GW2163

GaAs SPDT Switch for 2.4GHz and 6.0GHz Dual Band WLAN

V1.1

■ Features

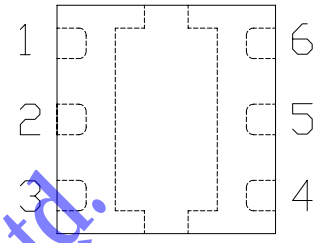
- WLAN 802.11a/b/g/n Applications
- Low Insertion Loss: 0.4dB@2.4 ~ 2.5GHz
  0.5dB@4.9 ~ 6.0GHz
- High Isolation: 30dB@2.4 ~ 2.5GHz
  33dB@4.9 ~ 6.0GHz
- DFN 1.5mm×1.5mm 6 Lead Green Package
- 0.5 μm GaAs pHEMT Process
- Low Cost and Good Reliability Performance

■ General Description

The GW2163 is a GaAs MMIC SPDT switch in a DFN 1.5mm×1.5mm 6 lead plastic package. The GW2163 features low insertion loss, high isolation and positive voltage operation with 2 controls. Typical applications are for IEEE WLAN 802.11 a/b/g/n system or systems operating frequency 2.4GHz and 6.0GHz dual band that employs antenna for transmit and receive diversity.

■Pin Functional Schematic and Assignment

(Top View)



Pin No.	Pin Name	Description
1	GND	Ground
2	Vcont2	Voltage Control 2
3	RF2(Rx)	Receive Port
4	RF1(Tx)	Transmit Port
5	Vcont1	Voltage Control 1
6	RFC(Ant)	Antenna Port

■ Electrical Specifications at 25°C with (0, +3V) Control Voltages, 4pF Capacitor

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	2.4 - 2.5 GHz	-	0.4	0.6	dB
	4.9 – 6.0 GHz	-	0.5	0.75	
Isolation (TX to Ant , RX to Ant)	2.4 - 2.5 GHz	27	30	-	dB
	4.9 – 6.0 GHz	30	33	-	
Isolation (Tx to Rx)	2.4 - 2.5 GHz	-	30	-	dB
	4.9 – 6.0 GHz	-	32	-	
Input/Output Return Loss	2.4 - 2.5 GHz	-	20	-	dB
	4.9 – 6.0 GHz	-	15	-	
Input Power for 1 dB compression	2.4 - 2.5 GHz	-	+32	-	dBm
	4.9 – 6.0 GHz	-	+30	-	
Second Harmonics	2.5 GHz, P_{IN} = 20dBm	-	-70	-	dBc
Third Harmonics	2.5 GHz, P_{IN} = 20dBm	-	-70	-	dBc
Switch Time	50% CTL to 90/10%	-	50	-	ns
Control Current	Input Power +20dBm	-	0.1	10	μA

Notes: All measurements made in 50Ω system, unless otherwise specified. DC=500MHz