

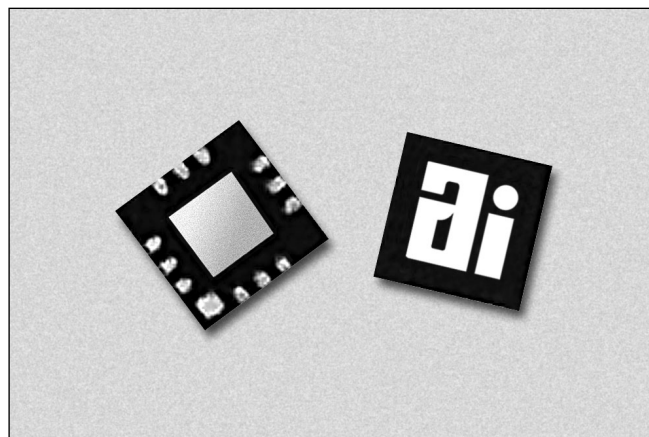
## GaAs IC Reflective SPDT with Driver 3–6 GHz



AS210-321

### Features

- T<sub>X</sub>/R<sub>X</sub> Switch for IEEE 802.11a Wireless LAN Applications
- Positive CMOS Level Control (0, +3 V)
- Low Loss (< 1.3 dB)
- Low DC Power Consumption
- QFN-12 3 x 3 mm Package
- Low Cost
- No External Components Needed



### Description

The AS210-321 is a GaAs PHEMT SPDT reflective switch that has been designed for WLAN T<sub>X</sub>/R<sub>X</sub> applications. This device has been optimized to provide excellent performance from 3–6 GHz. The AS210-321's low insertion loss make it an ideal choice for the 802.11a and 3.5 GHz fixed wireless LAN applications.

### Absolute Maximum Ratings

Characteristic	Value
RF Input Power	1 W Max. > 500 MHz
Supply Voltage	-0.2 V, +6 V
Control Voltage	-0.2 V, +6 V
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C

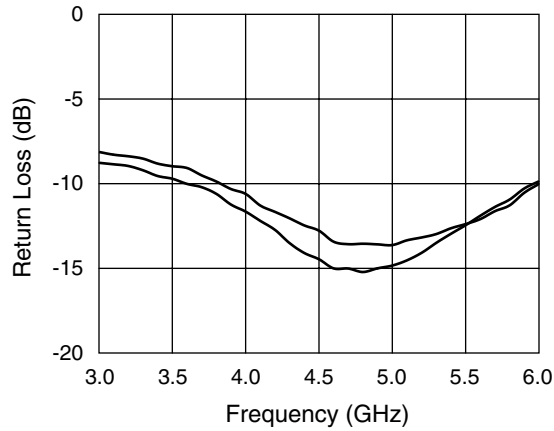
### Electrical Specifications at 25°C (0, +3 V)

Parameter	Frequency	Min.	Typ.	Max.	Unit
Insertion Loss	3–4 GHz		1.5	1.8	dB
	5–6 GHz		1.0	1.5	dB
Isolation	3–5 GHz	23	27		dB
	5–6 GHz	25	29		dB
Return Loss (On State)	3–6 GHz	7.5	12		dB

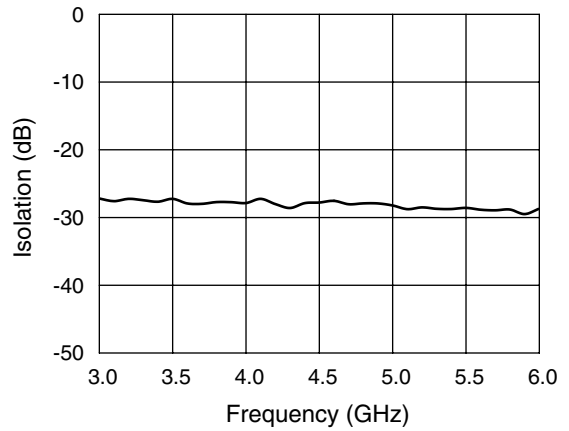
### Operating Characteristics at 25°C (0, +3 V)

Parameter	Condition	Frequency	Min.	Typ.	Max.	Unit
Switching Characteristics	Rise, Fall (10/90% or 90/10% RF)			100		ns
	On, Off (50% CTL to 90/10% RF)			150		ns
	Video Feedthru			25		mV
Input Intermodulation Intercept Point (IIP3)	0/+3 V	5–6 GHz		50		dBm
Control Voltages (C <sub>1</sub> )	C <sub>1</sub> = "0" with @ 700 μA Max.		0		0.4	V
	C <sub>1</sub> = "1" with @ 500 μA Max.		2.4		5.0	V
Supply Voltage (V <sub>S</sub> )			3.0		5.0	V
Supply Current				400	700	μA

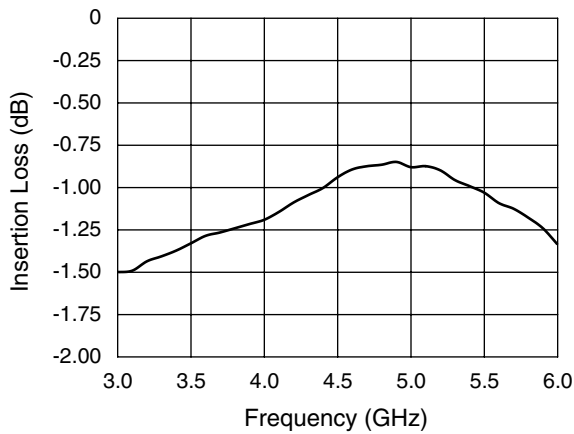
### Typical Performance Data at 25°C



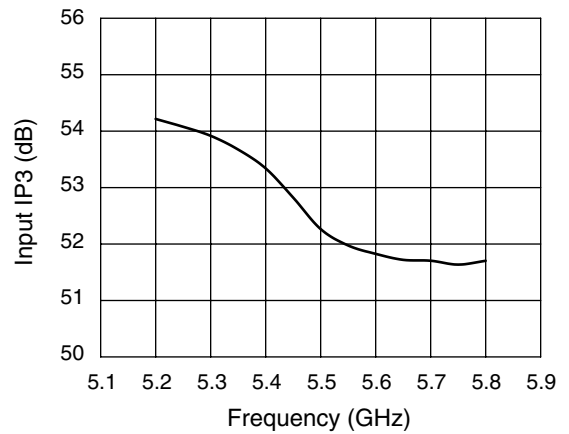
**Return Loss vs. Frequency**



**Isolation vs. Frequency**



**Insertion Loss vs. Frequency**

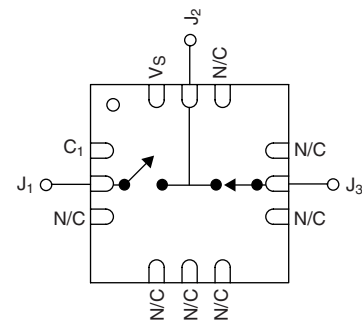


**Input IP3 vs. Frequency**

### Truth Table

C <sub>1</sub>	J <sub>1</sub> -J <sub>2</sub>	J <sub>2</sub> -J <sub>3</sub>
0	Isolation	Insertion Loss
1	Insertion Loss	Isolation

### Pin Out (Top View)



Ground is connected to paddle on bottom.

