



HWS416

GaAs DC-2.5 GHz SPDT Switch

September 2006 V3

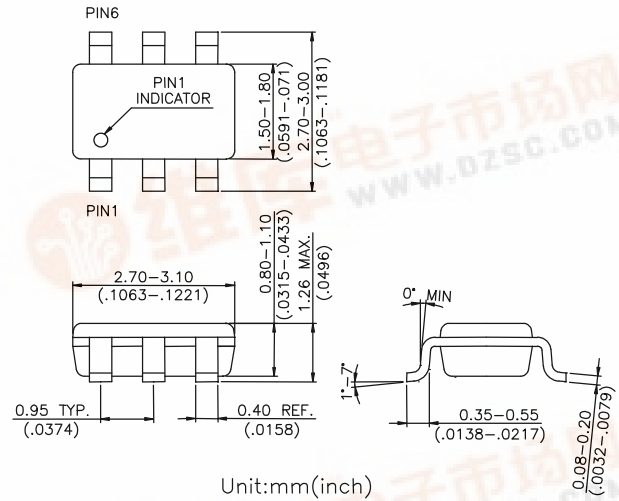
SOT-26

Features

- **Low Insertion Loss:** 0.4 dB @ 2.5 GHz
- **Isolation:** 24 dB @ 2.5 GHz
- **Low DC Power Consumption**
- **Low Cost SOT-26 Plastic Lead (Pb) Free Package, RoHS Compliant**

Description

The HWS416 is a GaAs SPDT switch operating at DC-2.5 GHz in a low cost SOT-26 plastic lead (Pb) free package. The HWS416 features low insertion loss with very low DC power consumption. This general purpose switch can be used in analog and digital wireless communication systems.



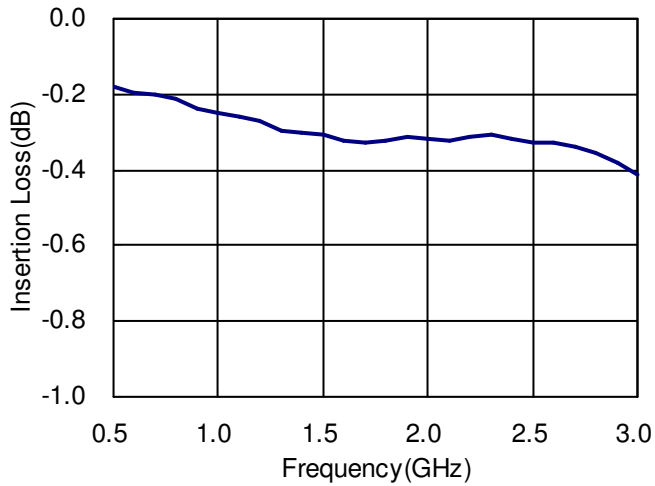
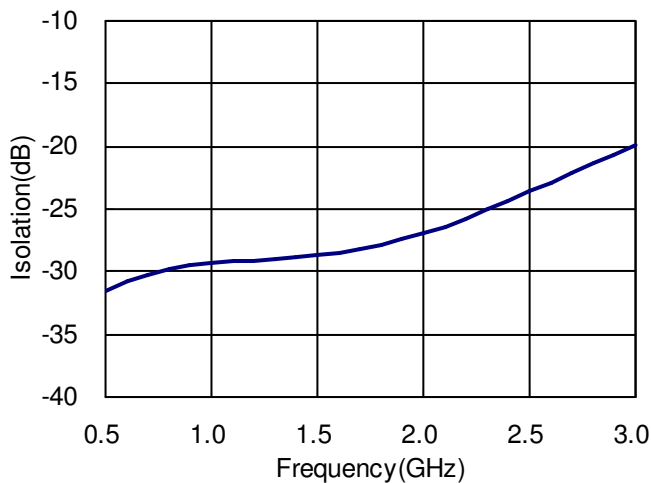
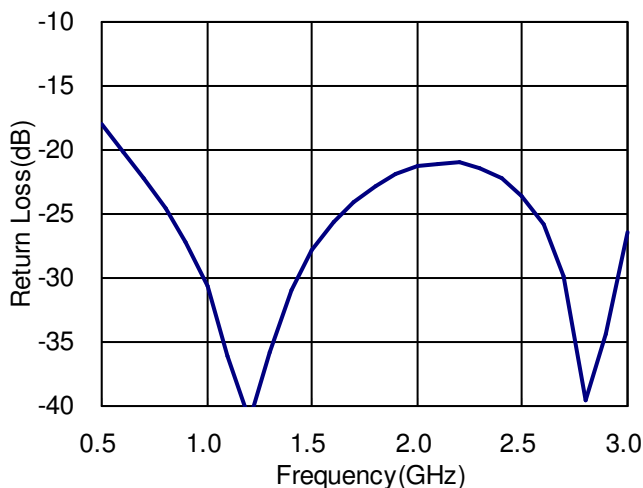
Unit:mm(inch)

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

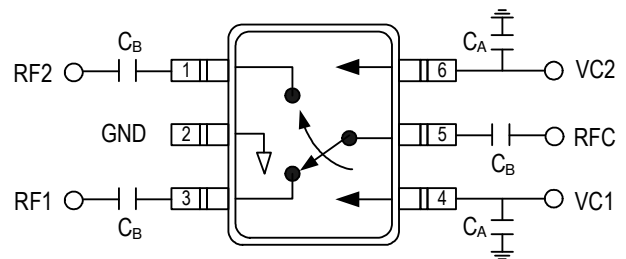
Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	DC-2.5 GHz		0.4	0.6	dB
Isolation	DC-2.5 GHz	21	24		dB
Return Loss	DC-2.5 GHz		20		dB
Input Power for One dB Compression	0.5-2.5 GHz @ 0/+3V @ 0/+5V		30 34		dBm dBm
Input Third Order Intermodulation Intercept Point	+5 dBm Per Tone @0.5-2.5GHz @0/+3V @0/+5V		45 50		dBm dBm
Switching Time			20		ns
Control Current			5	100	uA

Note: All measurements made in a 50 ohm system with 0/+3V control voltages, unless otherwise specified.



Typical Performance Data @ +25 °C
Insertion Loss vs Frequency

Isolation vs Frequency

Return Loss vs Frequency

Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power 0.5-2.5 GHz	+34 dBm
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 are required on all RF ports.
 $C_B=C_A=51\text{pF}$ for operating frequency > 500MHz.

Logic Table for Switch On-Path

VC1	VC2	RFC-RF1	RFC-RF2
1	0	Isolation	Insertion Loss
0	1	Insertion Loss	Isolation

'1' = +3V to +5V

'0' = 0V to +0.2V