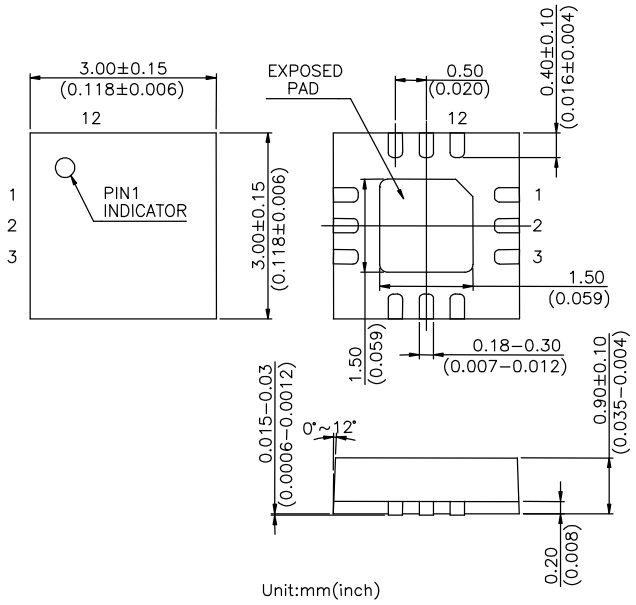
Features

- **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) Plastic Package**
- **PHEMT process**

QFN12L (3 x 3 mm)



Description

The HWS407 is a GaAs PHEMT MMIC DPDT switch operating at DC-6 GHz in a low cost miniature QFN12L (3 x 3 mm) plastic package. The HWS407 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.

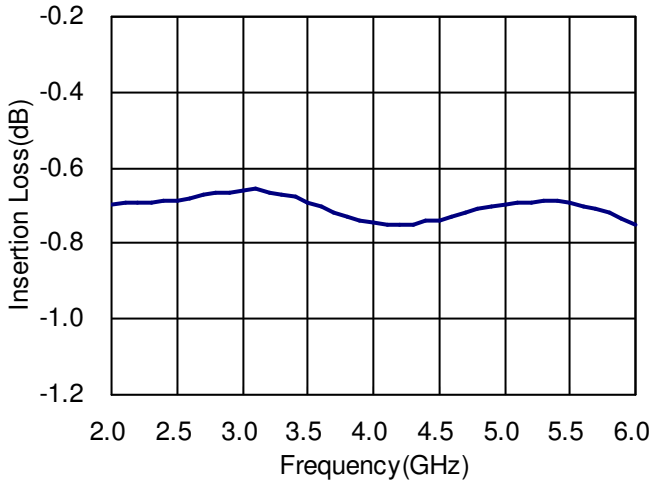
Electrical Specifications at 25℃ with 0, +3V Control Voltages

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

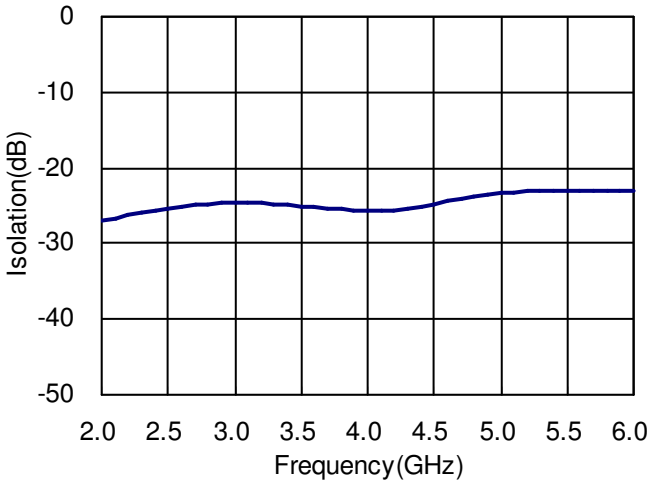
Note: All measurements made in a 50 ohm system with 0/+3.0V control voltages, unless otherwise specified.

Typical Performance Data with 8pF Capacitors @ +25℃

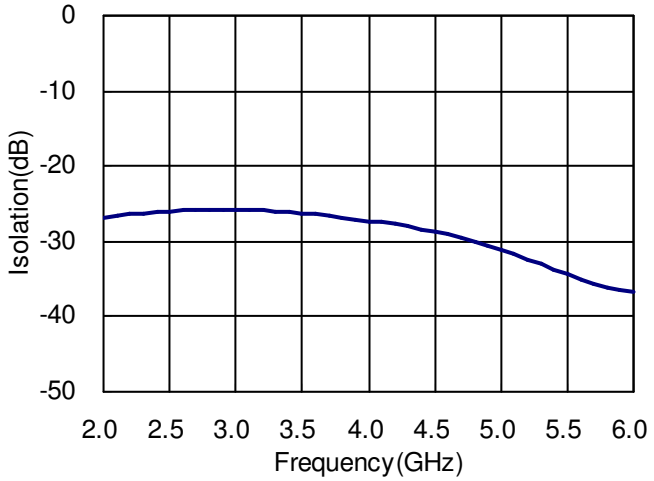
Insertion Loss vs Frequency



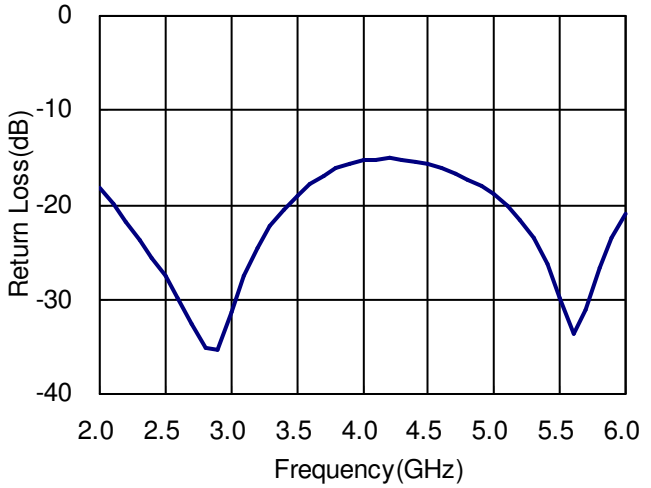
Isolation(TX port to RX port) vs Frequency



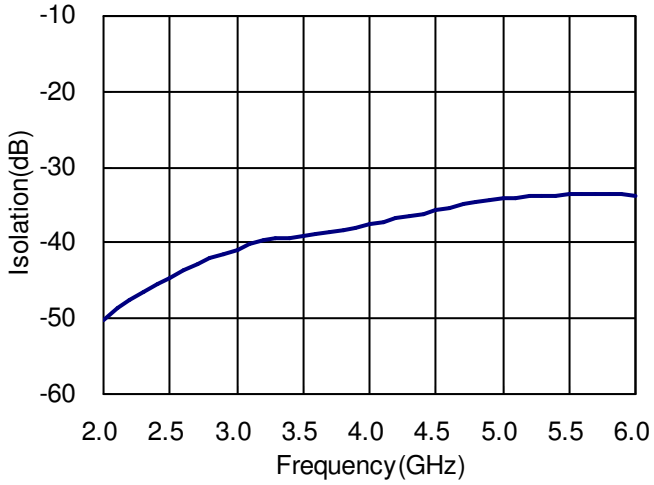
Isolation(on port to off port) vs Frequency



Return Loss vs Frequency



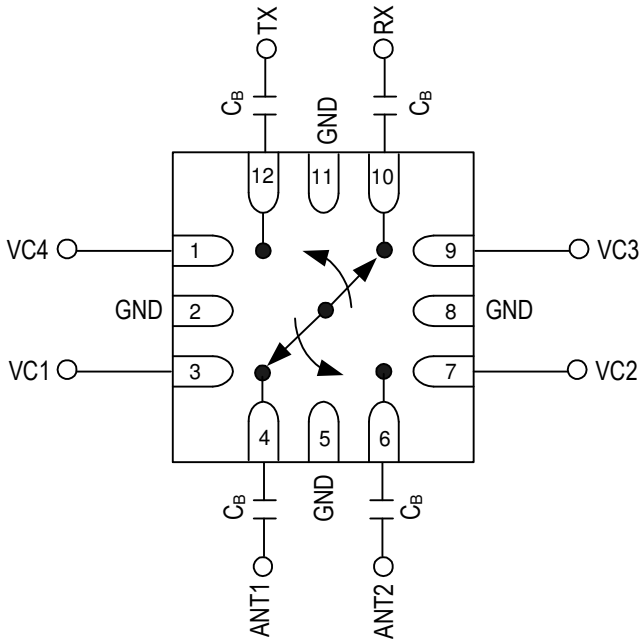
Isolation(off port to off port) vs Frequency



Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+32 dBm @ +3V
Control Voltage	+6V
Operating Temperature	-40℃ to +85℃
Storage Temperature	-65℃ to +150℃

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.

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.