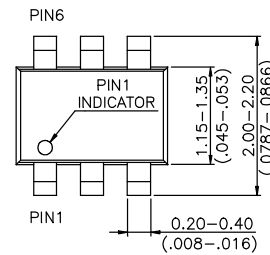


## Features

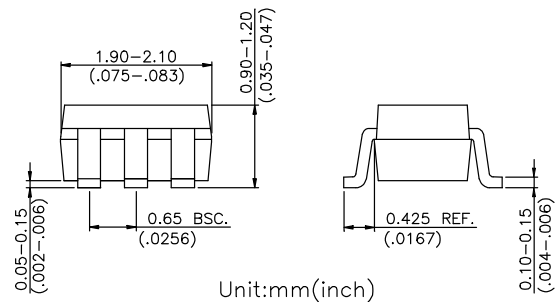
- **Low Insertion Loss:** 0.35 dB @ 2 GHz
- **Isolation:** 26 dB @ 2 GHz
- **P1dB:** +25 dBm Typical @ +3V
- **IP3:** 43 dBm
- **Low DC Power Consumption**
- **Low Cost SOT-363 Plastic Package**

## SOT-363



## Description

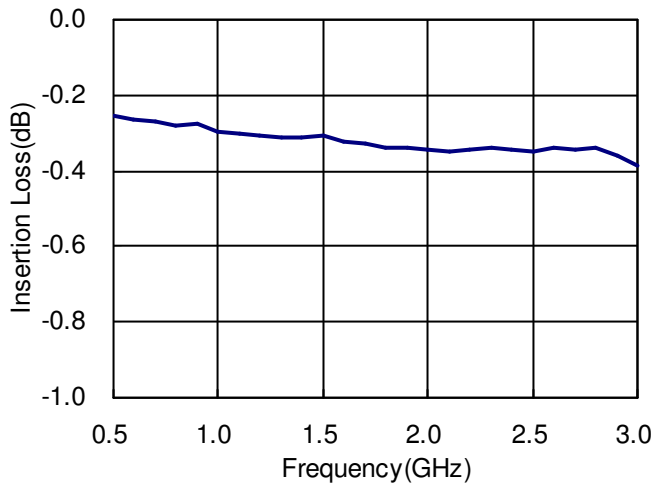
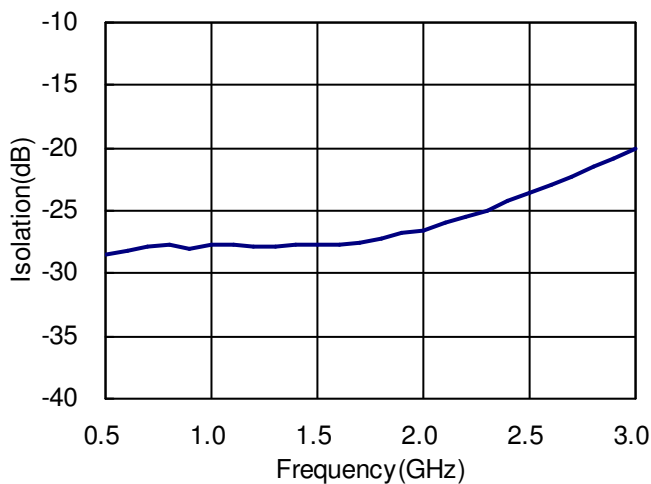
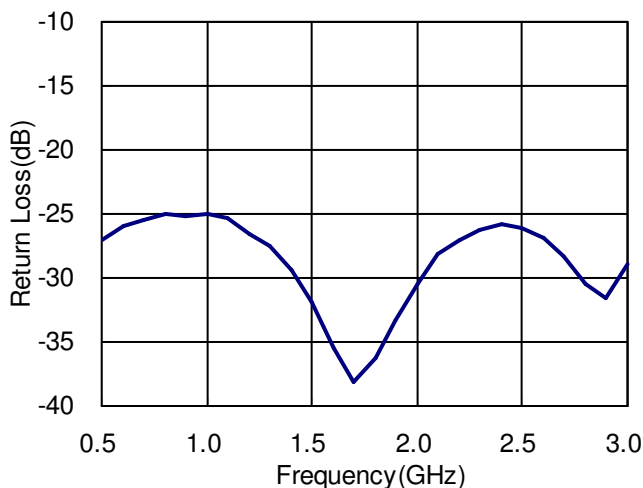
The HWS306 is a GaAs MMIC SPDT switch in a low cost SOT-363 plastic package. The HWS306 features low insertion loss with very low DC power consumption. This general purpose switch can be used in analog and digital wireless communication systems.



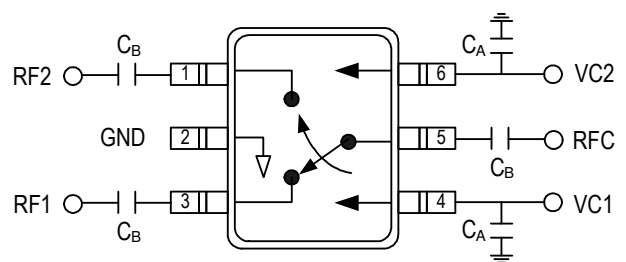
## Electrical Specifications at 25 °C with 0, +3V Control Voltages

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	DC-2.0 GHz		0.35	0.55	dB
	DC-2.5 GHz		0.40	0.60	dB
Isolation	DC-1.0 GHz	25	28		dB
	DC-2.0 GHz	22	25		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		25		dBm
	@ 0/+5V		30		dBm
Input Third Order Intermodulation Intercept Point	+5 dBm Per Tone @ 0.5-2.5 GHz @ 0/+3V		43		dBm
	@ 0/+5V		48		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