

Features

- Isolation: 25 dB @ 3 GHz
- Low Insertion Loss: 0.4 dB @ 3 GHz
- ESD Protection Exceeds JESD 22-A114
2000-V Human-Body Model
- Compact package: SOT23-6

Applications

- Industrial radio
- Smart Home
- Conventional medium power
switch applications
- Applications with a transmitting and
receiving system that require switching

Logic Table for Switch On-Path

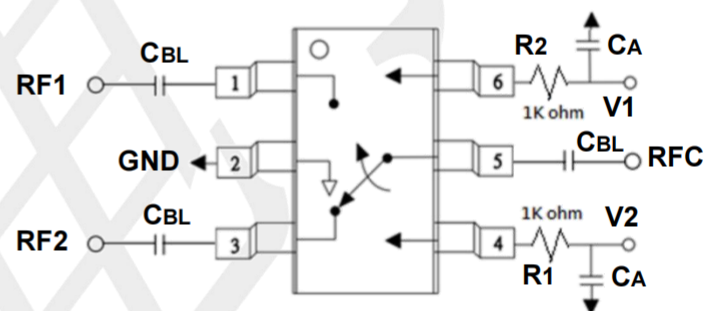
V1	V2	RFC - RF1	RFC - RF2
1	0	On	Off
0	1	Off	On

'1' = +2.8V to +5V ; '0' = -0.2V to +0.2V

General Description

The is a GaAs SPDT switch operating at DC-3 GHz in a low cost SOT23-6 plastic lead (Pb) free package. The is features low insertion loss with very low DC power consumption. This switch can be used in many wireless digital communication systems like IEEE 802.11b/g WLAN and Bluetooth for transmit/receive selection or antenna diversity function.

Pin out (top view)



DC blocking capacitors C_B are required on all RF ports. $C_{BL}=56\text{pF}$, $C_A=1000\text{pF}$ for operating frequency > 500MHz.

Pin Configurations

Pin	Name	Function
1	RF1	RF output External connection of DC blocking capacitor is required during use
2	GND	Ground
3	RF2	RF output External connection of DC blocking capacitor is required during use
4	V2	DC control voltage (ESD-HBM $\pm 2000\text{V}$)
5	RFC	RF output External connection of DC blocking capacitor is required during use
6	V1	DC control voltage (ESD-HBM $\pm 2000\text{V}$)

Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power 0.5-3 GHz	+34 dBm
Control Voltage	+6V
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C
Human body model (HBM), V1,V2	±2000V

Note 1: Absolute Maximum Ratings are those values beyond which the life of a device may be impaired.

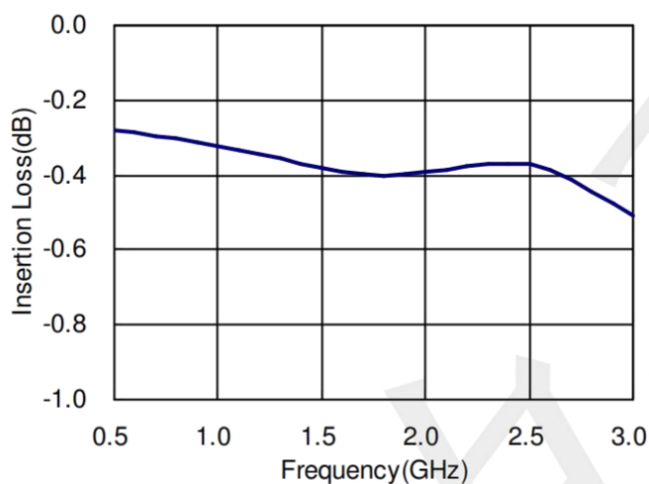
Electrical Specifications (at 25°C with 0, +3V Control Voltages)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	DC-3 GHz	--	0.4	0.6	dB
Isolation	DC-3 GHz	21	25	--	dB
Return Loss	DC-3 GHz	--	20	--	dB
Input Power for One dB Compression	0.5-3 GHz @ 0/+3V	--	30	--	dBm
	0.5-3 GHz @ 0/+5V	--	34	--	dBm
Switching Time		--	50	--	ns
Control Current		--	5	100	uA

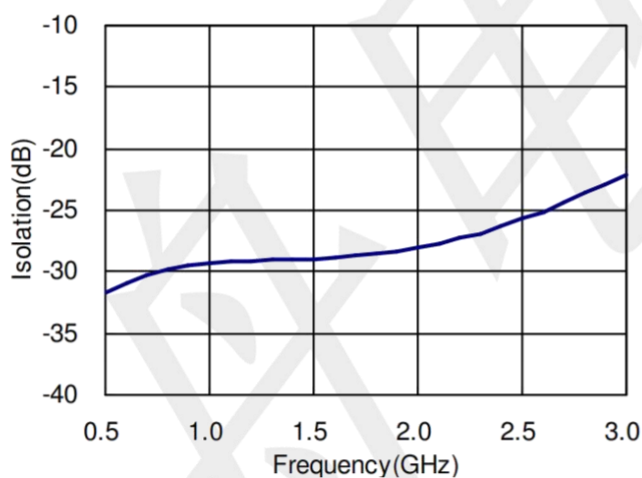
Note: All measurements made in a 50 ohm system with 0/+3V control voltages, unless otherwise specified.

Typical Performance Data @ +25°C

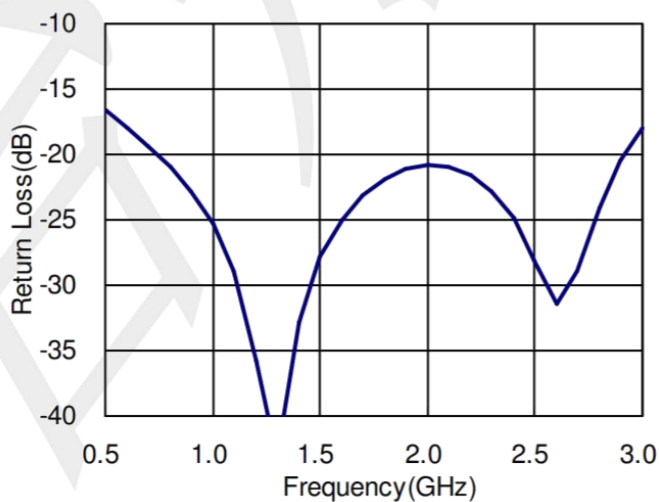
Insertion Loss vs Frequency



Isolation vs Frequency

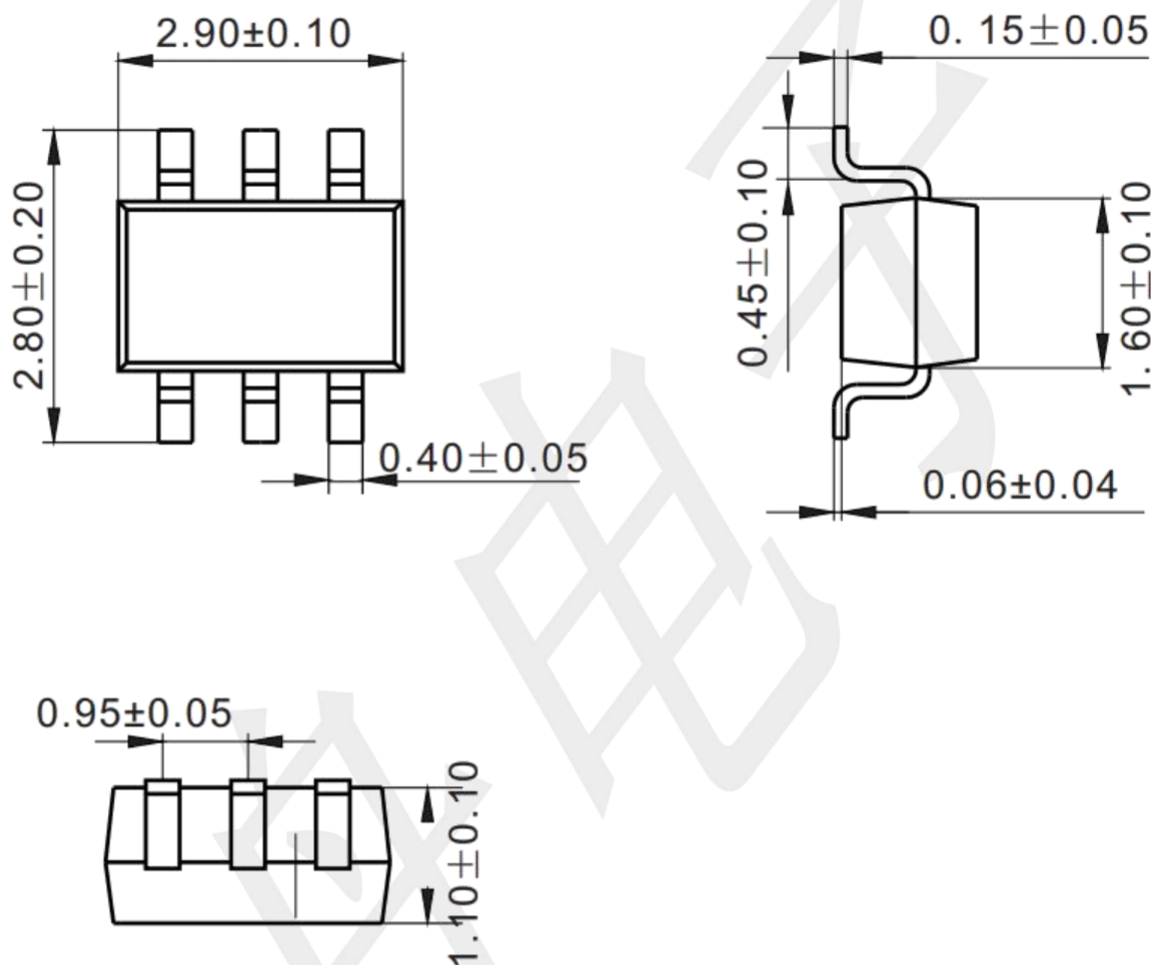


Return Loss vs Frequency



Package information (Unit: mm)

SOT23-6



Mounting Pad Layout (unit: mm)

