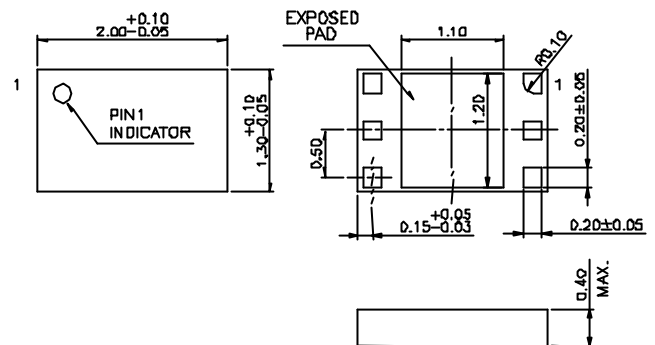


## Features

- **Low Insertion Loss:** 0.4 dB @ 2.5 GHz  
0.5 dB @ 3.5 GHz  
0.6 dB @ 5.8 GHz
- **Isolation:** 22 dB @ 2.5 GHz  
23 dB @ 3.5 GHz  
26 dB @ 5.8 GHz
- **Low DC Power Consumption**
- **Miniature USON6L (2x1.3x0.4 mm) Using Lead (Pb) free materials with RoHS compliant**
- **PHEMT process**

insertion loss and high isolation with very low DC power consumption. This switch can be used in IEEE 802.11a/b/g WLAN PC card and access point applications as transmit/receive switch, antenna diversity switch, or band-selection switch.

## USON6L (2x1.3x0.4 mm)



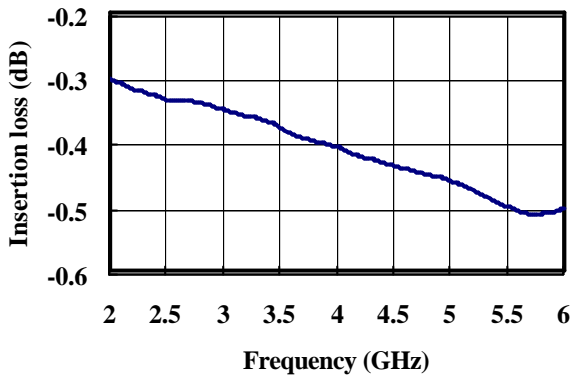
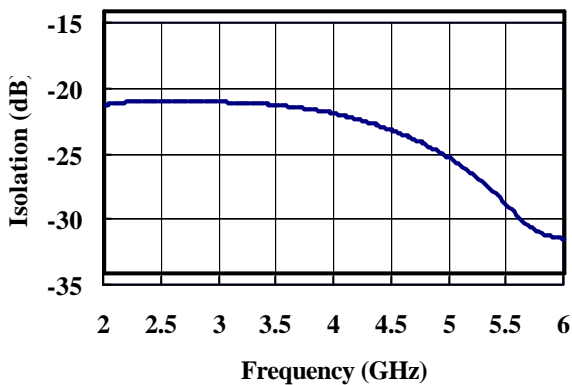
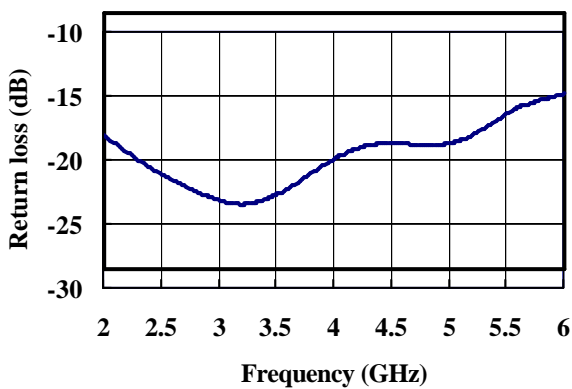
## Description

The HWS505 is a GaAs PHEMT MMIC SPDT switch operating at DC-6 GHz in a low cost miniature USON6L (2 x 1.3 x 0.4 mm) plastic lead (Pb) free package. The HWS505 features low

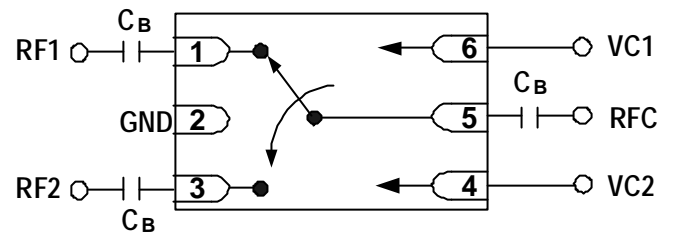
## Electrical Specifications at 25°C with 0, +3V Control Voltages

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	2.40-2.50 GHz		0.4	0.6	dB
	3.30-3.80 GHz		0.5	0.7	dB
	5.15-5.85 GHz		0.6	0.8	dB
Isolation	2.40-2.50 GHz	18	22		dB
	3.30-3.80 GHz	20	23		dB
	5.15-5.85 GHz	22	26		dB
Return Loss	2.40-2.50 GHz		20		dB
	3.30-3.80 GHz		20		dB
	5.15-5.85 GHz		17		dB
Input Power for One dB Compression	5.85 GHz @+3V		30		dBm
	5.85 GHz @+5V		34		dBm
Second and Third Harmonics	Pin=20 dBm		-77		dBc
Input Third Order Intermodulation Intercept Point	20 dBm Per Tone, 5.85 GHz @+3V @+5V		58		dBm
			59		dBm
Switching Time	0 dBm @ 2.50 GHz		75		nsec
Control Current	@+3V		5	100	uA
	@+5V		10	200	uA

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

**Typical Performance Data with 8pF Capacitors @ +25°C**
**Insertion loss vs. Frequency**

**Isolation vs. Frequency**

**Input return loss vs. Frequency**

**Absolute Maximum Ratings**

Parameter	Absolute Maximum
RF Input Power	+32 dBm @ +3V
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:

1. DC blocking capacitors  $C_B=8\text{pF}$  are required on all RF ports.
2. Exposed pad in the bottom must be connected to ground by via holes.

**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