

DC-67 GHz 1-4 switch

1-4 SW_60A

1. Features

- 1) Wideband: DC-67 GHz
- 2) Coaxial connector RF interface: 1.85 mm connector (Jack)
- 3) Small size 4) I/O reversible 5) Low-loss

2. Application

General purpose 1-4 switch

3. Block diagram

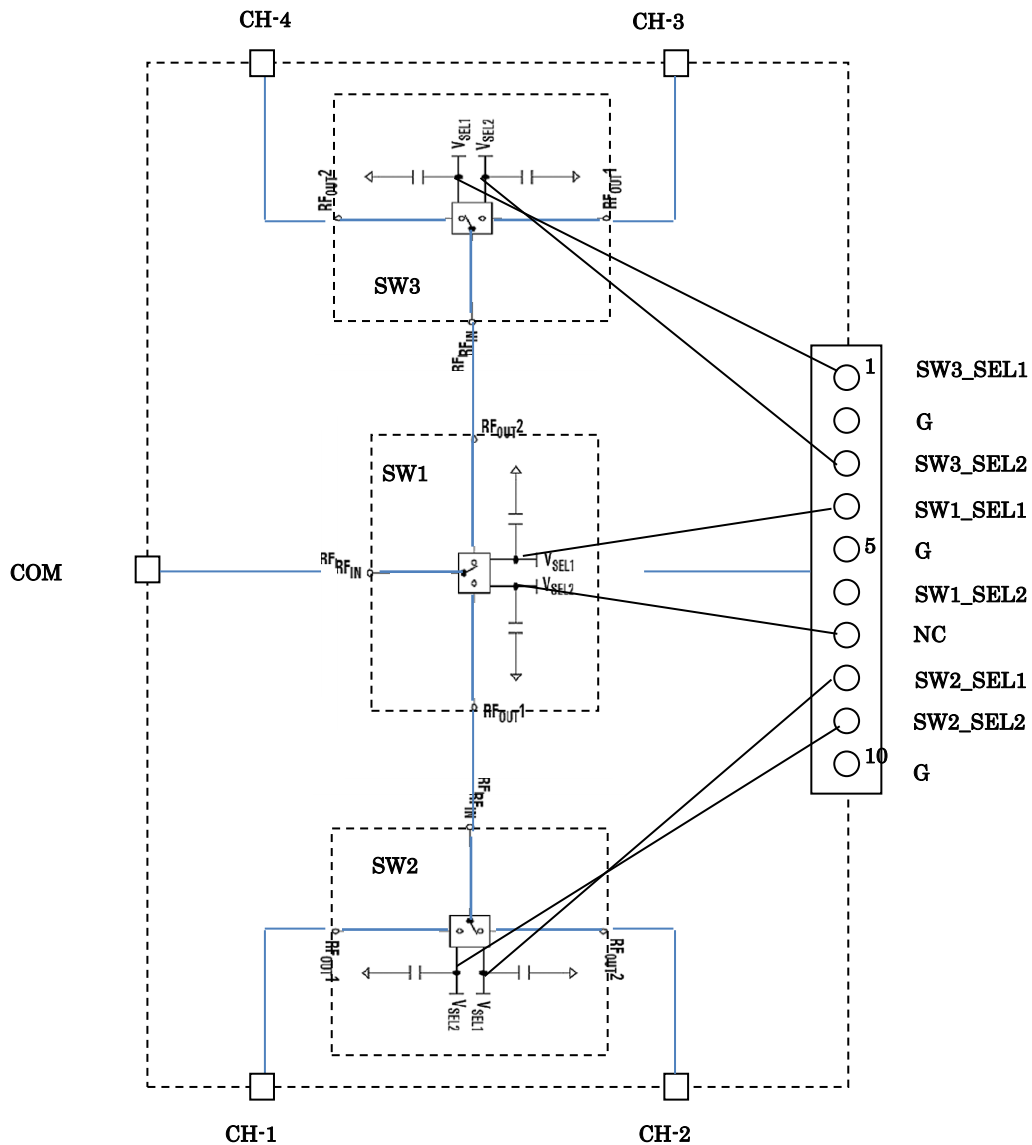


Fig. 1 Block diagram

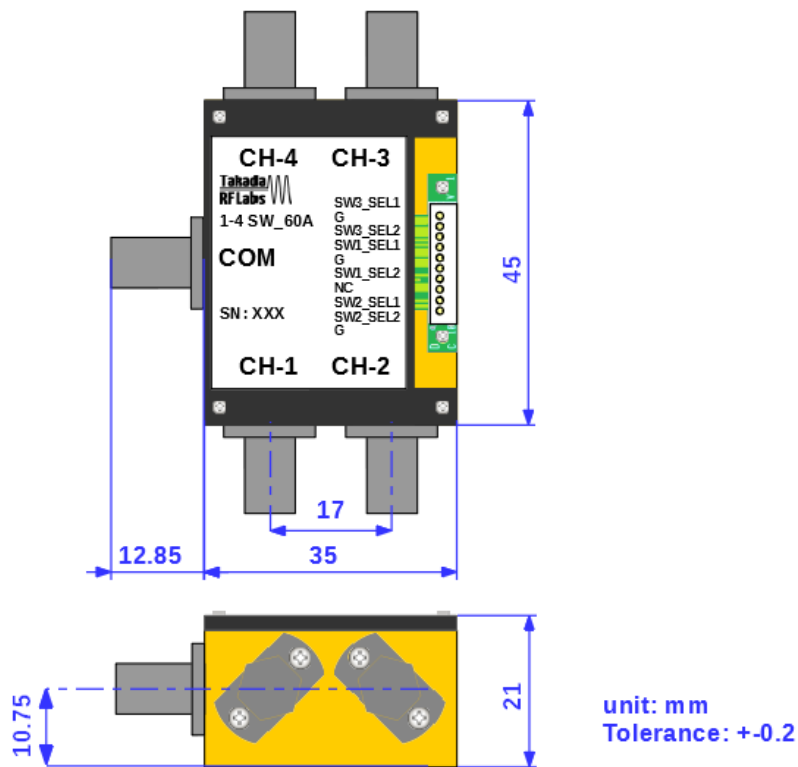


Fig.2 Module structure (TBD)

5. Terminal description

Name	Function	Note
COM	RF common I/O	1.85mm (J)
CH-1	RF CH-1 I/O	1.85mm (J)
CH-2	RF CH-2 I/O	1.85mm (J)
CH-3	RF CH-3 I/O	1.85mm (J)
CH-4	RF CH-4 I/O	1.85mm (J)
SW3_SEL1	SW3 Select1	Pin header No.1
G	GND	Pin header No.2
SW3_SEL2	SW3 Select2	Pin header No.3
SW1_SEL1	SW1 Select1	Pin header No.4
G	GND	Pin header No.5
SW1_SEL2	SW1 Select2	Pin header No.6
NC	Not internal connected	Pin header No.7
SW2-SEL1	SW2 Select1	Pin header No.8
SW2-SEL2	SW2 Select2	Pin header No.9
G	GND	Pin header No.10

6. Truth table

SW1_		SW2_		SW3_		Which channel COM is routed
SEL1	SEL2	SEL1	SEL2	SEL1	SEL2	
[1]	[0]	[1]	[0]	X	X	COM is routed to CH-1
[1]	[0]	[0]	[1]	X	X	COM is routed to CH-2
[0]	[1]	X	X	[1]	[0]	COM is routed to CH-3
[0]	[1]	X	X	[0]	[1]	COM is routed to CH-4

[1] : +3 V, [0] : -3 V, X: [1] or [0] Both state acceptable

6. Absolute maximum ratings

Related terminal	Parameter	Symbol	Unit	Min	Max
COM, CH-1, CH-2, CH-3, CH-4	RF port DC level	Vdc	V	-0.2	+0.2
	RF port input power	Pin	dBm		+1.5
	Module backside temperature	Tbs	°C	-40 (TBD)	85 (TBD)
	Storage temperature	Tst	°C	-40 (TBD)	85 (TBD)

7. Recommended operation condition

Related terminal	Parameter	Symbol	Unit	Specification		
				Min	Typ	Max
COM, CH-1, CH-2, CH-3, CH-4	RF port DC level	Vdc	V	-0.15	0	+0.15
	RF port input power	Pin	dBm		0	+1.0
	Module backside temperature	Tbs	°C	5	25	7

8. RF Performance

Related terminal	Parameter	Symbol	Unit	Specification		
				Min	Typ	Max
COM, CH-1, CH-2, CH-3, CH-4	High frequency 3dBdown cutoff	fh-3dB	GHz		52(TBD)	
	Low frequency 3dBdown cutoff	fL-3dB	Hz		0	
	Insertion loss	S21			See Fig.3 to Fig.6	
	Maximum data speed (NRZ)	MDR	Gb/s		64	
	Mag S11/S22 @ <60 GHz	RL-60	dB		< 13 (TBD)	

9. Typical performance

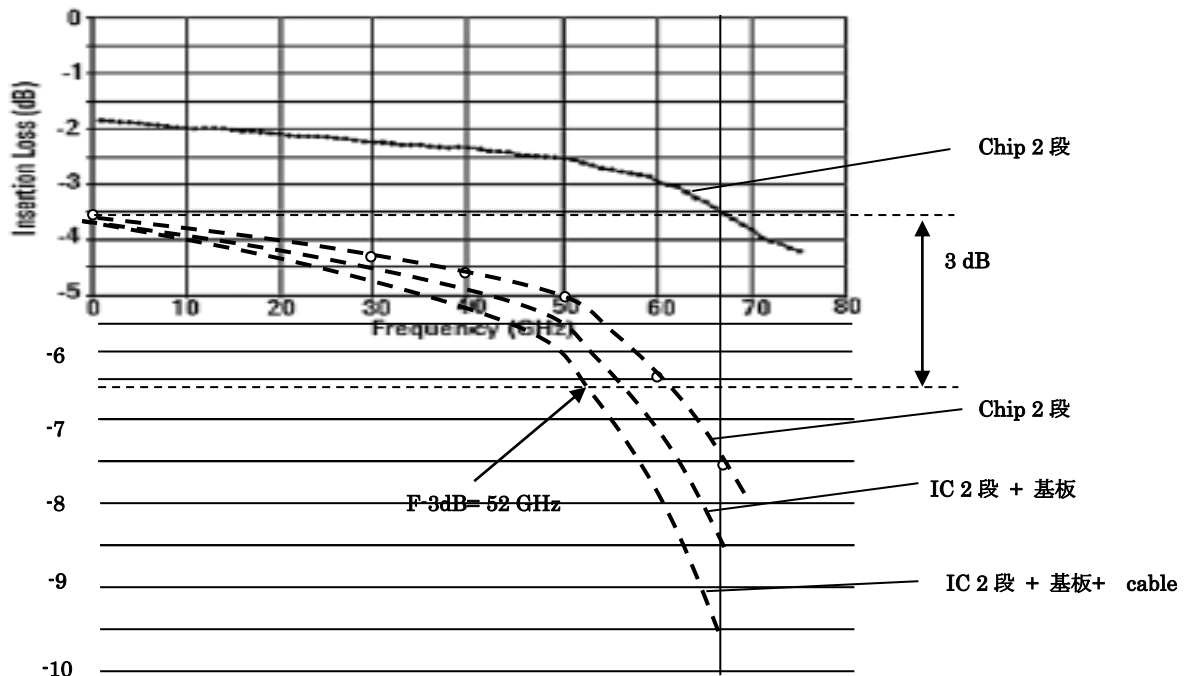


Fig.3 S-parameter for routing of COM to CH0 (rough estimation)

TBD

Fig.4 S-parameter for routing of COM to CH1

TBD

Fig.5 S-parameter for routing of COM to CH2

TBD

Fig.6 S-parameter for routing of COM to CH3

TBD

TBD mV / div

TBD ps / div

This is obtained from measured S-parameter by frequency-to-time domain conversion (input signal amplitude=200 mV, input signal tr/ta=0 ps).

Fig.7 64 Gb/s output eye diagram of PRBS 2⁷-1 NRZ signal
at routing of COM to CH0

10. Attachment

1 pieces of 20 cm DC cable harness to be connected to the pin header.