High Isolation

Switches

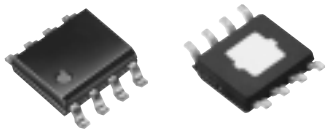
NEW!

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: XX746
PRICE: $5.30 ea. QTY. (10-49)

Electrical Specifications (T_{AMB}= 25°C)

MODEL NO.	FREQ. (GHz)	REFLECTIVE	ABSORPTIVE	INSERTION LOSS (dB) FREQUENCY BAND A1 Typ.	A1 Max.	A Typ.	A Max.	B Typ.	B Max.	C Typ.	C Max.	IN-OUT ISOLATION (dB) FREQUENCY BAND A1 Typ.	A1 Min.	A Typ.	A Min.	B Typ.	B Min.	C Typ.	C Min.	1 dB COMPRESSION (dBm) FREQUENCY BAND A1* Typ.	A Typ.	B Typ.	C 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

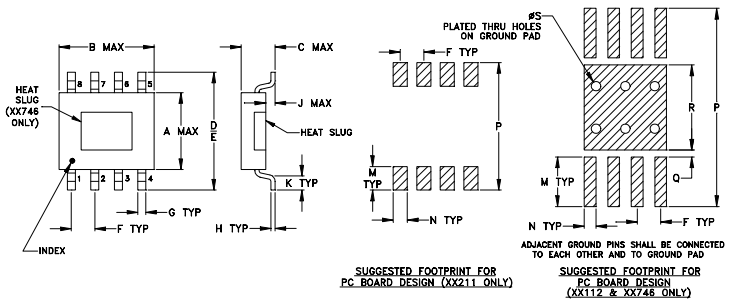
Power Supply Voltage	Current, mA			
+5V±.20	9 max.			
-5V±.20	9 max.			
TTL Control	Voltage, V	Current, mA max.	Control Logic RF1	RF2
low threshold	0 min., 0.8 max.	0.2	ON	OFF
high threshold	2 min., 5 max.	5	OFF	ON
VSWR* (:1)	1.15 typ. to 2 GHz, 1.3 typ. to 4.5 GHz			
Rise/Fall Time, ns	5 typ., 15 max.			
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
DEMO BOARD	TB-161

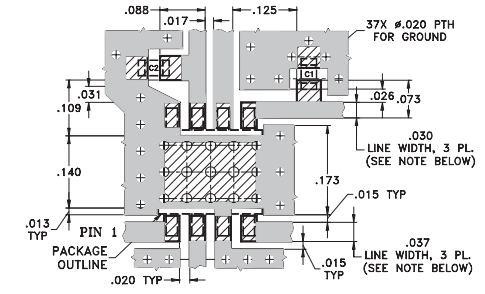
Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	wt.
.163	.202	.066	.250	.220	.050	.017	.009	.005	.025	—	.050	.030	.270	.030	.110	.020	grams
4.14	5.13	1.68	6.35	5.59	1.27	0.43	0.23	0.13	0.64	—	1.27	0.76	6.86	0.76	2.79	0.51	.08

Suggested PCB Layout (PL-122)



NOTE:
1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350 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

REV. A
M84157
ED-10679
SWM-2-50DR
RS/YB/CP
021119

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