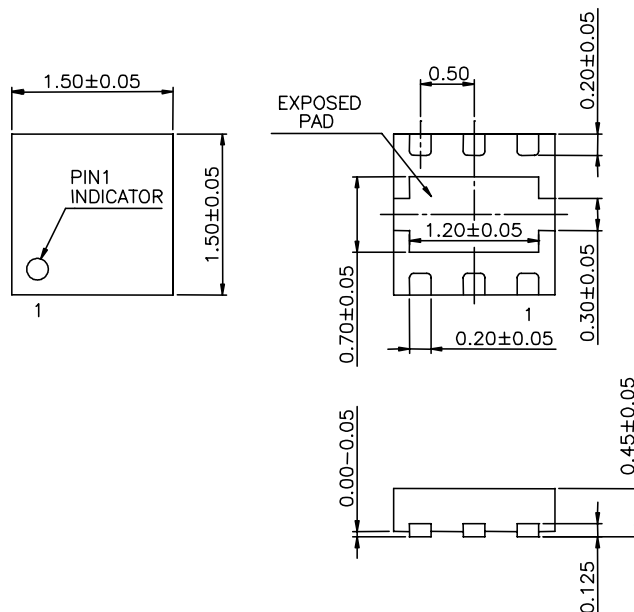


**Features**

- **Low Insertion Loss** : 0.50 dB @ 2.7 GHz  
0.75 dB @ 5.8 GHz
- **Isolation**: 25.0 dB @ 2.7 GHz  
32.0 dB @ 5.8 GHz
- **Low DC Power Consumption**
- **Miniature ETSLP (1.5x1.5 mm) Plastic Lead (Pb) Free Package, ROHS Compliant**
- **PHEMT process**

**ETSLP (1.5x1.5)**


Unit:mm

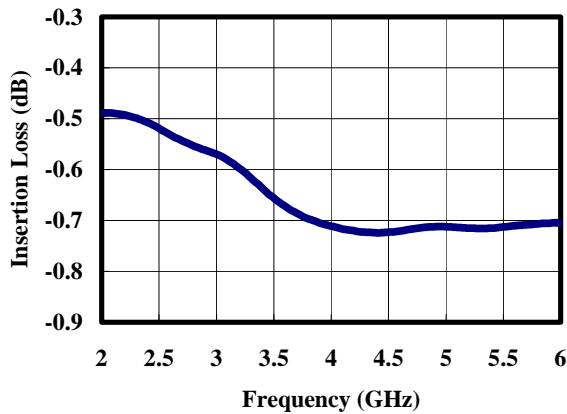
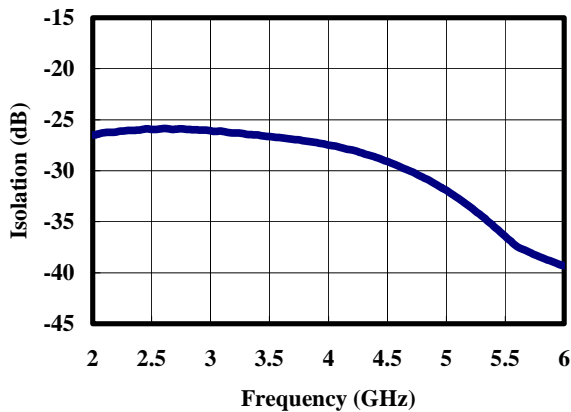
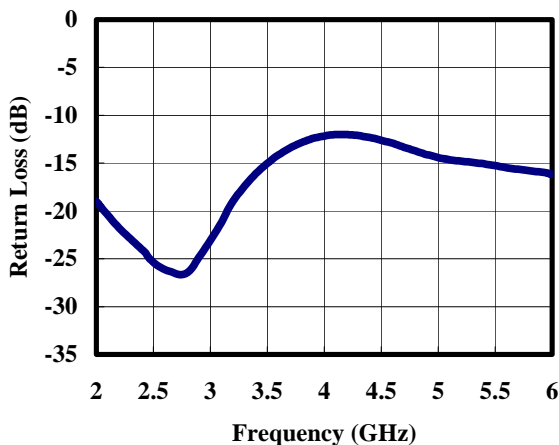
**Description**

The HWS500 is a GaAs PHEMT MMIC SPDT switch operating at 0.5-6 GHz in a low cost miniature ETSLP plastic lead (Pb) free package. The HWS500 features low insertion loss and high isolation with very low DC power consumption. This switch can be used in WiMAX or IEEE 802.11a/b/g WLAN PC card and access point applications as transmit/receive switch, antenna diversity switch, or band-selection switch.

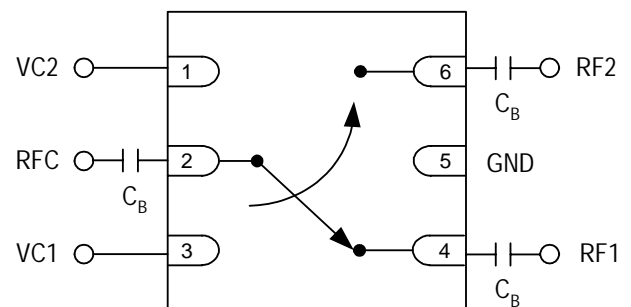
**Electrical Specifications at 25°C with 0, +3V Control Voltages**

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	0.50-6.00 GHz		0.75		dB
	2.30-2.70 GHz		0.50	0.60	dB
	3.30-3.90 GHz		0.60	0.80	dB
	5.15-5.88 GHz		0.75	0.90	dB
Isolation	0.50-6.00 GHz		25.0		dB
	2.30-2.70 GHz	20.0	25.0		dB
	3.30-3.90 GHz	20.0	25.0		dB
	5.15-5.88 GHz	30.0	32.0		dB
Return Loss	0.50-6.00 GHz		15		dB
Input Power for 0.1 dB Compression	0.50-6.00 GHz @+3V @+5V		33		dBm
			37		dBm
Second Harmonic	Pin=20 dBm		-75		dBc
Third Harmonic	Pin=20 dBm		-75		dBc
Input Third Order Intermodulation Intercept Point	25 dBm Per Tone, 3.80 GHz @+3V @+5V		57		dBm
			60		dBm
Control Current	@+3V		5	20	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**

**Return Loss vs. Frequency**

**Absolute Maximum Ratings**

Parameter	Absolute Maximum
RF Input Power	+36 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' = +3V to +5V

'0' = 0V to +0.2V