

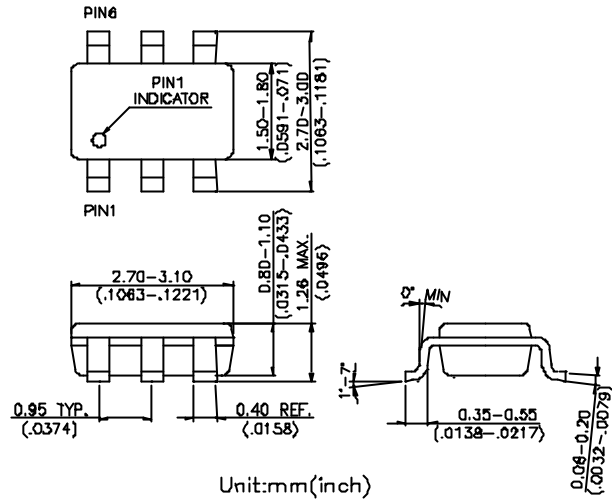
## Features

- **Low Insertion Loss:** 0.40 dB @ 0.9 GHz
- **High Isolation:** 28 dB @ 0.9 GHz
- **Harmonics:** <-65 dBc
- **Low DC Power Consumption**
- **Low Cost SOT-26 Using Lead (Pb) free materials with RoHS compliant**

## Description

The HWS421 is a GaAs MMIC SPDT high power switch in a low cost SOT-26 plastic lead (Pb) free package. The HWS421 features low insertion loss with very low DC power consumption. This high power switch can be used in GSM and PCS systems as selection of transmit or receive function for a common antenna.

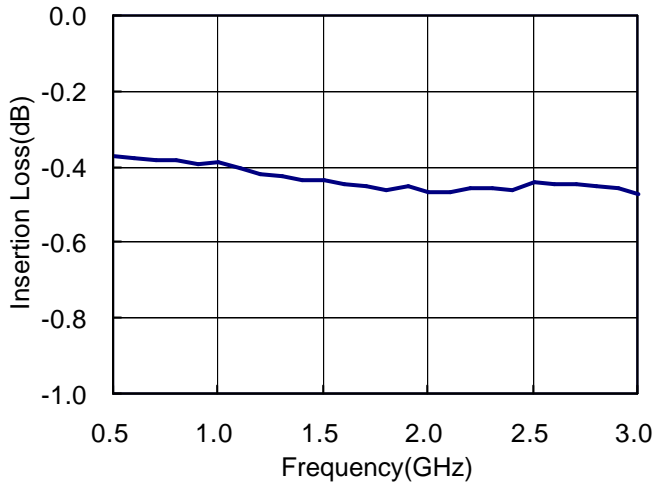
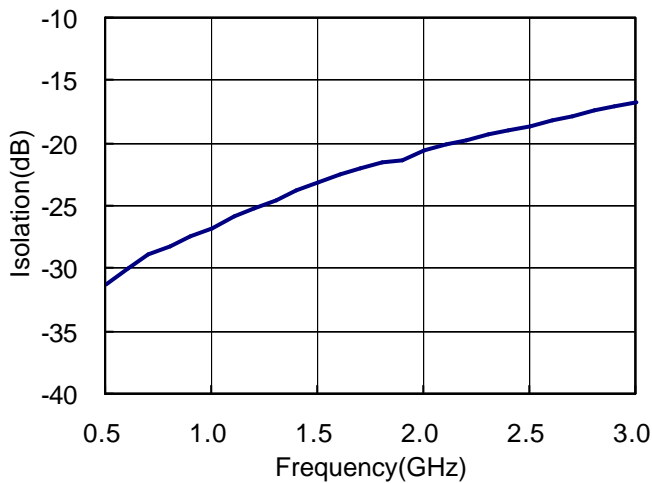
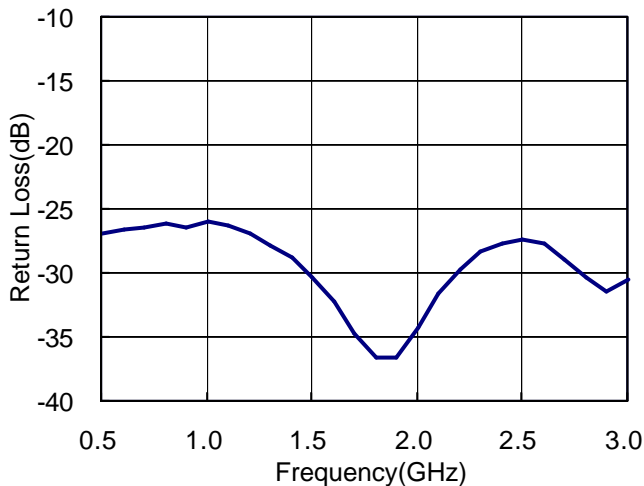
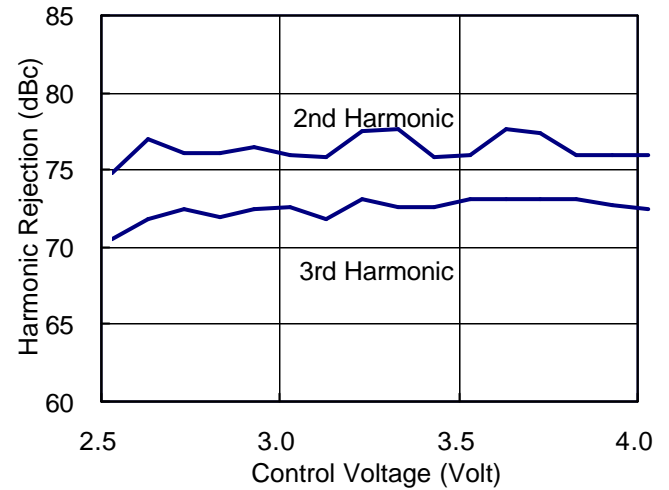
## SOT-26



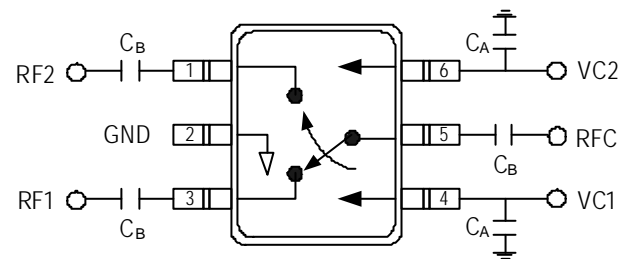
## Electrical Specifications at 25°C with 0, +3V Control Voltages

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	DC-1.0 GHz		0.40	0.60	dB
	DC-2.0 GHz		0.50	0.70	dB
Isolation	DC-1.0 GHz	25	27.5		dB
	DC-2.0 GHz	19	21.5		dB
VSWR	DC-2.0 GHz		1.20:1		
Input Power for One dB Compression	0.5-2.0 GHz		38		dBm
2 <sup>nd</sup> & 3 <sup>rd</sup> Harmonics	34 dBm @ 1 GHz		70		dBc
Switching Time			200		ns
Control Current				100	uA

Note: All measurements made in a 50 ohm system with 0/+3.0V control voltages, unless otherwise specified.

**Typical Performance Data @ +25°C**
**Insertion Loss vs Frequency**

**Isolation vs Frequency**

**Return Loss vs Frequency**

**Harmonic Rejection @ 34 dBm, 1 GHz**

**Absolute Maximum Ratings**

Parameter	Absolute Maximum
RF Input Power 0.5-2.5 GHz	+38 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