

SWITCHES

SPDT, DC to 5 GHz

YSW-2-50DR+ YSW-2-50DR

PIN CONFIGURATION

PORT	ef
RF IN	4
RF OUT 1	12
RF OUT 2	14
Control	2
+5V	19
-5V	7
NOT USED	9,17
GND EXT.	All other pins

FEATURES

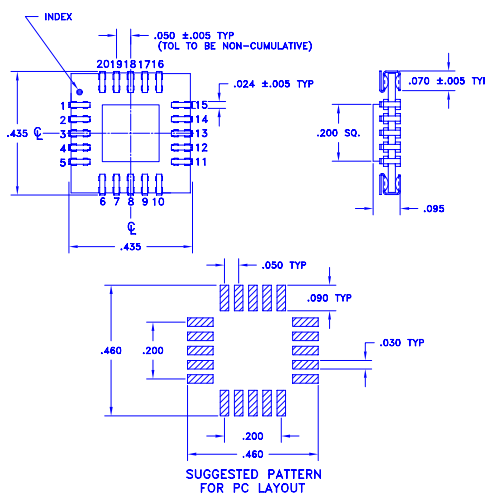
- high isolation, 67 dB typical at 5 MHz
- low video break thru, 30 mV P-P typical.
- solder plated J-leads for good solderability & strain relief

CASE STYLE: 99-01-560

+ 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.

OUTLINE DRAWING



SPECIFICATIONS

FREQ. GHz	REFLECTIVE	INSERTION LOSS, dB						1dB COMPRESSION, dBm						IN-OUT ISOLATION, dB						CONNECTION
		FREQUENCY BAND						FREQUENCY BAND						FREQUENCY BAND						
		A		B		C		A		B		C		A		B		C		
DC-5	●	0.6	1.1	0.8	1.4	1.6	2.2▲	20	15	23	19	21	18	44	38	38	28	20	14	ef

A= DC - 500 MHz, B= 500 - 2000 MHz, C= 2000 - 5000 MHz

additional specifications

Model Series	YSW
Control Voltage	
Low threshold, V	0 min. , 0.8 max.
High threshold, V	3.5 min. , 5.5 max.
Control Current	
High V, mA	5 max.
Low V, mA	0.2 max.
Positive Supply V.	5+0.5; 5-0.1
Negative Supply V.	-5-0.5; -5+0.1
+5V power supply current, mA	16 typ., 20 max.
-5V power supply current, mA	14 typ., 20 max.
VSWR (:1)	1.4 typ., 2.0 max.*
Rise/ Fall time (10%-90%), ns	6 typ., 12 max.
Switching time, 50% of Control to 90% RF (Turn-on), ns	20 typ., 40 max.
to 10% RF (Turn-off), ns	
**Video Leakage, mVp-p	30 typ.
Temperature, °C operating	-20 to 85
storage	-55 to 100

NOTES:

- * For output ports when in "ON" condition, up to 3.5 GHz. For 3.5 - 5 GHz 3.0 Max.
- ** Video leakage or break through is defined as leakage of TTL switching signal to RF output ports.
- ▲ For 4000-5000 MHz, Insertion loss 2.8 dB max.
- Typical isolation in YSW at 5 MHz is 67 dB and decreases 5 dB/octave from 5-1000 MHz.
- 1. Absolute maximum power, voltage and current ratings: RF input power, +20 dBm @ 50 MHz, +27 dBm for f>500 MHz.
- 2. OFF state of RF output is low impedance.

control logic

Model	Control Port	RF outputs	
Series		1	2
YSW	High	Off	On

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IF/RF MICROWAVE COMPONENTS

REV. D
M111708
ED-6349/1
YSW250DR
RS/1D/CP
090108

RF Reflective Switch SPDT

YSW-2-50DR

Typical Performance Data

RF (MHz)	INSERTION LOSS		ISOLATION		VSWR			
	(dB)		(dB)		(:1)			
	RF IN-RF1	RF IN-RF2	RF IN-RF1	RF IN-RF2	RF IN (ON1)	RF IN (ON2)	RF1 (ON)	RF2 (ON)
0.5	0.52	0.51	83.71	83.01	1.13	1.13	1.13	1.13
1.0	0.54	0.53	89.09	88.71	1.12	1.13	1.12	1.12
2.0	0.54	0.53	90.42	92.75	1.12	1.12	1.12	1.12
4.0	0.54	0.53	85.92	83.38	1.12	1.12	1.12	1.12
6.0	0.55	0.54	81.12	80.95	1.12	1.12	1.12	1.12
8.0	0.55	0.54	80.50	79.45	1.12	1.12	1.12	1.12
10.0	0.55	0.55	79.32	78.89	1.12	1.12	1.12	1.12
20.0	0.58	0.58	74.06	73.20	1.11	1.11	1.11	1.11
40.0	0.60	0.60	68.61	68.03	1.11	1.11	1.11	1.11
60.0	0.60	0.60	65.39	64.80	1.11	1.11	1.11	1.11
80.0	0.61	0.60	63.10	62.39	1.11	1.11	1.11	1.11
100.0	0.62	0.61	61.21	60.61	1.11	1.11	1.11	1.11
200.0	0.65	0.64	55.39	54.87	1.13	1.11	1.11	1.11
400.0	0.69	0.68	49.62	49.17	1.16	1.12	1.10	1.10
500.0	0.70	0.69	47.67	47.17	1.17	1.12	1.08	1.09
600.0	0.71	0.70	46.08	45.55	1.19	1.12	1.06	1.08
800.0	0.74	0.73	43.36	42.63	1.21	1.12	1.03	1.07
1000.0	0.78	0.76	41.28	40.36	1.22	1.11	1.06	1.08
1200.0	0.82	0.81	39.57	38.73	1.23	1.10	1.12	1.10
1400.0	0.88	0.85	38.23	37.80	1.23	1.09	1.19	1.13
1600.0	0.94	0.87	36.25	36.22	1.25	1.09	1.28	1.17
1800.0	0.98	0.88	35.07	35.43	1.31	1.13	1.38	1.20
2000.0	1.06	0.92	34.09	34.88	1.38	1.19	1.48	1.24
2250.0	1.15	0.99	33.13	34.46	1.43	1.26	1.56	1.30
2500.0	1.20	1.06	32.50	34.08	1.40	1.32	1.54	1.34
2750.0	1.21	1.14	32.44	33.70	1.33	1.36	1.43	1.35
3000.0	1.20	1.20	33.29	33.88	1.25	1.38	1.24	1.29
3250.0	1.21	1.23	33.25	33.41	1.27	1.39	1.11	1.25
3500.0	1.27	1.27	33.74	33.47	1.38	1.41	1.20	1.25
3750.0	1.34	1.31	34.39	34.16	1.46	1.41	1.34	1.29
4000.0	1.42	1.36	35.01	34.41	1.46	1.40	1.40	1.32
4250.0	1.53	1.46	35.95	34.86	1.40	1.34	1.38	1.31
4500.0	1.50	1.46	41.54	39.43	1.33	1.30	1.35	1.30
4750.0	1.52	1.48	39.18	38.89	1.34	1.33	1.33	1.33
5000.0	1.52	1.50	37.13	36.84	1.37	1.36	1.35	1.35

RF Reflective Switch SPDT

YSW-2-50DR

Typical Performance Curves

