



GW2151

SP3T Switch 0.1~6.0GHz For Bluetooth™ And 802.11a/b/g/n

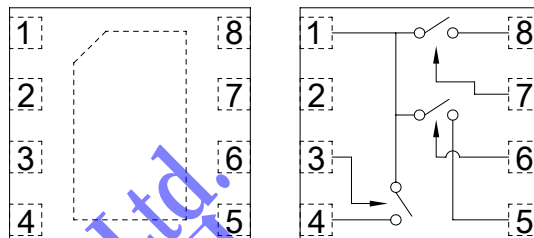
V1.0

■ Features

- Positive low voltage control (0/2.5 V)
- Low Insertion Loss: 0.45dB@0.1 ~ 2.5GHz
0.70dB@4.9~6.0GHz
- High Isolation: 30dB@0.1 ~ 2.5 GHz
28dB@4.9~6.0GHz
- DFN 1.5mm×1.5mm×0.6mm 8 Lead Green Package
- 0.5 μ m GaAs pHEMT Process
- Low Cost and Good Reliability Performance

■ Pin Functional Schematic and Assignment

DFN 1.5×1.5 (Top View)



■ General Description

The GW2151 is a pHEMT GaAs MMIC SP3T antenna switch in a DFN 1.5mm×1.5mm×0.6mm 8 lead plastic package and operates in the 0.1–6 GHz frequency range. Switching between the antenna (RFC) and RF1, RF2, RF3 ports is accomplished with 3 control voltages that employs antenna for transmit and receive diversity. This switch ideal for all WLAN (operating in the 2.4~2.5 GHz and 4.9~5.9 GHz bands) and Bluetooth™ systems.

Pin No.	Pin Name	Description
1	RFC(Input)	Input Port
2	NC	Not connected
3	Vcont1	Voltage Control 1
4	RF1(Output1)	Output1 Port
5	RF2(Output2)	Output2 Port
6	Vcont2	Voltage Control 2
7	Vcont3	Voltage Control 3
8	RF3(Output3)	Output3 Port

■ Electrical Specifications at 25°C with (0, +2.5V) Control Voltages, 56pF Capacitor

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	0.1 – 2.5 GHz	-	0.45	0.65	dB
	4.9 – 6.0 GHz	-	0.70	0.90	
Isolation (RFC to RF1 , RFC to RF2 , RFC to RF3)	0.1 – 2.5 GHz	27	30	-	dB
	4.9 – 6.0 GHz	27	30	-	
Isolation (RF1 to RF2 , RF1 to RF3 , RF2 to RF3)	0.1 – 2.5 GHz	27	30	-	dB
	4.9 – 6.0 GHz	25	28	-	
Input/Output Return Loss	0.1 – 2.5 GHz	18	20	-	dB
	4.9 – 6.0 GHz	15	18	-	
Input Power for 1 dB compression	0.1GHz~2.5GHz 2.3V ≤ Vcont(H)- Vcont(L) ≤ 5.3V	-	31	-	dBm
	4.9GHz~6.0GHz 2.3V ≤ Vcont(H)- Vcont(L) ≤ 5.3V	-	31	-	
	0.1GHz~2.5GHz 1.8V ≤ Vcont(H)- Vcont(L) ≤ 2.3V	-	25	-	dBm
	4.9GHz~6.0GHz 1.8V ≤ Vcont(H)- Vcont(L) ≤ 2.3V	-	25	-	
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	-	4	50	μA

Notes: All measurements made in 50Ω system, unless otherwise specified.
DC=100MHz