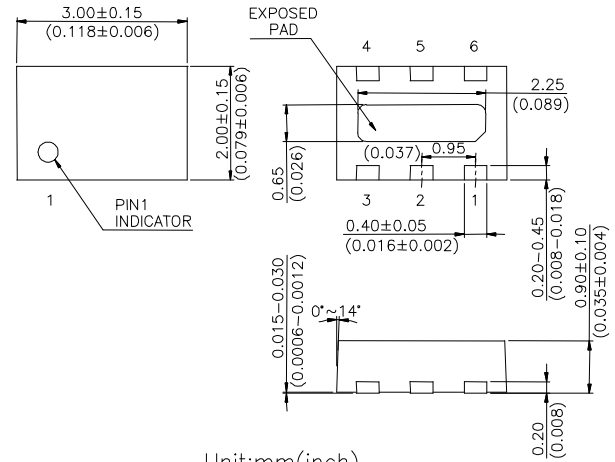


Features

- **Low Insertion Loss** : 0.4 dB @ 2.5 GHz
0.6 dB @ 5.8 GHz
- **Isolation**: 22 dB @ 2.5 GHz
26 dB @ 5.8 GHz
- **Low DC Power Consumption**
- **Miniature SON6L (2x3 mm) Plastic Lead (Pb) Free Package, ROHS Compliant**
- **PHEMT process**

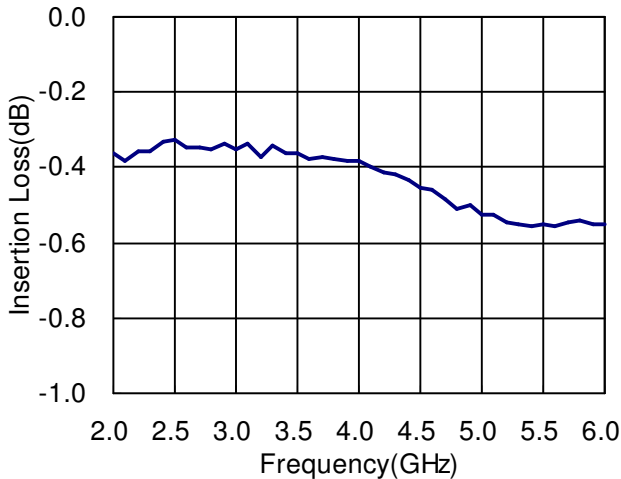
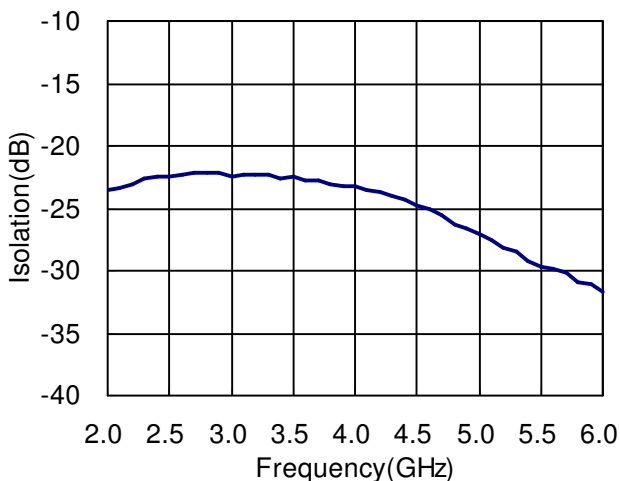
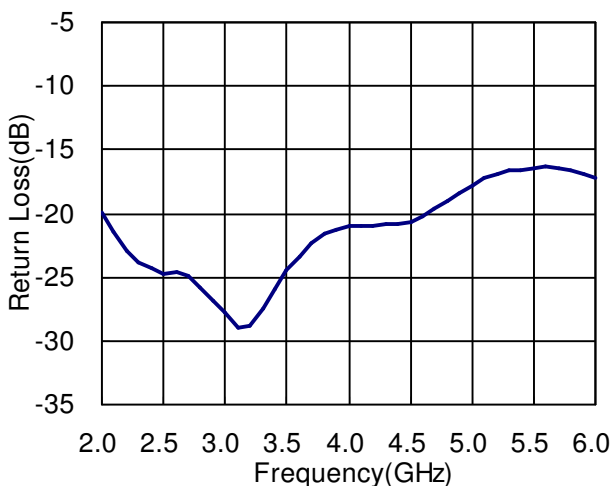
SON6L (2 x 3 mm)

Description

The HWS452 is a GaAs PHEMT MMIC SPDT switch operating at DC-6 GHz in a low cost miniature SON6L (2 x 3 mm) plastic lead (Pb) free package. The HWS452 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.

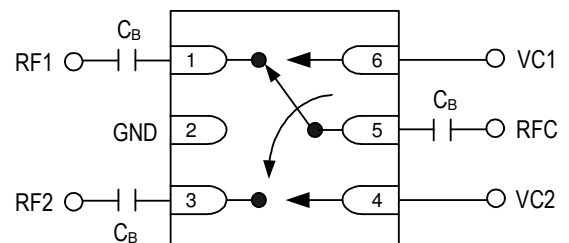
Electrical Specifications at 25°C with 0, +3V Control Voltages

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	0.10-6.00 GHz		0.6		dB
	2.40-2.50 GHz		0.4	0.6	dB
	5.15-5.85 GHz		0.6	0.8	dB
Isolation	0.10-6.00 GHz		22		dB
	2.40-2.50 GHz	18	22		dB
	5.15-5.85 GHz	22	26		dB
Return Loss	0.10-6.00 GHz		15		dB
	2.40-2.50 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		-75		dBc
Input Third Order Intermodulation Intercept Point	20 dBm Per Tone, 5.85 GHz @+3V @+5V		53		dBm
			55		dBm
Switching Time			30		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

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

Pin Out (Top View)

Note:

- DC blocking capacitors $C_B=8\text{pF}$ are required on all RF ports.
- 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