

RIK0056B - SP4T RF Absorptive Switch

Revised: 05/26/2005 - 04/14/2009

Topic(s): Fixture

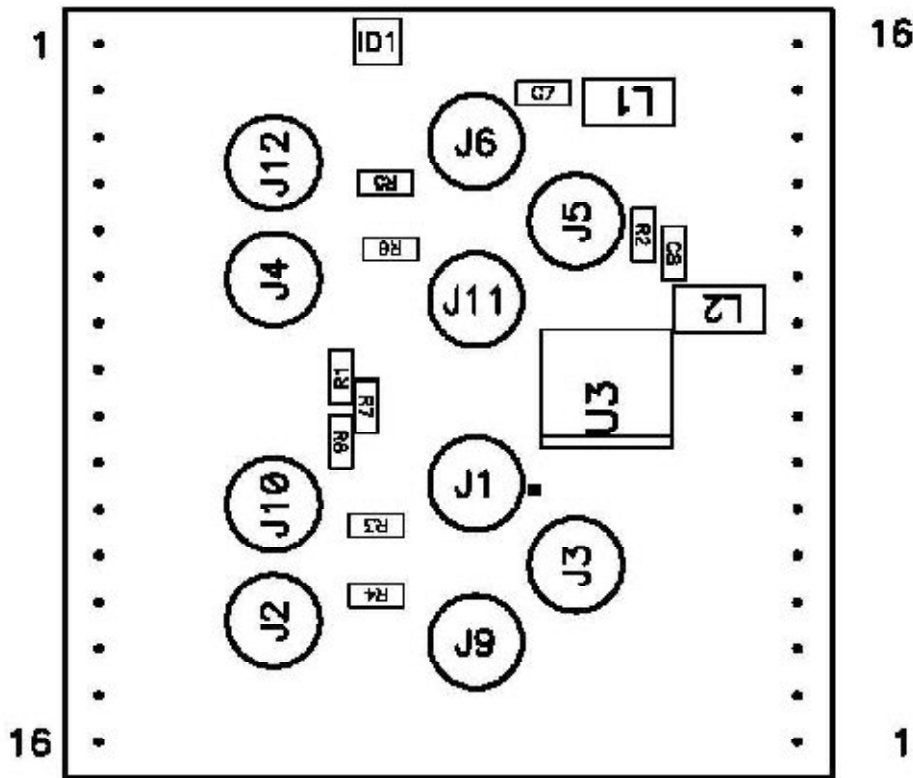
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Purpose: To describe the RIK0056B (4TC) a fixturing option and to provide information on its performance.

The RIK0056B includes one DUAL SP4T wide band (5MHz to 12GHz) RF module. It is intended to be used with the RIK0014A and RIK0084A smart carrier series. It is especially easy to use since DC wiring is not required when used in conjunction with the smart carrier. It also helps to reduce fixture complexity where a high level RF of switching is required.

RIK0056B SP4T RF Switch



Pin Out:

Pin#	Function	DS1	DS2	DS3	DS4	Connector Type
P2:12	+5V					Header Pin
P2:11	-5V					Header Pin
P1:12	DS1					Header Pin
P1:13	DS2					Header Pin
P1:14	DS3					Header Pin
P1:15	DS4					Header Pin
P1:16	Grnd					Header Pin
J1	SW2 NO	X	X	0	1	MCX Female
J2	SW2 NO	X	X	0	0	MCX Female
J3	SW2 Common					MCX Female
J4	SW1 NO	0	0	X	X	MCX Female

J5	SW1 Common					MCX Female
J6	SW1 NO	0	1	X	X	MCX Female
J9	SW2 NC	X	X	1	0	MCX Female
J10	SW2 NO	X	X	1	1	MCX Female
J11	SW1 NC	1	0	X	X	MCX Female
J12	SW1 NO	1	1	X	X	MCX Female

Coding Requirements:

Fixture Carrier 2AC1 Position#	Fixture Carrier 4VA1 Position#	Fixture Carrier 65A1 Position#	Smart Carrier Module#	Switch Code Prefix
M1	M1	M1	M1	(S1)
M2	M2	M2	M2	(S2)
M3	M3	M3	M3	(S3)
M4	M4	M4	M4	(S4)
M13	M5	M5	M5	(S5)
M14	M6	M6	M6	(S6)
M15	M7	M7	M7	(S7)
M16	M8	M8	M8	(S8)
		M9	M9	(S9)
		MA	MA	(SA)

Fixture requirements:

1. Smart Carrier (RIK0014A or RIK0084A).
2. Press in connector strips (16 pin) installed at desired module locations (M1 - M16).
3. Bench Top DC Voltage Requirements: +5V

Cbits Programming:

1. When writing to a Smart Carrier Cbit the format is of **S#10X1**
 S = S, # = Module number being written to, X = 1, X, or 0.
 Bit position = S# DS1 DS2 DS3 DS4

Electrical Performance:**Maximum Ratings**

Bias Voltage Range	-7.0 Vdc
Control Voltage Range	Vee -0.5V to +1V Vdc
Maximum Input Power Vdd = +5 Vdc	+24dBm

Note:

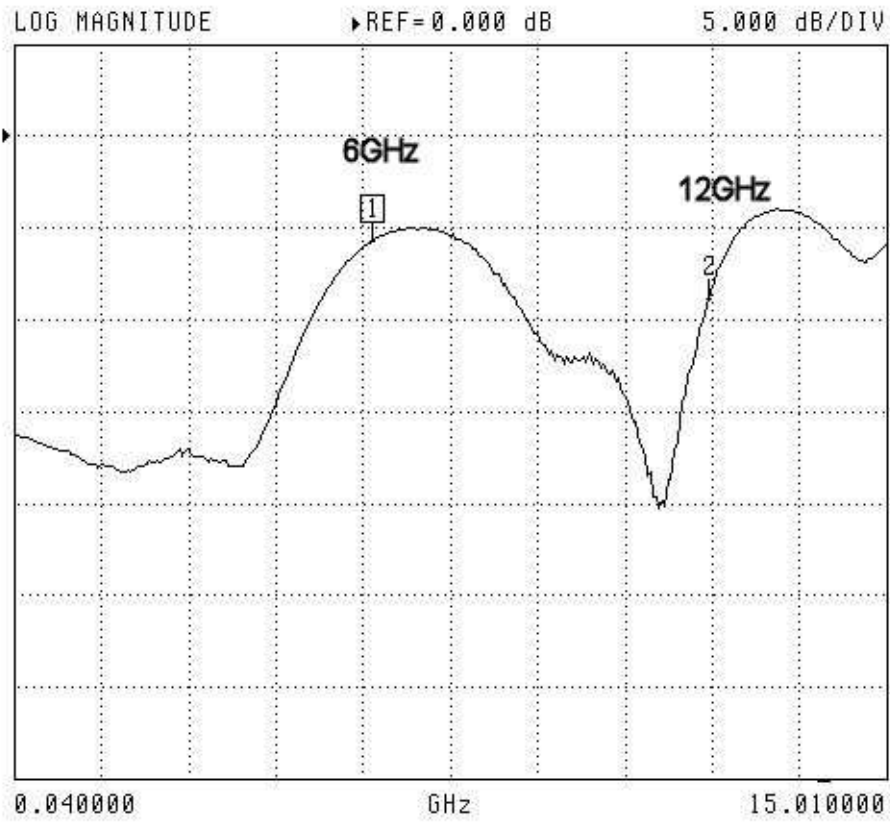
DC decoupling caps should be provided on the DIB to prevent DUT voltages from reaching this switch.

Chip Electrical Specifications

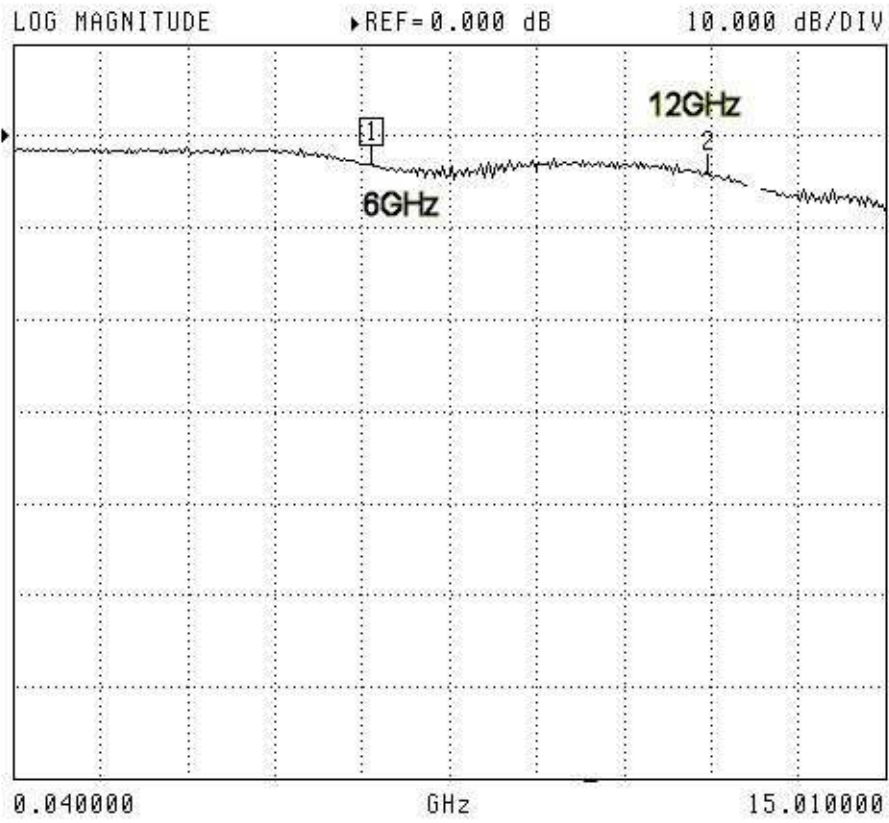
Parameter	Frequency	Min.	Typ	Max.	Units
Vee			-5		V
I _{ee} @ -5.0Vdc			3.0	6.0	mA
TTL/CMOS Control					
Low 0 to -3.0Vdc			60		uA
High -4.2 to -5.0 Vdc			5		uA
Minimum Frequency (3dB BW)			DC		
Insertion Loss	DC-2GHz		1.6		dB
	DC-6GHz		1.8		dB
	DC-8GHz		2.1		dB
Isolation	DC-2GHz		49		dB
	DC-4GHz		41		dB
	DC-6GHz		40		dB
	DC-8GHz		36		dB
Return Loss (Common)	DC-2GHz	12	15		dB
	DC-4GHz	9	12		dB
	DC-6GHz	8	11		dB
	DC-8GHz	5	8		dB
1dB Compression	DC-8GHz		21		dBm
IIP3 +7dBm each tone	DC-8GHz		40		dBm
Switching	DC-8GHz		35		nS
t _{RISE} , t _{FALL} (10%/90% RF)			150		nS
t _{ON} , t _{OFF} (50% CTL to 10%/90% RF)					

Module Swept Data:

S11 FORWARD REFLECTION



S12 REVERSE TRANSMISSION



S22 REVERSE REFLECTION

