

Surface Mount High Isolation Switch

50Ω SPDT, Reflective DC to 2500 MHz

RSW-2-25P

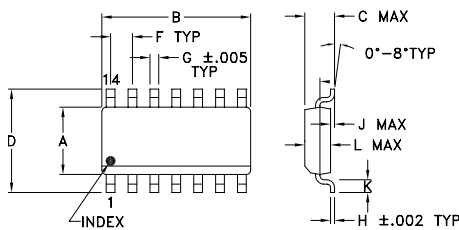
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-65°C to 150°C

Pin Connections

PORT	ke
RF IN	4
RF OUT 1	14
RF OUT 2	8
+5V	2
CONTROL 1	12
CONTROL 2	10
GND EXT.	1,3,5,6,7,9,11,13
DEMO BOARD	TB-23

Outline Drawing



SUGGESTED PATTERN
FOR PC LAYOUT

Outline Dimensions (inch)

A	B	C	D	E	F	G	H
.154	.340	.068	.236	--	.050	.016	.008
3.91	8.64	1.73	5.99	--	1.27	0.41	0.20
J	K	L	M	N	P	wt	
.010	.032	.059	.095	.028	.287	grams	
0.25	0.81	1.50	2.41	0.71	7.29	0.14	



Features

- wideband, DC to 2500 MHz
- high isolation, 50 dB typ.
- dual positive control

Applications

- automated switching networks
- transmitters/receivers

Electrical Specifications

FREQ. (MHz)	INSERTION LOSS (dB)								1dB COMPR. (dBm)				IN-OUT ISOLATION (dB)											
	DC-100 MHz		100-1000 MHz		1000-2000 MHz		2000-2500 MHz		DC-100 MHz		100-1000 MHz		1000-2000 MHz		2000-2500 MHz		DC-100 MHz		100-1000 MHz		1000-2000 MHz		2000-2500 MHz	
	f _L	f _U	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Typ.	Typ.	Typ.	Typ.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.
DC 2500			0.5	0.9	0.7	1.1	1.0	1.5	1.2	1.8	26*	27	29	28	75	55	49	44	48	43	42	30		

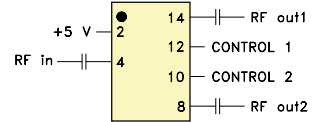
*Below 50 MHz, 1 dB compression gradually decreases to 6 dBm at 1 MHz.

Additional Specifications

Low Threshold, V	0±0.2
High Threshold, V	(Vs-0.2) Min., 7 Max. ¹
Control Current, mA	165µA Typ.
Positive Voltage, Vs	5 to 7
Positive Supply Current, mA	50-100 µA Typ.
VSWR (1)	1.3 Typ.
ON, all ports	1.7 Max.
OFF, Input	10 Typ.
Rise/Fall Time (10%-90%), ns	20 Typ.
Switching Time, 50% of control to 90% RF (Turn-on), ns	20 Typ.
10% RF (Turn-off), ns	50 Typ.
Video Leakage ² , mVp-p	1W (>500 MHz)
RF Power Input ³	

1. Absolute max: Vs +8V DC, control voltage -0.2V & +8V DC. Performance specified at Vs=5V.
2. Video leakage or break through is defined as leakage of TTL switching signal to RF output ports.
3. Above 20° derate power linearly to zero at 150°C.

connection schematic showing
external dc blocking capacitors

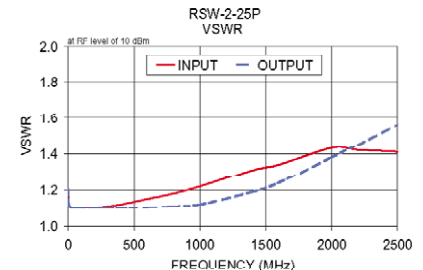
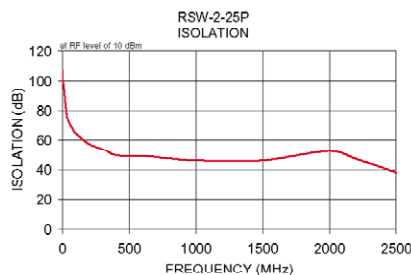


Note: impedance of the capacitor should be less than 5 ohms over the operating frequency range.

CONTROL LOGIC			
CONTROL PORT	1	2	
LOW	HIGH	ON	OFF
HIGH	LOW	OFF	ON

Typical Performance Data

FREQ. (MHz)	ON INSERTION LOSS (dB)		OFF ISOLATION (dB)		VSWR		
	TTL Low @ 0V	TTL High @ 5V	TTL Low @ 0V	TTL High @ 5V	IN	OUT	OFF
	$\bar{x}$	σ	$\bar{x}$	σ	$\bar{x}$	ON $\bar{x}$	OFF $\bar{x}$
0.50	0.57	0.00	106.63	5.38	1.20	1.20	1.19
1.00	0.56	0.00	100.28	2.50	1.15	1.15	1.15
2.00	0.55	0.00	103.85	4.87	1.13	1.13	1.13
4.00	0.54	0.00	100.18	7.91	1.12	1.12	1.12
10.00	0.54	0.01	96.68	2.02	1.11	1.11	1.11
20.00	0.53	0.00	87.15	3.20	1.10	1.10	1.10
40.00	0.53	0.00	73.96	0.57	1.10	1.10	1.10
80.00	0.55	0.00	67.09	0.40	1.10	1.10	1.10
100.00	0.56	0.00	64.43	0.29	1.10	1.10	1.09
200.00	0.60	0.00	57.31	0.27	1.10	1.10	1.10
300.00	0.62	0.00	53.92	0.22	1.11	1.10	1.10
400.00	0.65	0.00	49.51	0.10	1.12	1.10	1.09
600.00	0.67	0.00	49.03	0.26	1.15	1.10	1.09
800.00	0.70	0.00	47.31	0.22	1.18	1.11	1.10
1000.00	0.75	0.00	46.03	0.22	1.22	1.12	1.11
1400.00	0.86	0.00	45.76	0.24	1.31	1.19	1.17
1600.00	0.94	0.00	47.08	0.26	1.34	1.24	1.21
2000.00	1.10	0.01	52.10	0.87	1.43	1.38	1.35
2200.00	1.23	0.01	47.09	0.76	1.42	1.45	1.41
2500.00	1.47	0.01	38.36	0.51	1.41	1.56	1.49



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