

High Isolation

Switches

NEW!

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

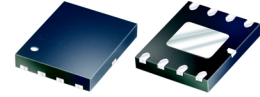
SPDT, DC to 4.5 GHz

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_{AMB}= 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. | Min. | 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. | max. 0.2 | RF1 ON RF2 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. | | |

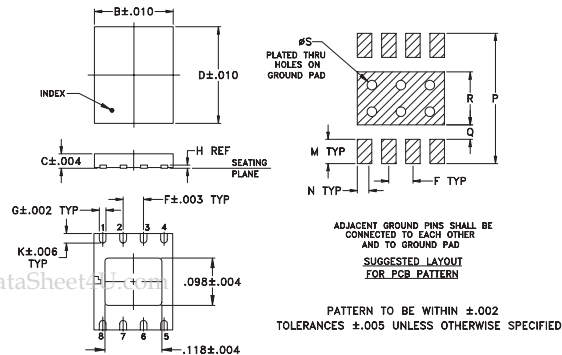
NOTES:

- 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 |

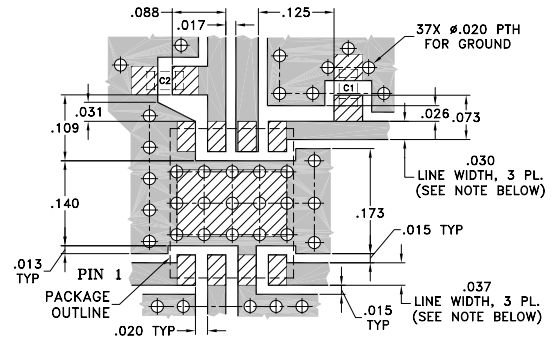
Outline Drawing



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)



- 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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