

Surface Mount

High Isolation Switch

NON-CATALOG

RSW-2-25P+

50Ω SPDT, Reflective DC⁴ to 2500 MHz



CASE STYLE: CL620

PRICE: Contact Sales Dept.

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Maximum Ratings

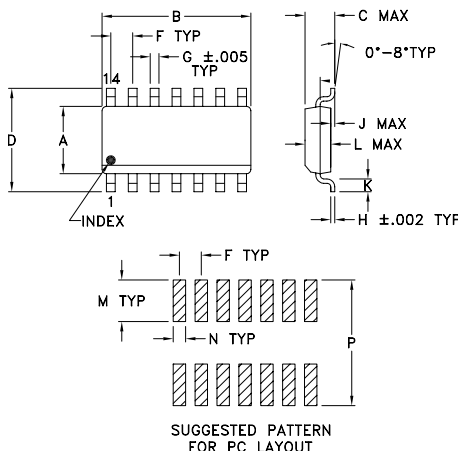
Operating Temperature	-40°C to 85°C
Storage Temperature	-65°C to 150°C
Input Power	see Table & Note 3
Vs, Control V	see Note 1

Permanent damage may occur if any of these limits are exceeded.

Pin Connections

RF IN	4
RF OUT 1	14
RF OUT 2	8
Vs (+5V)	2
CONTROL 1	12
CONTROL 2	10
GROUND	1,3,5,6,7,9,11,13
DEMO BOARD	TB-23

Outline Drawing



Outline Dimensions (inch/mm)

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
- aqueous washable

Applications

- automated switching networks
- transmitters/receivers

Electrical Specifications

FREQ. ⁴ (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.	Max.	Typ.	Typ.	Typ.	Typ.	Typ.	Typ.	Typ.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.
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

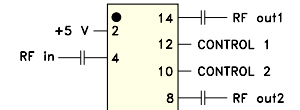
Low Threshold, V	0±0.2
High Threshold, V	(Vs-0.2) Min., 7 Max. ¹
Control Current, mA	165µA Typ.
Positive Voltage, Vs	5 to 7
Positive Supply Current, mA	50-100 µA Typ.
VSWR (:1)	
ON, all ports	1.3 Typ.
OFF, Input	1.7 Max.
Rise/Fall Time (10%-90%), ns	10 Typ.
Switching Time, 50% of control to 90% RF (Turn-on),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

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 switching signal to RF output ports.
3. Above 20" derate power linearly to zero at 150°C
4. All RF connections must be DC blocked or held at 0V DC.

CONTROL LOGIC

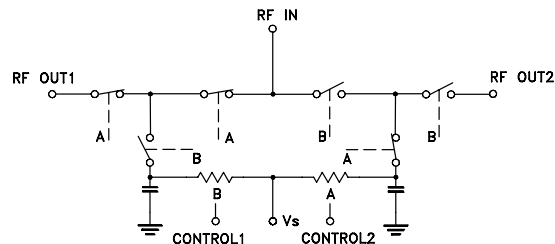
CONTROL PORTS		RF OUTPUTS	
1	2	1	2
LOW	HIGH	ON	OFF
HIGH	LOW	OFF	ON

connection schematic showing external dc blocking capacitors



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

Electrical Schematic



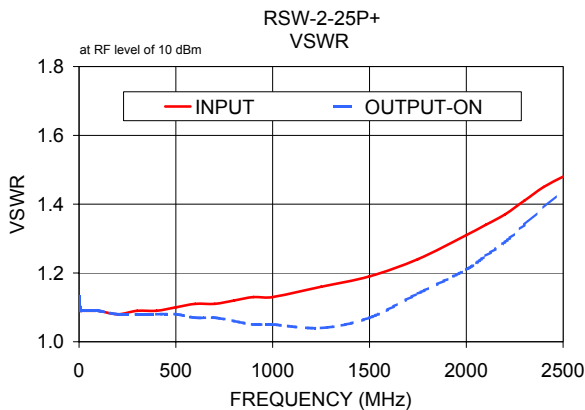
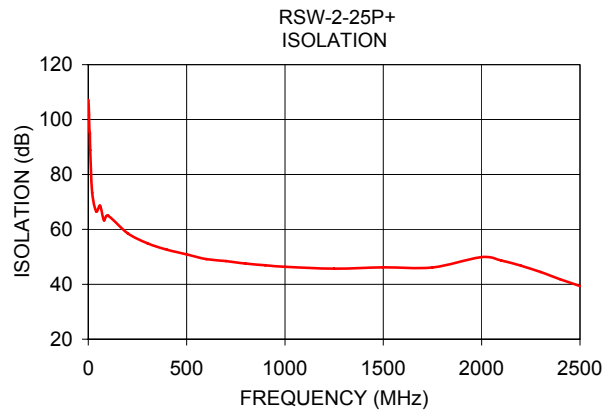
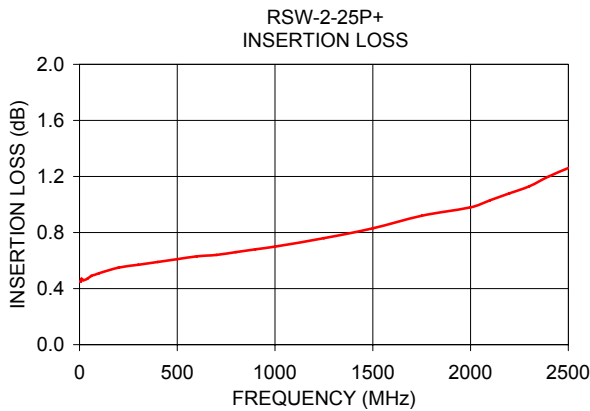
Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp



Typical Performance Data

FREQ. (MHz)	ON INSERTION LOSS (dB) Vs=5V, Control=0V/5V IN-OUT		OFF ISOLATION (dB) Vs=5V, Control=0V/5V IN-OUT		VSWR IN	VSWR OUT ON	RETURN LOSS (dB) OUT OFF
	\bar{x}	σ	\bar{x}	σ			
1.00	0.45	0.03	107.10	3.88	1.13	1.13	0.00
10.00	0.47	0.02	88.85	0.95	1.09	1.09	0.01
20.00	0.46	0.02	73.36	0.37	1.09	1.09	0.02
40.00	0.47	0.02	66.54	0.35	1.09	1.09	0.03
60.00	0.49	0.02	68.60	0.20	1.09	1.09	0.04
80.00	0.50	0.02	63.30	0.26	1.09	1.09	0.05
100.00	0.51	0.02	65.03	0.10	1.09	1.09	0.05
200.00	0.55	0.02	58.59	0.13	1.08	1.08	0.07
300.00	0.57	0.02	54.95	0.15	1.09	1.08	0.09
400.00	0.59	0.02	52.61	0.13	1.09	1.08	0.11
500.00	0.61	0.02	50.89	0.14	1.10	1.08	0.12
600.00	0.63	0.02	49.18	0.15	1.11	1.07	0.13
700.00	0.64	0.02	48.44	0.14	1.11	1.07	0.15
800.00	0.66	0.02	47.57	0.16	1.12	1.06	0.17
900.00	0.68	0.02	46.91	0.16	1.13	1.05	0.19
1000.00	0.70	0.02	46.38	0.18	1.13	1.05	0.22
1250.00	0.76	0.02	45.68	0.21	1.16	1.04	0.28
1500.00	0.83	0.02	46.19	0.24	1.19	1.07	0.35
2000.00	0.98	0.02	49.93	1.44	1.31	1.21	0.52
2100.00	1.03	0.02	48.67	2.02	1.34	1.25	0.56
2200.00	1.08	0.02	46.78	2.02	1.37	1.29	0.62
2300.00	1.13	0.02	44.49	1.84	1.41	1.34	0.68
2400.00	1.20	0.02	41.78	1.56	1.45	1.39	0.75
2500.00	1.26	0.02	39.35	1.41	1.48	1.44	0.83



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