

High Isolation

# Switches

**NEW!**

## SWM-2-50DR SWMA-2-50DR

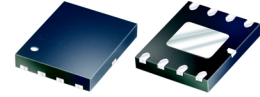
SPDT, DC to 4.5 GHz

### Features

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

### Applications

- transmitter/receiver isolation
- automated switching networks



CASE STYLE: DL1020  
PRICE: \$5.30 ea. QTY. (10-49)

### Electrical Specifications (T<sub>AMB</sub>= 25°C)

MODEL NO.	FREQ. (GHz)	REFLECTIVE	ABSORPTIVE	INSERTION LOSS (dB)								IN-OUT ISOLATION (dB)								1 dB COMPRESSION (dBm)			
				FREQUENCY BAND								FREQUENCY BAND								FREQUENCY BAND			
				A1		A		B		C		A1		A		B		C		A1*	A	B	C
Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Typ.	Typ.	Typ.				
SWM-2-50DR	DC-4.5	•	•	0.6	0.9	0.7	1.2	0.9	1.4	1.6	1.9	75	65	55	45	45	37	35	27	20	25	25	24
SWMA-2-50DR	DC-4.5	•	•	0.6	0.9	0.7	1.1	0.9	1.4	1.4	1.9	80	65	65	55	55	45	38	27	20	25	25	24.7

A1= DC-100 MHz, A= 0.1-1 GHz, B= 1-2 GHz, C= 2-4.5 GHz  
\* Drops to 17.0 dBm at 10 MHz.

### Switching Specifications

Power Supply Voltage	Current, mA
+5V±.20	9 max.
-5V±.20	9 max.
TTL Control	Voltage, V    Current, mA    Control Logic
low threshold	0 min., 0.8 max.    0.2    ON    OFF
high threshold	2 min., 5 max.    5    OFF    ON
VSWR* (:1)	1.15 typ. to 2 GHz, 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.

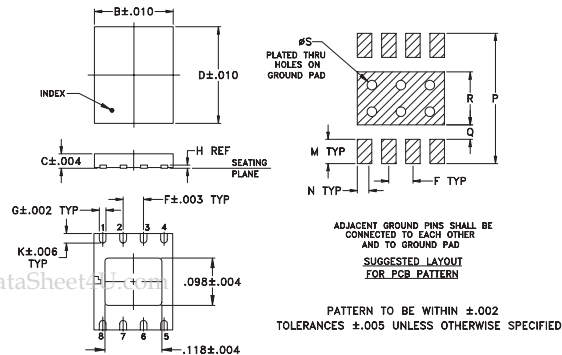
### NOTES:

- Operating Temperature, -40°C to 85°C  
Storage Temperature, -55°C to 100°C  
\* For all states of absorptive switch, and for reflective switch in "ON" condition; for reflective switch "OFF" port, 5:1 VSWR typ.  
\*\* Video leakage or break through is defined as leakage of TTL switching signal to RF output ports.
1. Absolute maximum power and voltage ratings:  
RF input power, 250 mW  
Supply voltage: ±6 V DC
  2. OFF state of RF output is low impedance.
  3. Prices and specifications subject to change without notice.

### Pin Configuration

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

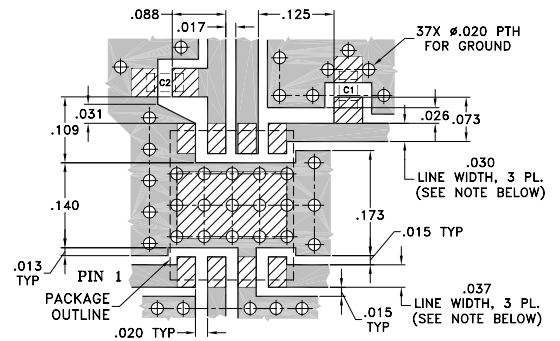
### Outline Drawing



### Outline Dimensions (inch)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	wt.
—	.193	.035	.236	—	.050	.017	.008	—	.024	—	.050	.030	.270	.030	.110	.020	grams
—	4.90	0.90	6.00	—	1.27	0.43	0.20	—	0.60	—	1.27	0.76	6.86	0.76	2.79	0.51	.08

### Demo Board MCL P/N: TB-161 Suggested PCB Layout (PL-122)



- CAPACITORS C1 & C2: 10 ± 2% pF, 0603 SIZE
- NOTE:
1. TRACE WIDTH IS SHOWN FOR ROGERS R04350 WITH DIELECTRIC THICKNESS .020" ± .002". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED
  2. LOCATION OF PTH'S DESIGNATED ACCORDING TO ARTWORK OF TEST BOARD B14-TB-161 (CONTACT WITH MINI-CIRCUITS)
  3. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT  
■ DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK



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