

# Coaxial Switch

## 50Ω SPDT, TTL Driver, Absorptive DC to 5 GHz

# ZYSWA-2-50DR



### Maximum Ratings

Operating Temperature	-20°C to 85°C
Storage Temperature	-55°C to 100°C
Input Power	+20dBm
Permanent damage may occur if any of these limits are exceeded.	

### Coaxial/Pin Connections

RF IN	3
RF OUT 1	2
RF OUT 2	1
TTL IN	4
+5V	+5VDC
-5V	-5VDC

### Features

- wideband, DC to 5 GHz
- fast rise/fall time, 6ns typ.
- low video break thru, 30 mV P-P typ.

### Applications

- antenna switching
- instrumentation
- cellular/PCN
- transmitters/receivers
- satellite communications

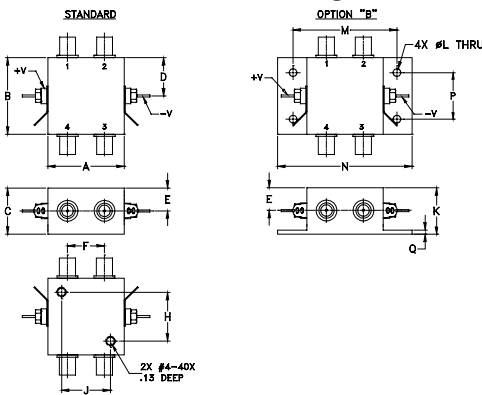
CASE STYLE: ZZ121

Connectors	Model	Price	Qty.
SMA	ZYSWA-2-50DR	\$69.95	(1-9)
BRACKET (OPTION "B")		\$2.50	(1+)

### Electrical Specifications

FREQ. (GHz)	INSERTION LOSS (dB)						1dB COMPR. (dBm)						IN-OUT ISOLATION (dB)					
	DC-500 MHz		500-2000 MHz		2000-5000 MHz		DC-500 MHz		500-2000 MHz		2000-5000 MHz		DC-500 MHz		500-2000 MHz		2000-5000 MHz	
f <sub>L</sub> f <sub>U</sub>	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.
DC 5	1.1	1.5	1.4	1.9	1.9	—	18	13	20	17	22.5	20	42	38	31	27	20	19

### Outline Drawing



### Outline Dimensions (inch/mm)

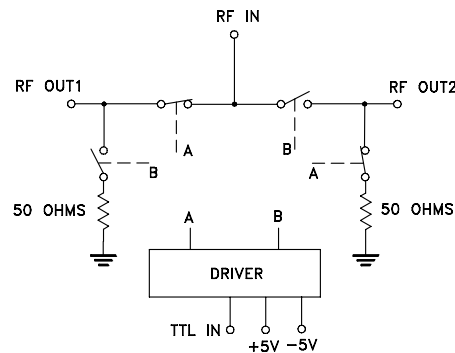
A	B	C	D	E	F	G	H
1.25	1.25	0.75	0.63	0.38	0.61	--	0.800
31.75	31.75	19.05	16.00	9.65	15.49	--	20.32
J	K	L	M	N	P	Q	wt
0.800	0.76	0.125	1.688	2.18	0.75	0.07	grams
20.32	19.30	3.18	42.88	55.37	19.05	1.78	85

Additional Specifications			
Control Voltage	0/5.5, max.	VSWR:(1)	1.4 typ., 2.0 max. DC to 3 GHz
Low Threshold, max.	0.8	Rise/Fall time (10%-90%), ns	2.5 max. 3 to 5 GHz
High Threshold, min.	2.0		
Control Current, mA	High V: 2 typ., 5 max Low V: 0.2 max.	Switching time, 50% of Control to 90% RF (Turn-on), ns	6 typ., 12 max.
Positive Supply, V	+5+0.5/-0.1	10% RF (Turn-off), ns	20 typ., 40 max.
Negative Supply, V	-5-0.5/+0.1	**Video Leakage, mVp-p	30 typ.
Positive Supply Current, mA	20 max.	0/-5V Control	
Negative Supply Current, mA	20 max.		

Control Port	RF outputs	
	1	2
Low	On	Off
High	Off	On

1. OFF state at RF output is low impedance  
 \*\* Video leakage or break through is defined as leakage of TTL switching signal to RF output ports.  
 2. All RF connections must be DC blocked or held at 0V DC

### Electrical Schematic



**Mini-Circuits**  
 ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuits' applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp).

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 M99070  
 ZYSWA-2-50DR  
 ED-6966/2  
 DJ/TD/CP/AM  
 090108

## Typical Performance Data

FREQ. (MHz)	ON				OFF				VSWR		
	TTL Low @ 0V		AMP. UNBAL.		TTL High @ 5V		ISOLATION (dB)		IN	OUT	
	IN-OUT 1				IN-OUT 1		DELTA			$\bar{X}$	$\bar{X}$
	$\bar{X}$	$\sigma$	$\bar{X}$	$\sigma$	$\bar{X}$	$\sigma$	$\bar{X}$	$\sigma$			
3.00	0.84	0.01	0.01	0.01	65.32	0.46	0.44	0.35	1.16	1.16	1.17
5.00	0.83	0.01	0.01	0.01	65.59	1.00	0.97	0.43	1.17	1.16	1.17
10.00	0.83	0.02	0.01	0.01	65.42	0.63	0.56	0.20	1.17	1.16	1.17
20.00	0.89	0.04	0.02	0.02	66.30	0.68	0.76	0.63	1.17	1.16	1.17
50.00	0.85	0.01	0.01	0.01	65.63	1.12	1.37	0.50	1.17	1.16	1.18
100.00	0.87	0.02	0.01	0.01	61.02	0.81	1.22	1.06	1.17	1.16	1.18
200.00	0.89	0.02	0.01	0.01	53.60	0.42	0.37	0.32	1.18	1.16	1.18
500.00	0.95	0.02	0.00	0.01	43.89	0.27	0.52	0.15	1.22	1.16	1.20
1000.00	1.05	0.02	0.01	0.01	37.39	0.23	0.62	0.12	1.28	1.15	1.23
1150.64	1.05	0.02	0.01	0.01	36.05	0.25	0.62	0.11	1.29	1.15	1.24
1724.45	1.22	0.02	0.04	0.02	32.34	0.30	0.73	0.08	1.29	1.14	1.26
2000.00	1.13	0.01	0.01	0.01	30.92	0.28	0.76	0.06	1.27	1.13	1.25
2441.73	1.17	0.01	0.01	0.01	29.06	0.27	0.69	0.11	1.22	1.15	1.22
2561.27	1.25	0.03	0.02	0.01	28.66	0.27	0.62	0.15	1.20	1.15	1.22
3135.09	1.42	0.05	0.06	0.00	26.96	0.30	0.23	0.14	1.11	1.21	1.10
3708.91	1.48	0.04	0.06	0.02	25.86	0.28	0.33	0.18	1.14	1.27	1.16
4282.73	1.58	0.06	0.12	0.04	25.02	0.36	0.41	0.23	1.23	1.33	1.24
4713.09	1.73	0.05	0.02	0.01	24.78	0.31	0.62	0.26	1.21	1.33	1.24
4856.55	1.80	0.05	0.03	0.02	24.69	0.32	0.65	0.26	1.18	1.34	1.25
5000.00	1.80	0.06	0.04	0.02	24.46	0.30	0.58	0.26	1.15	1.34	1.26

