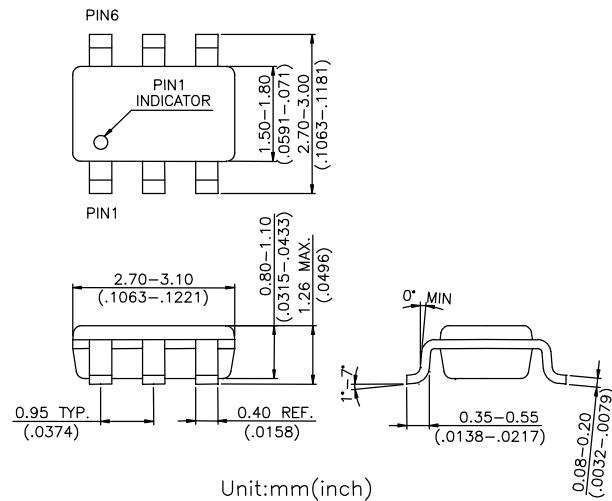
## Features

- **Low Insertion Loss:** 0.45 dB @ 2 GHz
- **P1dB:** +30 dBm Typical @ +3V
- **IP3:** 45 dBm
- **Low DC Power Consumption**
- **Low Cost SOT-26 Plastic Package**

## Description

The HWS311 is a GaAs MMIC SPDT switch in a low cost SOT-26 plastic package. The HWS311 features low insertion loss with very low DC power consumption. This general purpose switch can be used in analog and digital wireless communication systems.

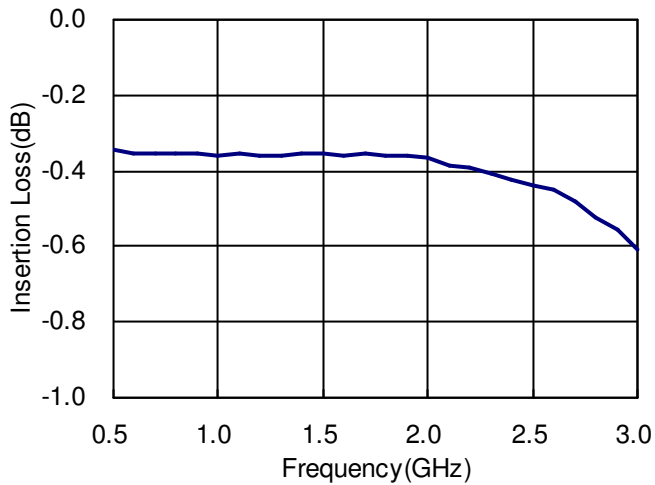
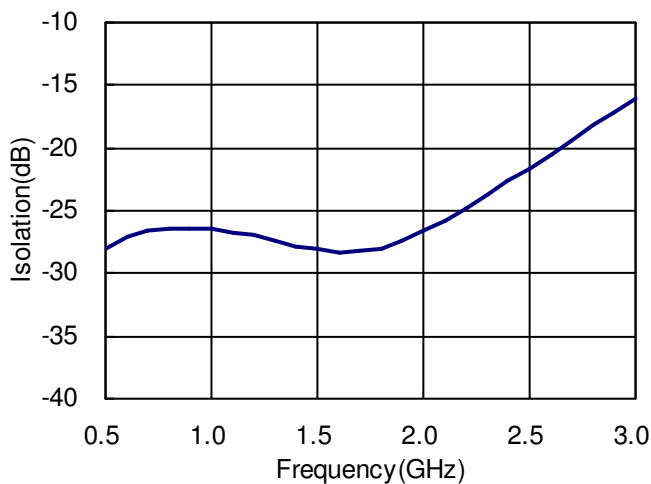
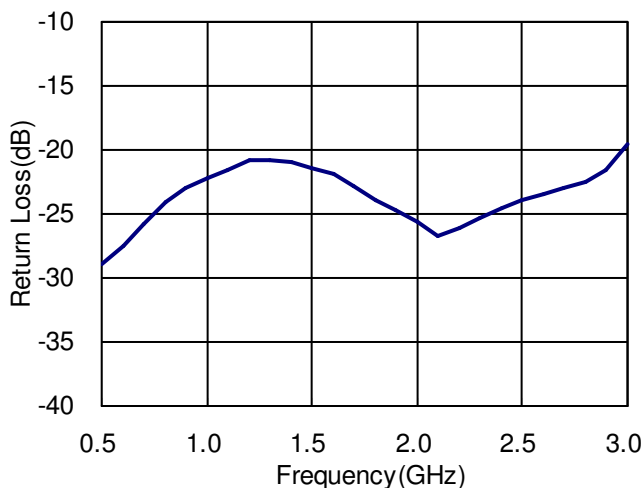
## SOT-26



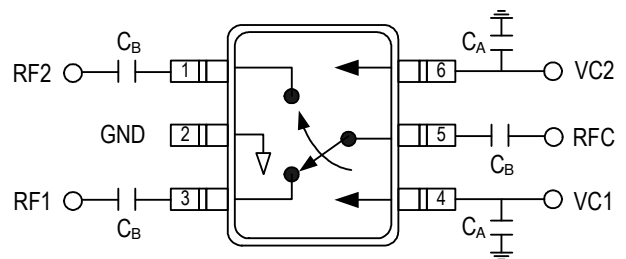
## Electrical Specifications at 25°C with 0, +3V Control Voltages

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	DC-1.0 GHz		0.40	0.60	dB
	DC-2.0 GHz		0.45	0.65	dB
	DC-2.5 GHz		0.50	0.70	dB
Isolation	DC-2.0 GHz	23	26		dB
	DC-2.5 GHz	21	23		dB
Return Loss	DC-2.5 GHz		20		dB
Input Power for One dB Compression	0.5-2.5 GHz @ 0/+3V @ 0/+5V		30		dBm
			34		dBm
Input Third Order Intermodulation Intercept Point	+5 dBm Per Tone @ 0.5-2.5 GHz @ 0/+3V @ 0/+5V		45 50		dBm dBm
Switching Time			50		ns
Control Current			5	100	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	+34 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	Isolation	Insertion Loss
0	1	Insertion Loss	Isolation

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