

50Ω SPDT, Absorptive DC to 4500 MHz

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power and Voltage	see note 1



RF IN	6
RF OUT 1	1
RF OUT 2	4
TTL IN	2
+5V	5
-5V	7
TTL GND	3
GND	8
GND	PADDLE

A	B	C	D	E	F	G	H	J	K
--	.193	.035	.236	--	.050	.017	.008	--	.024
--	4.90	0.90	6.00	--	1.27	0.43	0.20	--	0.60
L	M	N	P	Q	R	S	T		wt
--	.050	.030	.270	.030	.110	.020	--		grams
--	1.27	0.76	6.86	0.76	2.79	0.51	--		0.08

[illegible]

NOTE:
CAPACITORS C1 & C2: $10 \pm 2\%$ pF, 0603 SIZE

1. TRACE WIDTH IS SHOWN FOR ROGERS R04350 WITH DIELECTRIC THICKNESS .020" \pm .002".
COPPER: 1/2 OZ. EACH SIDE.
FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

	DENOTES PCB COPPER LAYOUT
	DENOTES COPPER LAYER PATTERN FREE OF SOLDERMASK

- high isolation, 65 dB typ. at 1 GHz
- low insertion loss, 0.7 dB typ.
- integral TTL driver

- automated switching networks
- transmitters/receiver isolation

FREQ. (MHz)		INSERTION LOSS (dB)								1dB COMPR. (dBm)				IN-OUT ISOLATION (dB)											
f _L	f _U	DC-100 MHz		100-1000 MHz		1000-2000 MHz		2000-4500 MHz		DC-100 MHz		100-1000 MHz		1000-2000 MHz		2000-4500 MHz		DC-100 MHz		100-1000 MHz		1000-2000 MHz		2000-4500 MHz	
		Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.
DC	4500	0.6	0.9	0.7	1.1	0.9	1.4	1.4	1.9	20 ¹	25	25	24.7	80	65	65	55	55	45	38	27				

[†]drops to 17.0 dBm at 10 MHz

Power Supply Voltage +5V \pm .20 -5V \pm .20	Current, mA 9 max. 9 max.	
TTL Control low threshold high threshold	Voltage, V 0 min., 0.8 max. 2 min., 5 max.	Current, mA 0.2 max. 5 max.
VSWR* (:1)	1.15 typ. to 2GHz, 1.3 typ. to 4.5 GHz	
Rise/Fall Time, ns	5 typ., 15 max.	
Switching Time, ns turn on/off	10 typ., 20 max.	
Video leakage**, mV p-p	30 typ.	

** Video leakage or break through is defined as leakage of TTL switching signal to RF output ports.

1. Absolute maximum power and voltage rating:
RF input power, 250mW
Supply voltage: $\pm 6V$ DC
2. All RF inputs must be DC blocked or held at 0V DC

TTL	CONTROL LOGIC	
	RF1	RF2
LOW	ON	OFF
HIGH	OFF	ON



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REV. D
M98898
SWMA-2-50DR
ED-10679
RS/YB/CP
060721

SWMA-2-50DR+ SWMA-2-50DR

Typical Performance Data

FREQ. (MHz)	ON INSERTION LOSS (dB) Control @ -5V IN-OUT		OFF ISOLATION (dB) Control @ 0V IN-OUT		VSWR		
					IN	ON X	OUT OFF X
	\bar{x}	σ	\bar{x}	σ			
0.30	0.51	0.01	111.30	6.00	1.11	1.11	1.11
0.50	0.50	0.00	113.10	3.27	1.12	1.12	1.12
0.80	0.49	0.00	112.55	4.74	1.12	1.12	1.12
1.00	0.49	0.00	115.60	6.23	1.12	1.12	1.12
4.00	0.50	0.01	106.76	3.29	1.12	1.12	1.12
8.00	0.51	0.01	101.01	1.53	1.11	1.11	1.11
20.00	0.49	0.01	88.20	1.46	1.11	1.11	1.11
60.00	0.52	0.01	79.18	0.66	1.10	1.10	1.10
100.00	0.53	0.01	78.80	0.59	1.10	1.10	1.10
400.00	0.61	0.01	81.34	0.60	1.13	1.13	1.12
600.00	0.64	0.01	85.05	4.42	1.14	1.14	1.14
1000.00	0.70	0.01	68.29	1.98	1.15	1.17	1.19
1500.00	0.78	0.01	57.36	1.21	1.18	1.22	1.28
2000.00	0.88	0.01	50.71	0.80	1.28	1.32	1.39
2500.00	1.05	0.01	43.74	0.52	1.41	1.45	1.51
3000.00	1.25	0.01	40.47	0.42	1.54	1.53	1.55
3500.00	1.44	0.01	35.31	0.33	1.55	1.52	1.45
4000.00	1.74	0.01	31.80	0.15	1.41	1.33	1.22
4250.00	1.72	0.03	31.76	0.24	1.32	1.22	1.16
4500.00	1.60	0.02	30.69	0.16	1.19	1.21	1.12

