

Features

- Isolation: 25 dB @ 2.5 GHz
- Low Insertion Loss: 0.4 dB @ 2.5 GHz
- ESD Protection Exceeds JESD 22-A114
2000-V Human-Body Model
- Compact package: SOT363

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

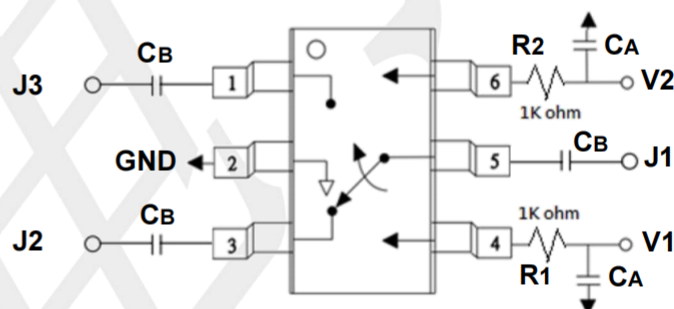
V1	V2	J1-J2	J1-J3
0	V _{HIGH}	Isolation	Insertion Loss
V _{HIGH}	0	Insertion Loss	Isolation

'V_{HIGH}' = +2.8V to +5V ; '0' = -0.2V to +0.2V

General Description

The is a GaAs SPDT switch operating at 0.1-3 GHz in a low cost SOT363 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. $C_B=56\text{pF}$, $C_A=1000\text{pF}$ for operating frequency > 500MHz.

Pin Configurations

Pin	Name	Function
1	J3	RF output External connection of DC blocking capacitor is required during use
2	GND	Ground
3	J2	RF output External connection of DC blocking capacitor is required during use
4	V1	DC control voltage (ESD-HBM $\pm 2000\text{V}$)
5	J1	RF output External connection of DC blocking capacitor is required during use
6	V2	DC control voltage (ESD-HBM $\pm 2000\text{V}$)

Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power 0.5-2.5 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.

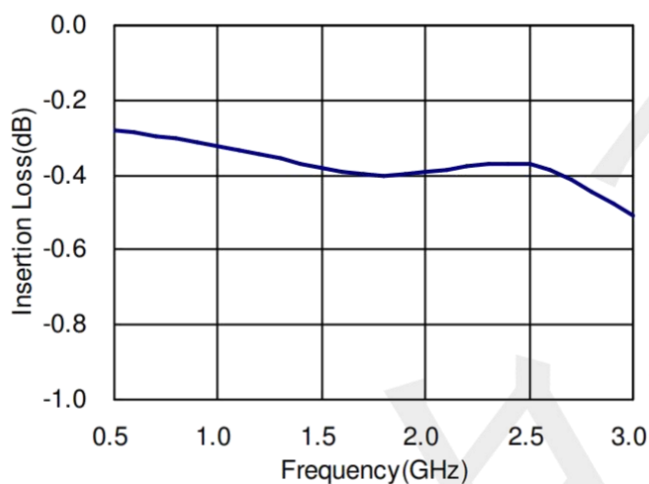
Electrical Specifications (at 25°C with 0, +3V Control Voltages)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Insertion Loss	0.1-2.5 GHz	--	0.4	0.6	dB
	2.5-3.0 GHz	--	0.5	0.7	dB
Isolation	0.1-2.5 GHz	21	25	--	dB
	0.1-3.0 GHz	20	23	--	dB
Return Loss	0.1-3.0 GHz	--	20	--	dB
Input Power for One dB Compression	0.5-3.0 GHz @ 0/+3V	--	30	--	dBm
	0.5-3.0 GHz @ 0/+5V	--	34	--	dBm
Switching Time		--	50	--	ns
Control Current		--	5	100	uA

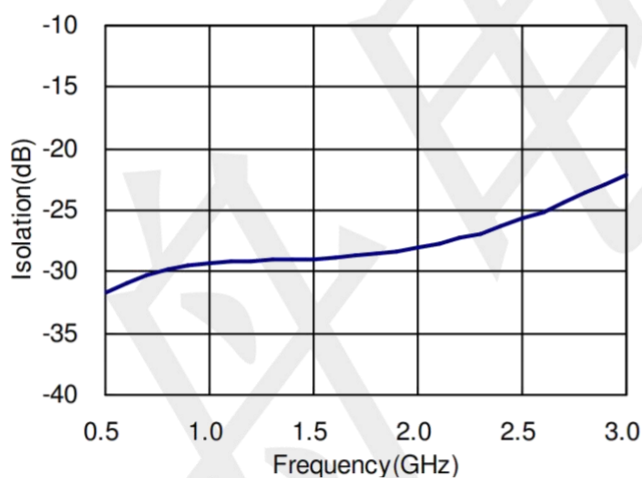
Note: All measurements made in a 50 ohm system with 0/+3V control voltages, unless otherwise specified.

Typical Performance Data @ +25°C

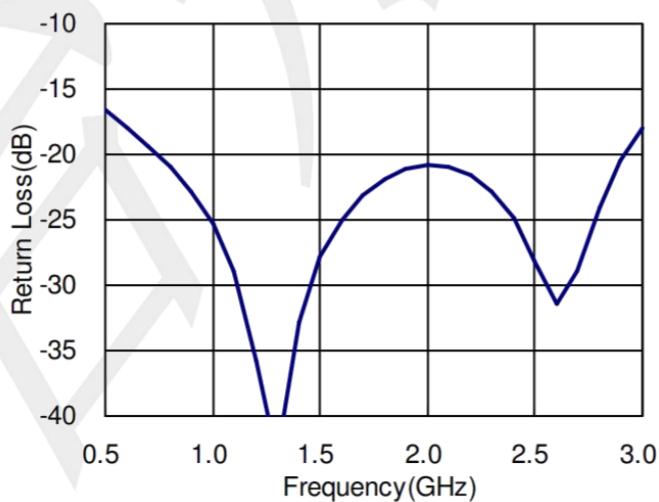
Insertion Loss vs Frequency



Isolation vs Frequency

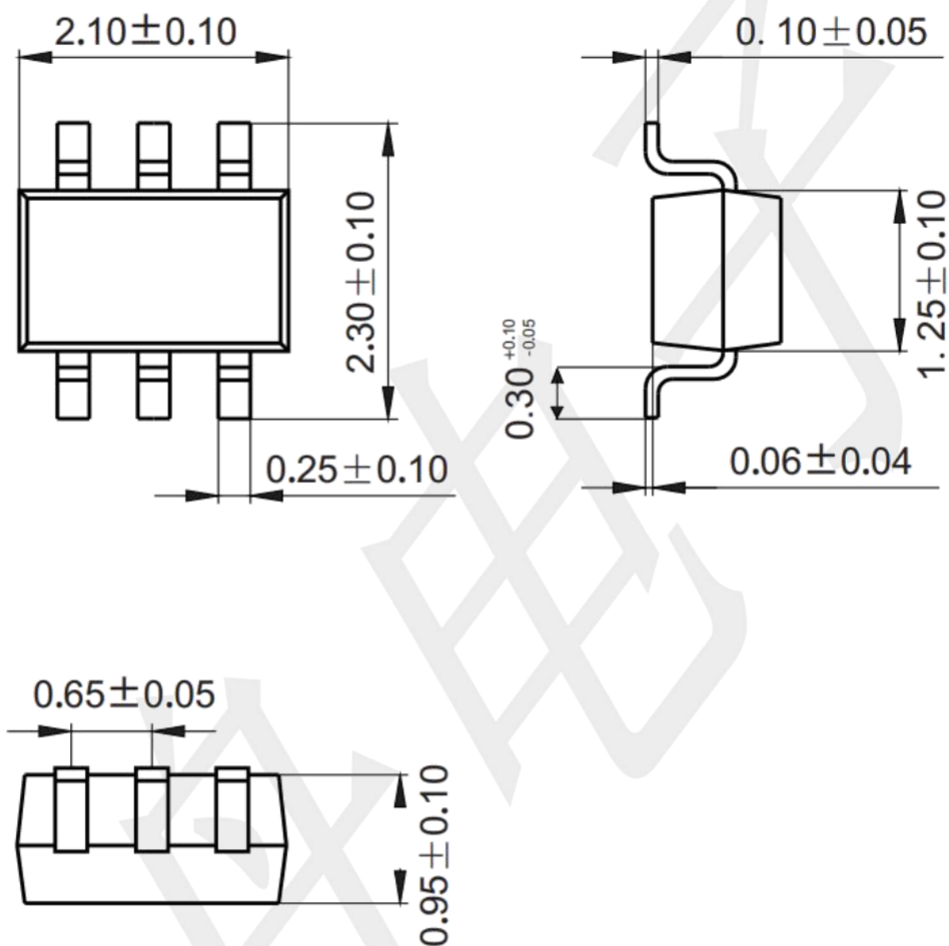


Return Loss vs Frequency



Package information (Unit: mm)

SOT363



Mounting Pad Layout (unit: mm)

