

# Coaxial Switch

# NON-CATALOG

# ZYSWA-2-50DR

## 50Ω SPDT, TTL Driver, Absorptive DC<sup>2</sup> to 5 GHz



CASE STYLE: ZZ121

Connectors Model  
**SMA** ZYSWA-2-50DR  
**BRACKET (OPTION "B")**

### 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.

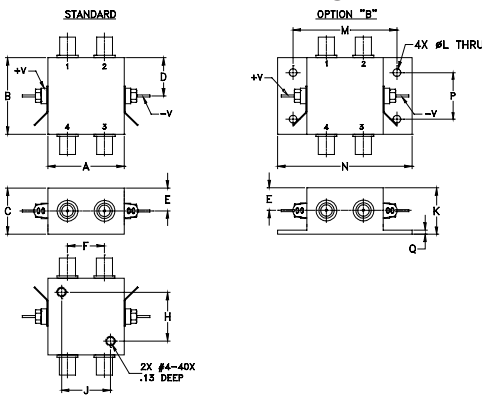
### Applications

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

### Electrical Specifications

FREQ. <sup>2</sup> (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)

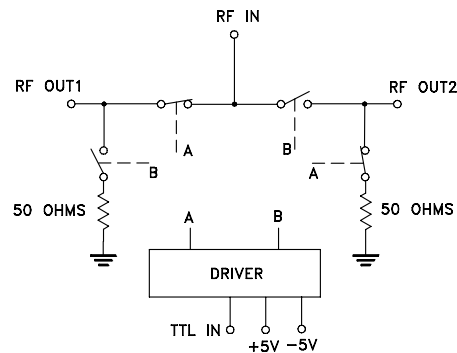
A	B	C	D	E	F	G	
1.25	1.25	0.75	0.63	0.38	0.61	--	0.1
31.75	31.75	19.05	16.00	9.65	15.49	--	2.54
J	K	L	M	N	P	Q	grd
0.800	0.76	0.125	1.688	2.18	0.75	0.07	
20.32	19.30	3.18	42.88	55.37	19.05	1.78	

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		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.	Rise/Fall time (10%-90%), ns	6 typ., 12 max.
Positive Supply, V	+5+0.5/-0.1	Switching time, 50% of Control to 90% RF (Turn-on), ns	20 typ., 40 max.
Negative Supply, V	-5-0.5/+0.1	10% RF (Turn-off), ns	
Positive Supply Current, mA	20 max.	**Video Leakage, mVp-p	30 typ.
Negative Supply Current, mA	20 max.	0/-5V Control	

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



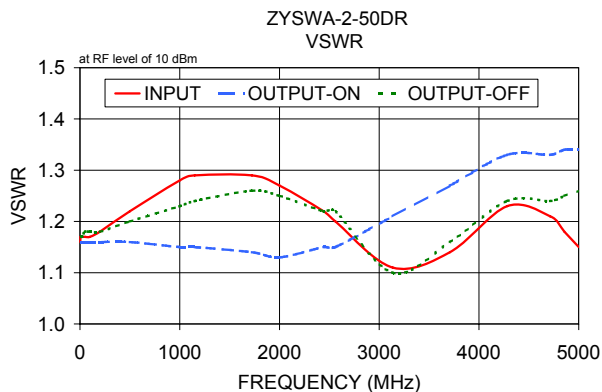
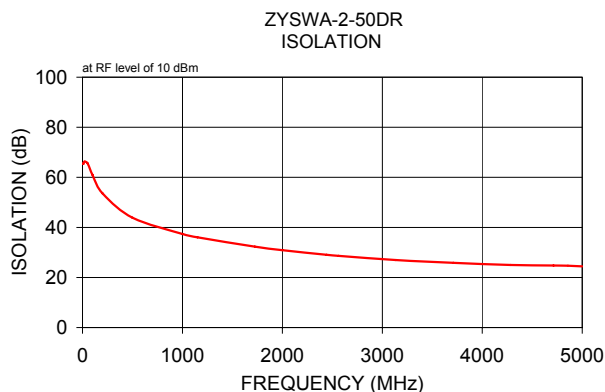
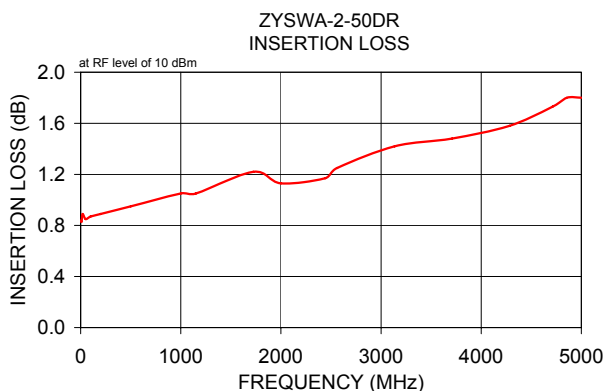
### Notes

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## Typical Performance Data

FREQ. (MHz)	ON				INSERTION LOSS (dB)				OFF				ISOLATION (dB)			VSWR		
	TTL Low @ 0V		IN-OUT 1		AMP. UNBAL.				TTL High @ 5V		IN-OUT 1		DELTA		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	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	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							



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