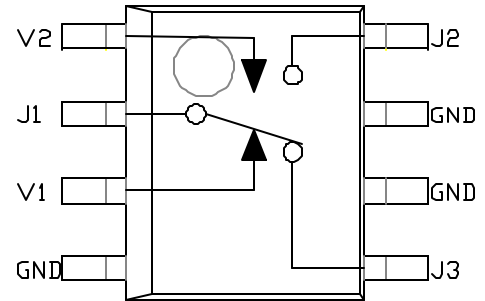


SPDT Non-Reflective Switch - High Isolation Negative or Positive Control ITT002AB

FEATURES

- SOIC-8 package
- Non-Reflective
- High Isolation (40 dB @ 1 GHz)
- Usable to 4 GHz
- Low DC Power Consumption
- Positive Control when “floated” with capacitors
- Pin-for-pin compatible with standard “002” reflective switches
- Self-Aligned MSAG® MESFET Process



DESCRIPTION

The ITT002AB is a low loss SPDT non-reflective switch in a plastic SOIC-8 package for commercial applications. The switch operates with -5, 0 volts, but operates with +5 volts when device is “floated.”

TRUTH TABLE (Negative Control)

V1	V2	J1-J2	J1-J3
-5	0	Isolation	Insertion Loss
0	-5	Insertion Loss	Isolation

ELECTRICAL SPECIFICATIONS AT 25° C (0, -5 V)

Parameter	Test Conditions ¹	Min	Typ	Max	Unit
Insertion Loss	DC ² -0.5 GHz		0.6	0.8	dB
	DC-1.0 GHz		0.8	0.9	dB
	DC-2.0 GHz		1.1	1.2	dB
	DC-2.5 GHz		1.5	1.7	dB
Isolation	DC-0.5 GHz	42	43		dB
	DC-1.0 GHz	36	40		dB
	DC-2.0 GHz	27	28		dB
	DC-2.5 GHz	20	25		dB
VSWR ³	DC-2.0 GHz		1.1:1	1.6:1	
	DC-2.5 GHz		1.2:1	2.0:1	

1. All measurements made in a 50 Ω system, unless otherwise specified.
2. DC = 50 MHz
3. Insertion loss state.
4. Video feedthru measured with 1 ns rise



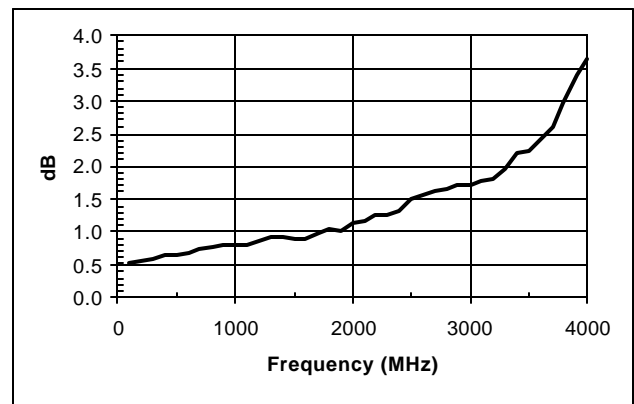
SPDT Non-Reflective Switch - High Isolation Negative or Positive Control ITT002AB

OPERATING CHARACTERISTICS AT 25° C (0, -5 V)

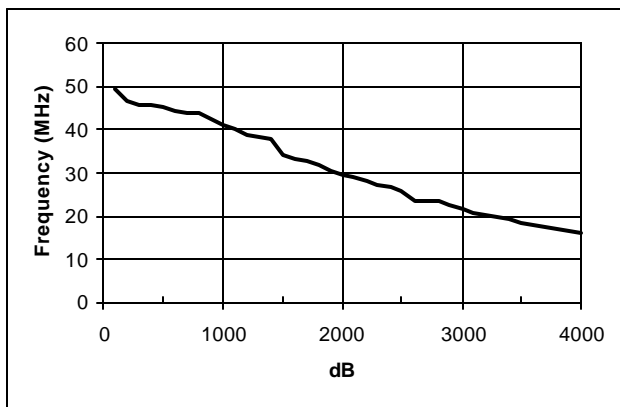
Parameter	Condition	Frequency	Min	Typ	Max	Units
Switching Characteristics	Rise, Fall (10/90% or 90/10%)			24		ns
	On, Off (50% CTL to 90/10% RF)			30		ns
	Video Feedthru ⁴			16		mV
Input Power for 1 dB Compression		0.05 GHz 0.5 – 2.0 GHz		20 22		dBm dBm
Intermodulation Intercept Point (IP3)	For two-tone Input Power +5 dBm	0.5 – 2.0 GHz		47		dBm
Control Voltages	$V_{Low} = 0.0$ to -0.2 V				20	μ A
	$V_{High} = -5$ V				20	μ A
	$V_{High} = -8$ V				200	μ A

MAXIMUM RATINGS

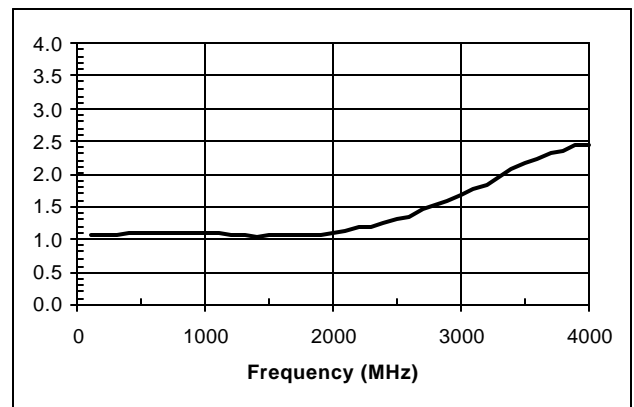
Rating	Symbol	Value
RF input power	$J_{1,2,3}$	0.5 W @ 50 MHz 0/-8 V 2 W > 500 MHz 0/-8 V
Control Voltage	$V_{1,2}$	+0.2, -8 V
Junction Temperature	T_J	+150 °C
Storage Temperature	T_{STG}	-40 °C to +150 °C



Insertion Loss vs Frequency



Isolation vs Frequency



VSWR vs Frequency

Specifications Subject to Change Without Notice

902218 C, July 1999

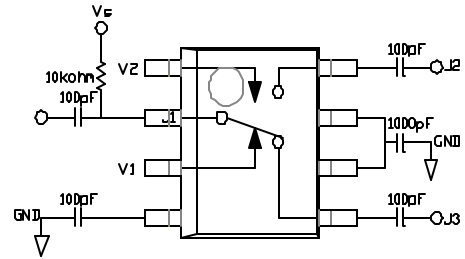


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SPDT Non-Reflective Switch - High Isolation Negative or Positive Control ITT002AB

TRUTH TABLE (Positive Control)

V1	V2	J1-J2	J1-J3
0	+5	Isolation	Insertion Loss
+5	0	Insertion Loss	Isolation



SOIC 8 PACKAGE DIMENSIONS: Dimensions are typical and in inches.

