

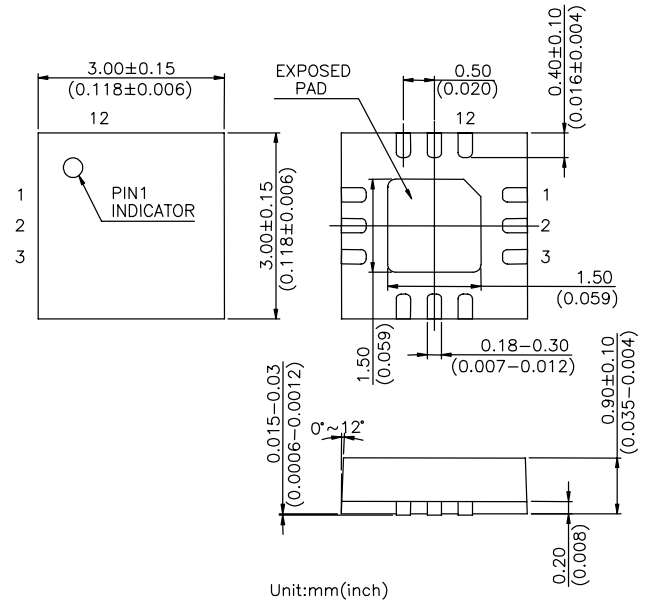
## Features

- **Low Insertion Loss** : 0.8dB @2.50GHz  
1.0dB @5.85GHz
- **Isolation**: 29.5dB @2.50GHz  
20.5dB @5.85GHz
- **Low DC Power Consumption**
- **Miniature QFN12L (3x3 mm) Plastic Package**
- **PHEMT process**

## Description

The HWS383 is a GaAs PHEMT MMIC DPDT switch operating at DC-6GHz in a low cost miniature QFN12L (3 x 3 mm) plastic package. The HWS383 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)



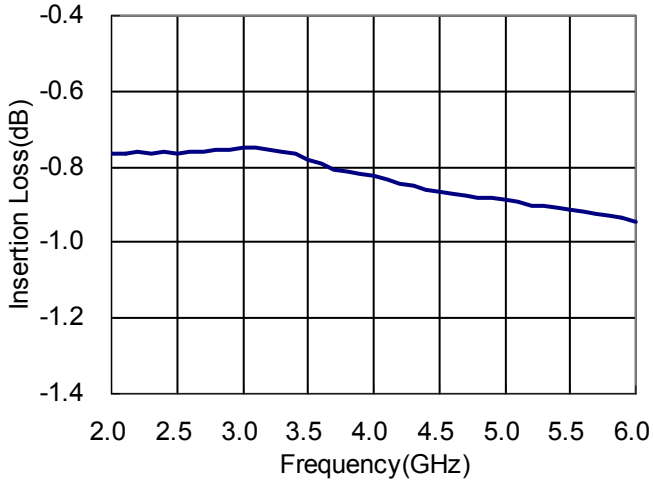
## Electrical Specifications at 25°C with 0, +3V Control Voltages

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	0.10-6.00GHz		1.0		dB
	2.40-2.50GHz		0.8	1.0	dB
	5.15-5.85GHz		1.0	1.3	dB
Isolation	0.10-6.00GHz		20.0		dB
	2.40-2.50GHz	27.0	29.5		dB
	5.15-5.85GHz	18.0	20.5		dB
Return Loss	0.10-6.00GHz		15		dB
	2.40-2.50GHz		20		dB
	5.15-5.85GHz		18		dB
Input Power for One dB Compression	2.00-6.00GHz @0/+3.0V		33		dBm
Input Third Order Intermodulation Intercept Point	20dBm Per Tone@2.50GHz		52		dBm
	22dBm Per Tone@5.85GHz		52		dBm
Control Current			5	200	μA

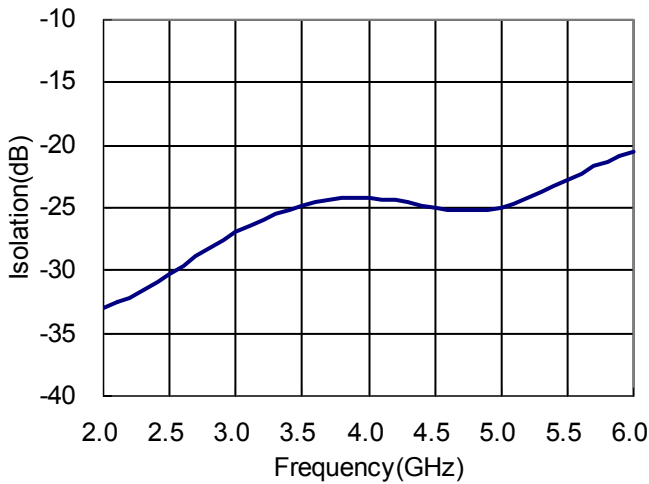
Note: All measurements made in a 50Ω system with 0/+3.0V control voltages, unless otherwise specified.

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

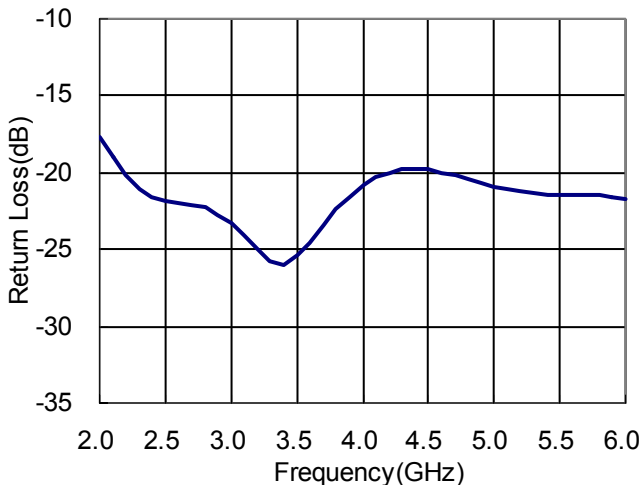
### Insertion Loss vs Frequency



### Isolation vs Frequency



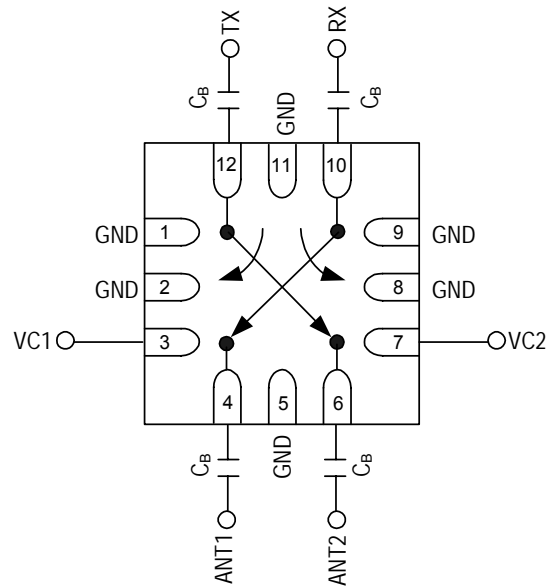
### Return Loss vs Frequency



## Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+34dBm @ +3V
Control Voltage	+6V
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C

## Pin Out (Top View)



DC blocking capacitors  $C_B=8\text{pF}$  are required on all RF ports.  
TX and RX paths can be used interchangeably.  
Exposed pad in the bottom must be connected to ground by via holes.

## Logic Table for Switch On-Path

State	VC1	VC2	ANT1	ANT2
1	0	1	TX	RX
2	1	0	RX	TX

'1' = +3V to +5V

'0' = 0V to +0.2V