GW1499

High Power GaAs DPDT Diversity Switch for WiMAX

V1.0

■ Features

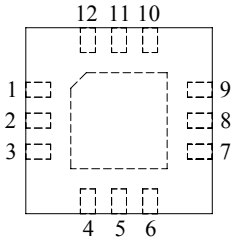
- WiMAX and WLAN 802.11b/g/n applications
- Low Insertion Loss: 0.6dB@ 2.5GHz
  0.9dB@ 3.5GHz
- High Isolation: 30dB@2.5GHz
  25dB@3.5GHz
- QFN 3.0mm×3.0mm 12 Leads Green Package
- 0.5 μ m GaAs pHEMT Process
- Low Cost and Good Reliability Performance

■ General Description

The GW1499 is a high power GaAs MMIC DPDT switch in a QFN 3.0mm×3.0mm 12 leads plastic package. The GW1499 features low insertion loss, high isolation and positive voltage operation with 2 controls. Typical applications are for WiMAX and IEEE WLAN 802.11 b/g/n system or systems operating up to 4.0GHz that employs two antennas for transmit and receive diversity.

■Pin Functional Schematic and Assignment

QFN 3×3mm
(Top View)



Pin No.	Pin Name	Description
1	GND	Ground
2	GND	Ground
3	Vcont1	Voltage Control 1
4	ANT1	Antenna Port 1
5	GND	Ground
6	ANT2	Antenna Port 2
7	Vcont2	Voltage Control 2
8	GND	Ground
9	GND	Ground
10	RX	Output2 Port
11	GND	Ground
12	TX	Output1 Port

■ Electrical Specifications at 25°C with (0, +3V) Control Voltages, 8pF Capacitor

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	2.3 - 2.7 GHz	-	0.60	0.80	dB
	3.3 - 3.9 GHz	-	0.90	1.10	dB
Isolation (ANT1, ANT2 to TX , RX)	2.3 - 2.7 GHz	28	30	-	dB
Isolation (ANT1, ANT2 to TX, RX)	3.3 - 3.9 GHz	23	25	-	dB
Isolation (ANT1 to ANT2, TX to RX)	2.3 - 2.7 GHz	20	22	-	dB
Isolation (ANT1 to ANT2, TX to RX)	3.3 - 3.9 GHz	18	20	-	dB
Input/Output Return Loss	2.3 - 2.7 GHz	10	18	-	dB
	3.3 - 3.9 GHz	10	12	-	dB
Input Power for 1 dB compression	2.0 – 4.0 GHz	-	+38	-	dBm
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	-	2	20	µA

Notes: All measurements made in 50Ω system, unless otherwise specified.