

# Coaxial Switch

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

## ZYSWA-2-50DR



CASE STYLE: ZZ121

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

### Maximum Ratings

Operating Temperature	-20°C to 85°C
Storage Temperature	-55°C to 100°C
Input Power	+20dBm

### 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.

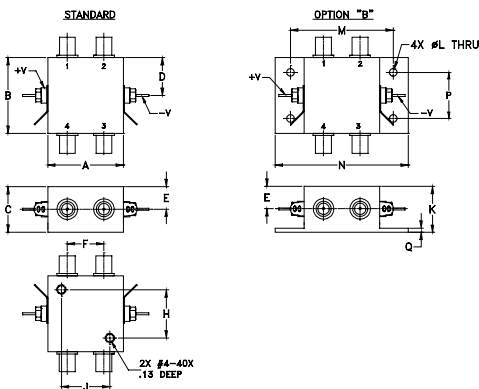
### Applications

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

### 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		
$f_L$ $f_U$	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)

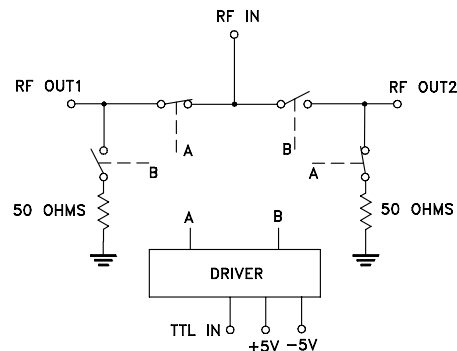
A	B	C	D	E	F	G	H
1.25	1.25	0.75	0.63	0.38	0.61	--	0.800
31.75	31.75	19.05	16.00	9.65	15.49	--	20.32
J	K	L	M	N	P	Q	wt
0.800	0.76	0.125	1.688	2.18	0.75	0.07	grams
20.32	19.30	3.18	42.88	55.37	19.05	1.78	85

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

ALL NEW  
minicircuits.com

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: [www.minicircuits.com](http://www.minicircuits.com)

RF/IF MICROWAVE COMPONENTS

REV. C  
M99070  
ZYSWA-2-50DR  
ED-6966/2  
DJ/TD/CP/AM  
080131

## Typical Performance Data

FREQ. (MHz)	ON TTL Low @ 0V IN-OUT 1				INSERTION LOSS (dB) AMP. UNBAL.				OFF TTL High @ 5V IN-OUT 1				ISOLATION (dB) DELTA				VSWR		
															IN	OUT			
	$\bar{x}$	$\sigma$	$\bar{x}$	$\sigma$	$\bar{x}$	$\sigma$	$\bar{x}$	$\sigma$	$\bar{x}$	$\sigma$	$\bar{x}$	$\sigma$	$\bar{x}$	$\sigma$	$\bar{x}$	$\bar{x}$	$\bar{x}$		
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								

