

Surface Mount Switch

50Ω SPDT, Absorptive DC to 4.6 GHz

KSWA-2-46+
KSWA-2-46



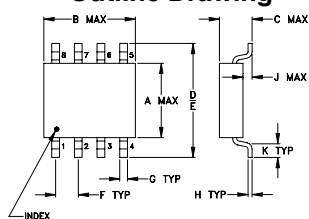
Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 150°C
Input Power	see Note 1
Control V	see Note 2

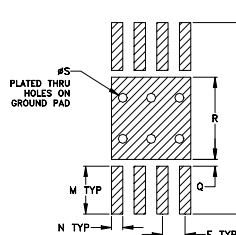
Pin Connections

RF IN	2
RF OUT 1	5
RF OUT 2	8
CONTROL 1	3
CONTROL 2	1
GROUND	4,6,7

Outline Drawing



PCB Land Pattern

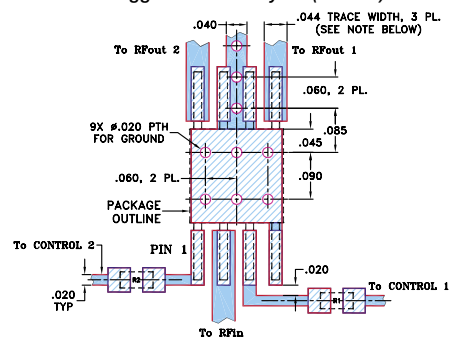


Suggested Layout,
Tolerance to be within ±0.02

Outline Dimensions (inch)

A	B	C	D	E	F	G	H
.180	.180	.070	.400	.350	.050	.015	.005
4.57	4.57	1.78	10.16	8.89	1.27	0.38	0.13
J	K	M	N	P	Q	R	S
.005	.070	.105	.025	.420	.015	.180	.020
0.13	1.78	2.67	0.64	10.67	0.38	4.57	0.51
wt.							
							grams
							0.15

Demo Board MCL P/N: TB-204 Suggested PCB Layout (PL-217)



NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; 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.
RESISTORS R1, R2: 100 Ohm, 0603 SIZE.
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- wideband, DC to 4.6 GHz
- low insertion loss, 1.3 dB typ.
- hermetically sealed
- aqueous washable

Applications

- PCN
- cellular
- 2-way radio
- receiver antenna switching

CASE STYLE: XX112
PRICE: \$58.95 ea. QTY (1-9)

+ RoHS compliant in accordance
with EU Directive (2002/95/EC)

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

Electrical Specifications

FREQ. (GHz)	INSERTION LOSS (dB)								1dB COMPR. (dBm)			IN-OUT ISOLATION (dB)								
	DC-200 MHz		200-1000 MHz		1000-3000 MHz		3000-4600 MHz		DC-200 MHz		200-1000 MHz		1000-4600 MHz		DC-200 MHz		200-1000 MHz		1000-4600 MHz	
f _L	f _U	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	
DC	4.6	0.8	1.1	0.9	1.3	1.5	2.6	1.5	2.6	10	17	27	60	45	50	40	30	25		

Additional Specifications

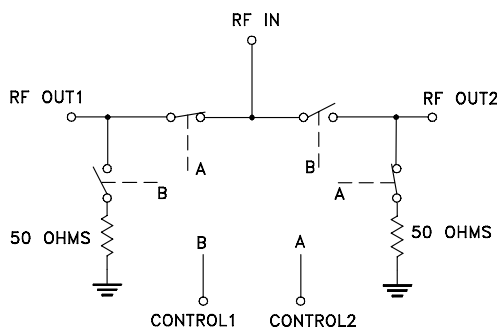
Control Voltage, V	
Low State	-0.2 to 0
High State (negative)	-8
for compression specs	-5 to -8
for other specs	
Control Current, mA	2.5 typ. at -8V
VSWR(:1)	1.3 typ.
Rise/Fall time (10%-90%), ns	2 typ.
Switching time, 50% of Control to 90% RF(Turn-on), ns	4 typ.
10% RF(Turn-off), ns	2.5 typ.
Video Leakage, mVp-p 0/-5V Control	30 typ.
MTBF, hrs @ 100°C case	11X10 ⁶

CONTROL LOGIC

Control Ports		RF outputs	
1	2	1	2
-V	0	On	Off
0	-V	Off	On

1. Max. Input RF power, +27 dBm except below 500 MHz +24 dBm
2. Control voltage (-10V) maximum.
3. Video leakage or break through is defined as leakage of switching signal to RF output ports.
4. All RF pins must be DC blocked or held at 0V DC.

Electrical Schematic



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RF/IF MICROWAVE COMPONENTS

REV. C
M102713
KSWA-2-46
WP/CP
070424
Page 1 of 2

Typical Performance Data

FREQ. (MHz)	ON		INSERTION LOSS (dB)		OFF ISOLATION (dB)		VSWR	
	Control @ 0V/-5V		Control @ 0V/-5V		Control @ 0V/-5V		Control @ 0V/-5V	
	IN-OUT		IN-OUT		IN-OUT		IN-OUT	
	— X	σ	— X	σ	— X	— X	ON X	OFF X
3.00	0.55	0.01	82.53	2.67	1.12		1.12	1.02
5.00	0.55	0.02	85.42	4.39	1.12		1.12	1.02
10.00	0.55	0.02	84.71	7.84	1.13		1.13	1.02
20.00	0.63	0.04	74.57	2.52	1.13		1.12	1.02
50.00	0.62	0.02	64.87	0.76	1.12		1.12	1.02
100.00	0.67	0.02	58.56	0.45	1.12		1.12	1.02
200.00	0.72	0.02	54.29	0.36	1.12		1.11	1.02
500.00	0.80	0.02	51.52	0.42	1.13		1.12	1.02
911.55	0.90	0.02	48.87	1.18	1.16		1.11	1.04
1000.00	0.90	0.03	48.56	1.23	1.17		1.10	1.05
1581.00	1.01	0.04	44.26	1.63	1.20		1.04	1.11
2107.00	1.10	0.03	39.70	1.28	1.30		1.09	1.14
2370.00	1.15	0.05	37.89	1.12	1.31		1.11	1.15
2489.55	1.26	0.06	37.25	0.97	1.32		1.14	1.17
2752.55	1.32	0.07	35.59	0.62	1.41		1.22	1.23
3278.55	1.26	0.04	31.74	1.06	1.44		1.35	1.29
3804.55	1.63	0.09	28.75	0.72	1.39		1.41	1.38
4330.55	1.52	0.06	25.75	0.41	1.49		1.78	1.65
4474.00	1.47	0.09	25.51	0.36	1.57		1.94	1.73
4600.00	1.98	0.06	25.42	0.32	1.55		1.87	1.67

