

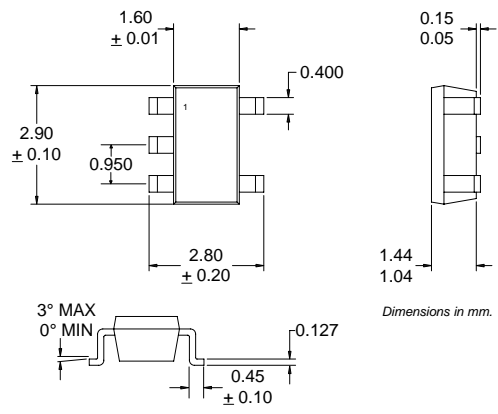
**RoHS Compliant & Pb-Free Product**

**Typical Applications**

- Cordless Phones
- Wireless Computer Peripherals
- Wireless Security Systems
- General Purpose RF Switching
- Commercial and Consumer Systems

**Product Description**

The RF2436 is a very low-cost transmit/receive GaAs MESFET switch. The device can handle power levels as high as +28dBm and spans a frequency range from DC to 2500MHz. The switch will operate from power supply voltages as low as 1.5V and as high as 6V with a CMOS logic driver for the control input. No negative voltage is required, and current consumption is very low. VSWR for the active channel (transmit or receive) is 1.1:1. The device is housed in a very small industry-standard SOT 5-lead plastic package.



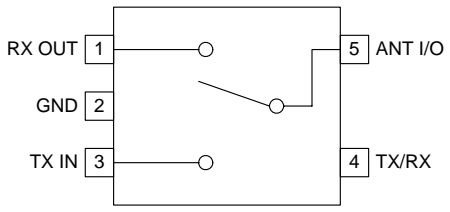
**Optimum Technology Matching® Applied**

- |                                     |                                   |   |
|-------------------------------------|-----------------------------------|---|
| <input type="checkbox"/> Si BJT     | <input type="checkbox"/> GaAs HBT | <input checked="" type="checkbox"/> GaAs MESFET |
| <input type="checkbox"/> Si Bi-CMOS | <input type="checkbox"/> SiGe HBT | <input type="checkbox"/> Si CMOS                |
| <input type="checkbox"/> InGaP/HBT  | <input type="checkbox"/> GaN HEMT | <input type="checkbox"/> SiGe Bi-CMOS           |

Package Style: SOT-5

**Features**

- Single Positive Power Supply
- Low Current Consumption
- 1 dB Insertion Loss at 900MHz
- 24dB Crosstalk Isolation at 900MHz
- +27dBm Output P1dB



Functional Block Diagram

**Ordering Information**

RF2436	Transmit/Receive Switch
RF2436 PCBA	Fully Assembled Evaluation Board

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# RF2436

## Absolute Maximum Ratings

Parameter	Rating	Unit
Supply Voltage	0 to +8.0	V <sub>DC</sub>
Control Voltage	-1.0 to +6.0	V
Input RF Power	+30	dBm
Operating Ambient Temperature	-40 to +85	°C
Storage Temperature	-40 to +150	°C



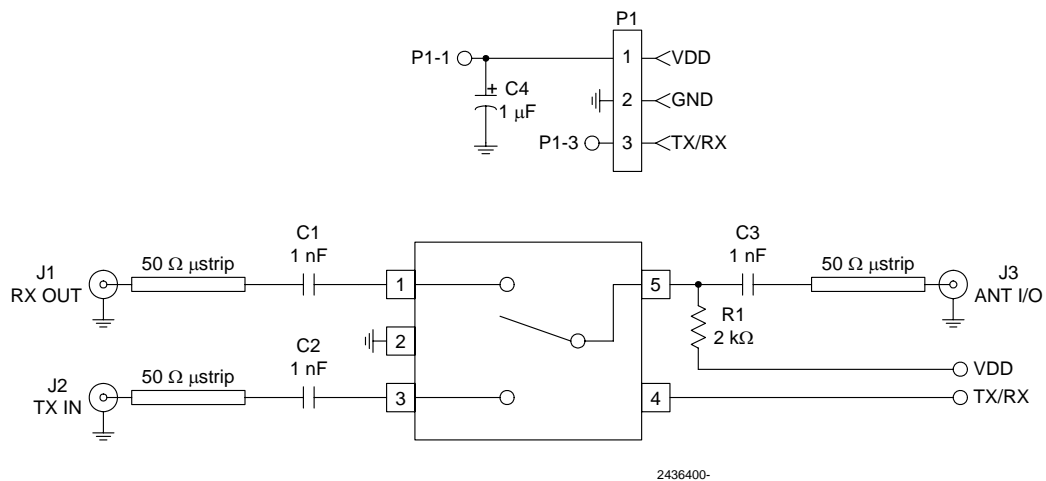
Caution! ESD sensitive device.

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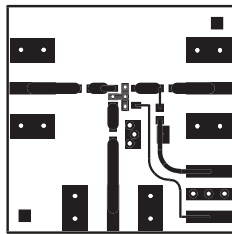
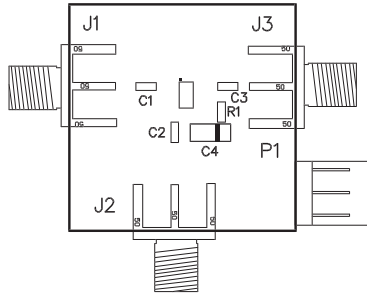
Parameter	Specification			Unit	Condition
	Min.	Typ.	Max.		
<b>Overall</b>					T=25 °C, V <sub>DD</sub> =3.0V, Freq=900MHz
Frequency Range		DC to 2500		MHz	
Insertion Loss		1	2	dB	Transmit or receive mode.
Isolation	20	22		dB	Receive mode; ANT I/O to TX IN crosstalk
	20	24		dB	Transmit mode; ANT I/O to RXOUT crosstalk
RX OUT VSWR		1.1:1			Receive mode.
TX IN VSWR		1.1:1			Transmit mode.
Output P1dB		+27		dBm	
Output IP3		+39		dBm	
<b>Control Logic</b>					
CTRL Logic "Low" Voltage		0		V	Receive mode.
CTRL Logic "High" Voltage		0.7		V	Transmit mode.
<b>Power Supply</b>					
Voltage		3		V	Specifications
		1.5 to 6		V	Operating Limits
Current		5	10	μA	Receive mode.
		0.5	1	mA	Transmit mode.

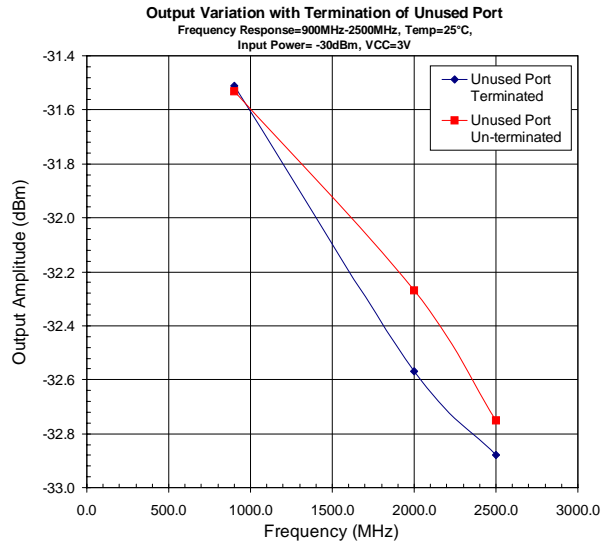
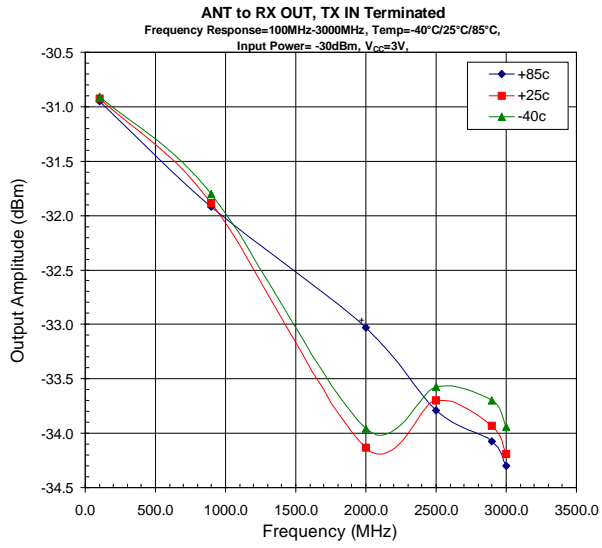
Pin	Function	Description	Interface Schematic
1	RX OUT	Output pin for Receive mode. VSWR is 1.1:1 when Receive mode is selected and highly capacitive when Transmit mode is selected.	
2	GND	Ground connection. For best performance, keep traces physically short and connect immediately to the ground plane.	
3	TX IN	Input pin for Transmit mode. The input VSWR is 1.1:1 when Transmit mode is selected and highly capacitive when Receive mode is selected.	
4	TX/RX	Transmit Mode/Receive Mode control pin. A "low" level chooses Receive mode; a "high" level chooses Transmit mode. CMOS logic may be used to drive the control input.	
5	ANT I/O	Input/Output pin from/to antenna and power supply pin. This pin must be biased with VDD through a resistor.	

## Evaluation Board Schematic (Download [Bill of Materials](http://www.rfmd.com) from [www.rfmd.com](http://www.rfmd.com).)



### Evaluation Board Layout





**RF2436**