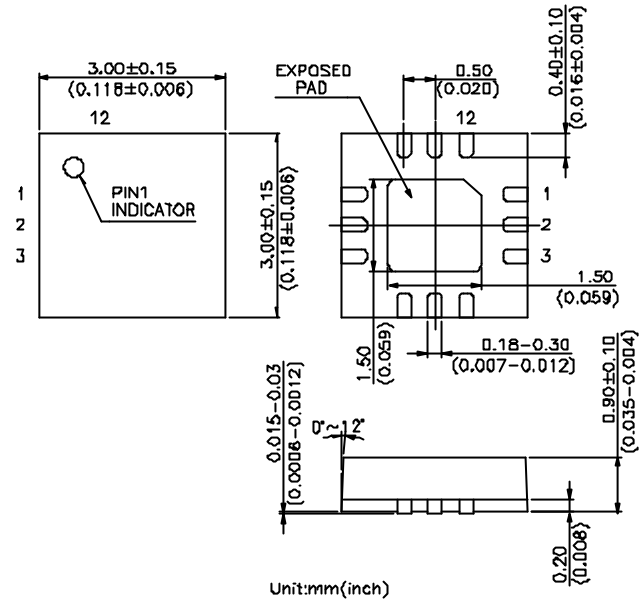## Features

. **Low Insertion Loss:** 0.7 dB @ 2.5 GHz

0.9 dB @ 4.9 to 6.0 GHz

. **Isolation:** 25 dB @ 2.5 GHz

30 dB @ 4.9 to 6.0 GHz

. **Low DC Power Consumption**

. **Miniature QFN12L (3x3 mm) Using Lead (Pb)**

free materials with RoHS compliant
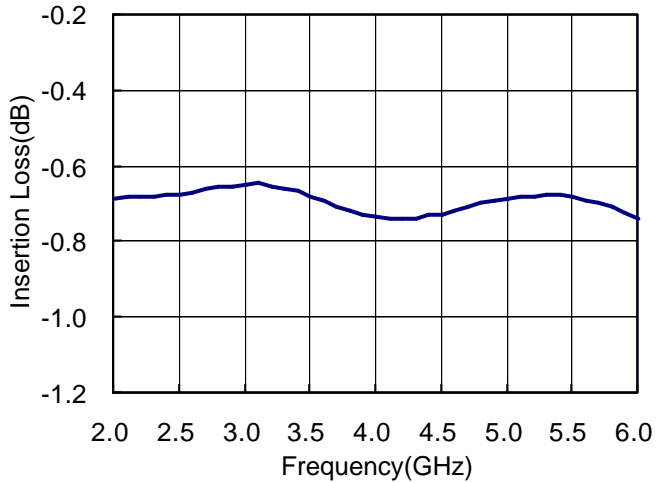
. **PHEMT process**

Description

The HWS436 is a GaAs PHEMT MMIC DPDT switch operating at DC-6 GHz in a low cost miniature QFN12L (3 x 3 mm) plastic lead (Pb) free package. The HWS436 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 systems for combination of transmit/receive and antenna diversity functions.

QFN12L (3 x 3 mm)

Unit:mm(inch)

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	0.1-6.0 GHz 0.1-1.0 GHz 2.4-2.5 GHz 4.9-6.0 GHz		0.9 0.6 0.7 0.9	 1.2	dB dB dB dB
Isolation (on port to off port)	0.1-6.0 GHz 2.4-2.5 GHz 4.9-6.0 GHz	 27	25 25 30		dB dB dB
Isolation (off port to off port)	0.1-6.0 GHz 2.4-2.5 GHz 4.9-6.0 GHz		33 43 33		dB dB dB
Isolation (TX to RX or ANT1 to ANT2)	0.1-6.0 GHz 2.4-2.5 GHz 4.9-6.0 GHz		22 25 22		dB dB dB
Return Loss	0.1-6.0 GHz		15		dB
Input Power for One dB Compression	2.0-6.0 GHz		30		dBm
Control Current			20	200	uA

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

Hexawave Inc. 2 Prosperity Road II, Science-Based Industrial Park, Hsinchu, Taiwan. TEL 886-3-578-5100 FAX 886-3-577-0512

http://www.hw.com.tw   *All specifications are subject to change without notice.*

Typical Performance Data with 8pF Capacitors @ +25°C

Insertion Loss vs Frequency

Isolation(TX port to RX port) vs Frequency
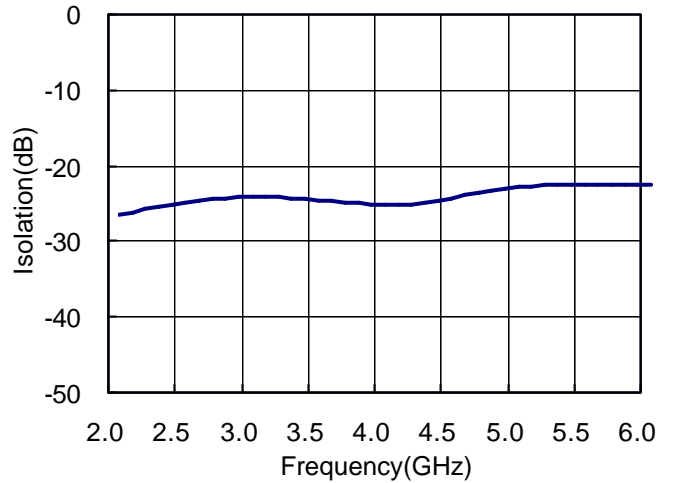
Isolation(on port to off port) vs Frequency
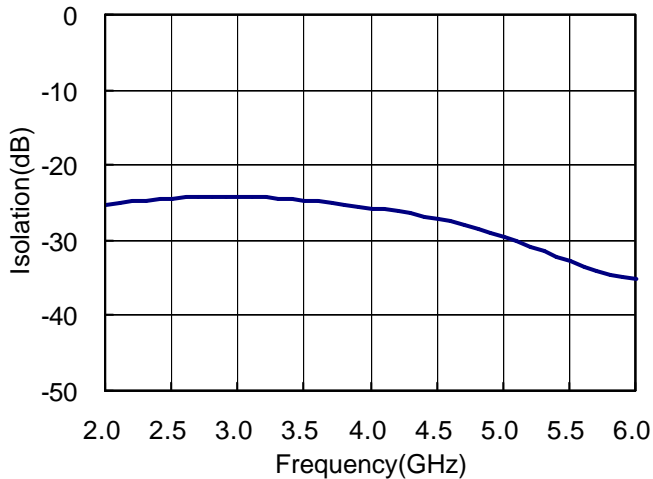
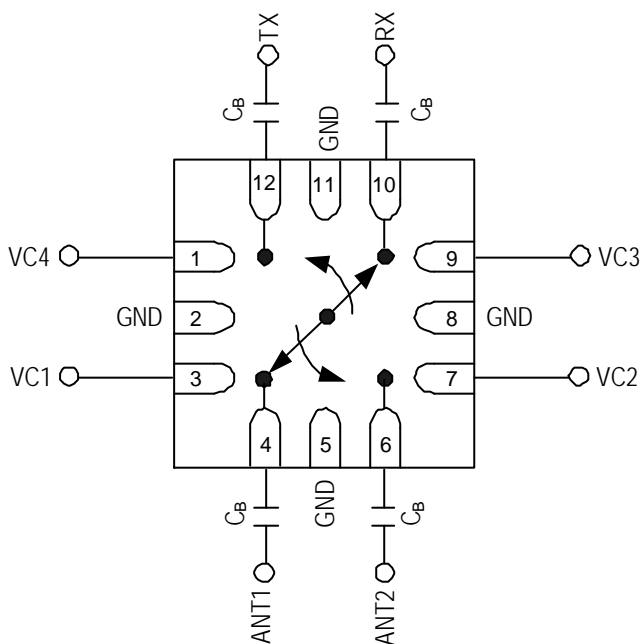### Return Loss vs Frequency
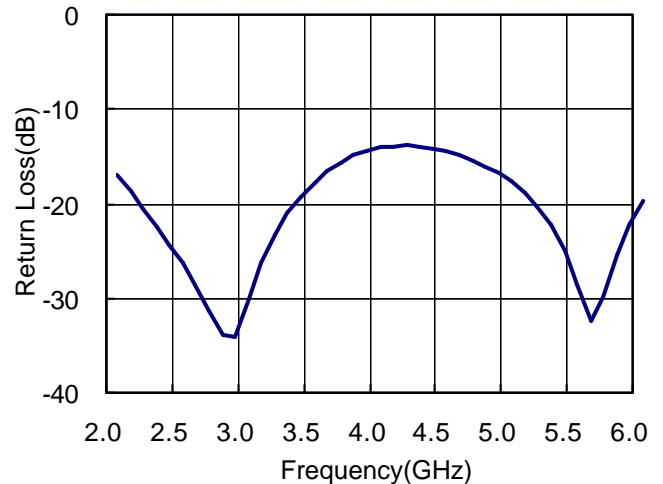
Isolation(off port to off port) vs Frequency
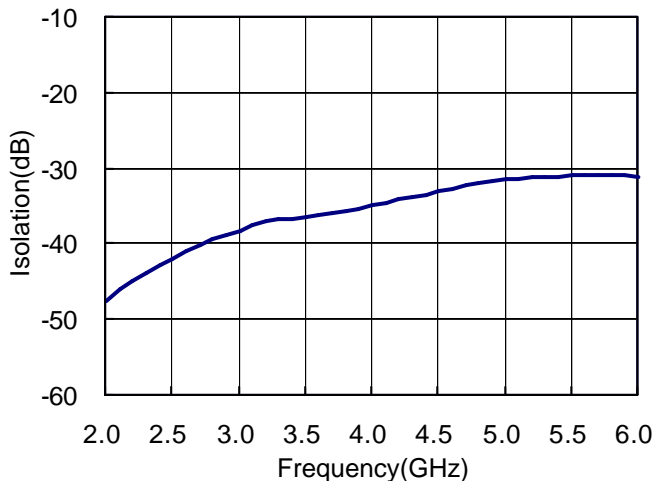
Absolute Maximum Ratings

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

Logic Table for Switch On-Path

VC1	VC2	VC3	VC4	On-Path
0	1	0	1	ANT1-RX
0	1	1	0	ANT1-TX
1	0	0	1	ANT2-RX
1	0	1	0	ANT2-TX

Note:

1. ' 1' = +3V to +5V, ' 0' = 0V to +0.2V.
2. VC1 and VC2 are used for antenna selection, while VC3 and VC4 are used for TX/RX selection.

Pin Out (Top View)

Note:

1. DC blocking capacitors C_B=8pF are required on all RF ports.
2. Exposed pad in the bottom must be connected to ground by via holes.
3. TX and RX ports can be used interchangeably.