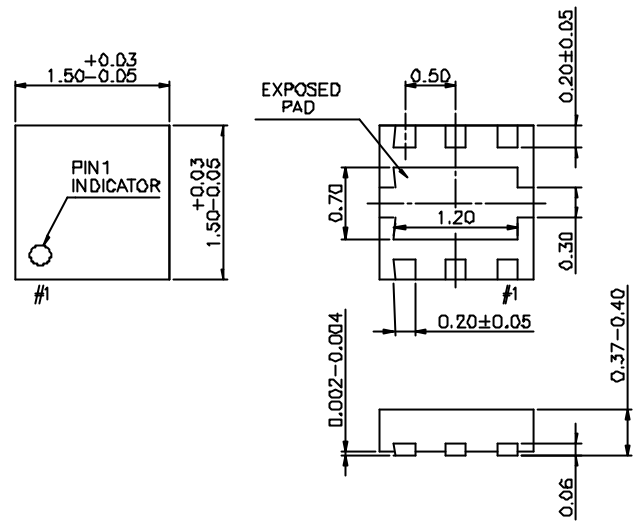


Features

- **Low Insertion Loss:** 0.4 dB @ 2.5 GHz
0.5 dB @ 5.8 GHz
- **Isolation:** 24 dB @ 2.5 GHz
21 dB @ 5.8 GHz
- **Low DC Power Consumption**
- **Miniature USON6L (1.5x1.5x0.4 mm)**
Using Lead (Pb) free materials with RoHS compliant
- **PHEMT process**

USON6L (1.5x1.5x0.4 mm)



Unit: mm

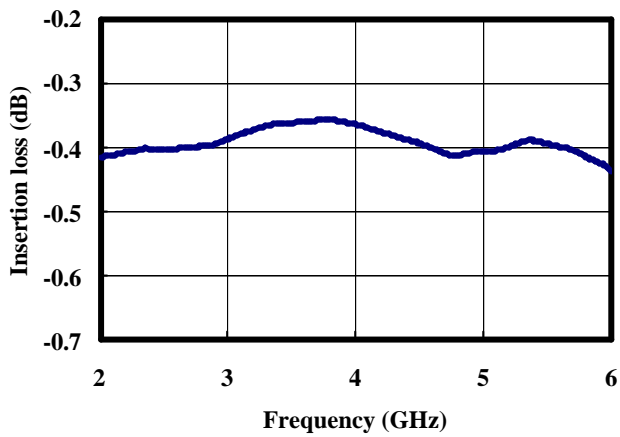
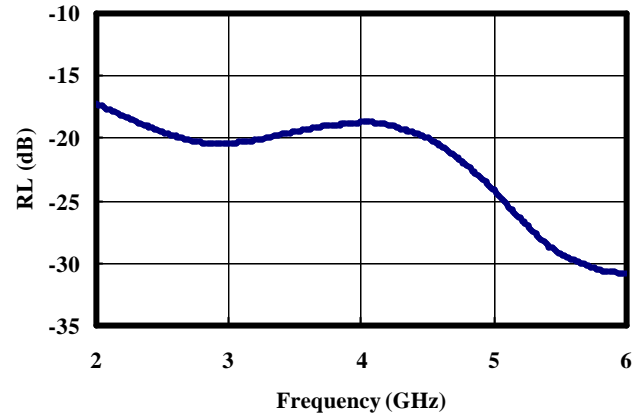
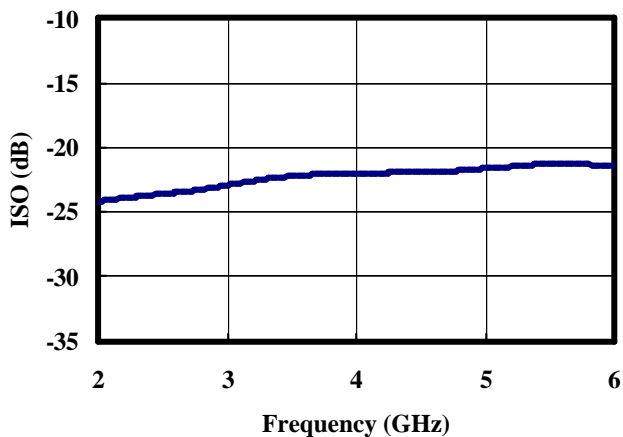
Description

The HWS504 is a GaAs PHEMT MMIC SPDT switch operating at DC-6 GHz in a low cost miniature USON6L (1.5 x 1.5 x 0.4 mm) plastic lead (Pb) free package. The HWS504 features low 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.

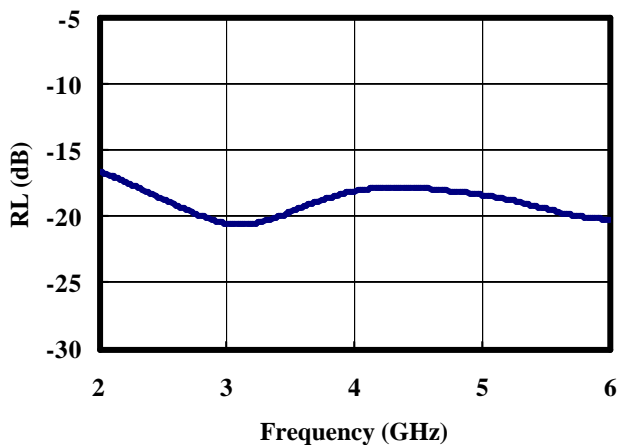
Electrical Specifications at 25° C with 0, +3V Control Voltages

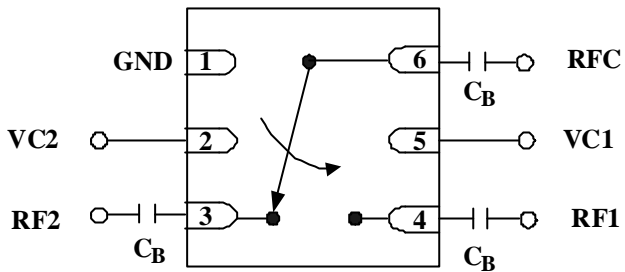
Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	2.40-2.50 GHz		0.4	0.6	dB
	4.90-6.00 GHz		0.5	0.7	dB
Isolation	2.40-2.50 GHz	23	24		dB
	4.90-6.00 GHz	20	21		dB
Return Loss	2.40-2.50 GHz	15	18		dB
	4.90-6.00 GHz	15	18		dB
Input Power for One dB Compression	2.50 GHz @+3V		32		dBm
	2.50 GHz @+5V		37		dBm
	5.00 GHz @+3V		32		dBm
	5.00 GHz @+5V		35		dBm
Switching Time			50		nsec
Control Current			5	50	uA

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

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

Output return loss vs, Frequency

Isolation vs. frequency

Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+37 dBm @ +5V
Control Voltage	+6V
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C
Electrostatic discharge (ESD) Machine Model	Class M1

Input return loss vs. Frequency


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	OFF	ON
0	1	ON	OFF

'1' = +3V to +5V

'0' = 0V to +0.2V