

Coaxial High Isolation Switch

ZFSWHA-1-20+ ZFSWHA-1-20

50Ω SPST, Absorptive DC to 2000 MHz



CASE STYLE: J17

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 150°C
Input Power	see Table & Note 1
Control Current	see Table

Coaxial Connections

RF IN	2
RF OUT	3
CONTROL 1	1
CONTROL 2	S

Features

- wideband, DC to 2000 MHz
- low insertion loss, 1.3 dB typ.
- low video leakage 30 mVp-p typ.
- very fast switching

Applications

- PCN
- cellular
- antenna switching

Connectors	Model	Price	Qty.
SMA	ZFSWHA-1-20(+)	\$74.95	(1-9)
BRACKET (OPTION "B")		\$2.50	(1+)

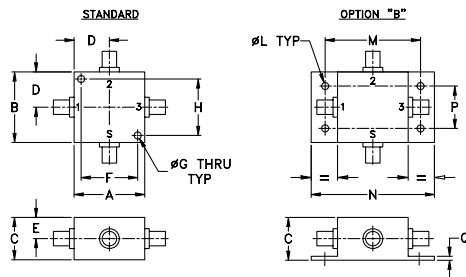
+ RoHS compliant in accordance with EU Directive (2002/95/EC)

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

High Isolation Switch Electrical Specifications

FREQ. (MHz)	INSERTION LOSS (dB)						1dB COMPR. (dBm)			IN-OUT ISOLATION (dB)						
	DC-100 MHz		100-1000 MHz		1000-2000 MHz		DC-100 MHz	100-1000 MHz	1000-2000 MHz	DC-100 MHz		100-1000 MHz				
f _L	f _U	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Typ.	Typ.	Typ.	Min.	Typ.	Min.		
DC	2000	0.8	1.2	1.3	1.7	1.3	1.7	19	19	26	75	60	65	58	65	58

Outline Drawing



Outline Dimensions (inch/mm)

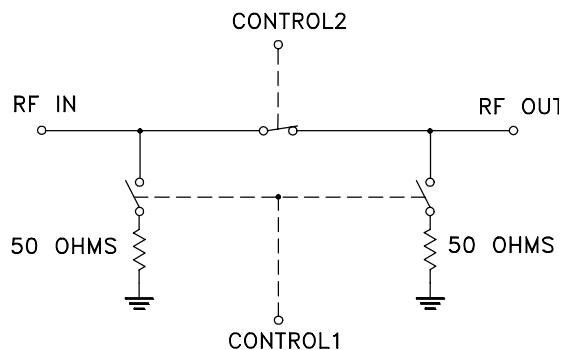
A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	wt
1.25	1.25	.75	.63	.38	1.000	.125	1.000	--	--	.125	1.688	2.18	.75	.07	grams
31.75	31.75	19.05	16.00	9.65	25.40	3.18	25.40	--	--	3.18	42.88	55.37	19.05	1.78	75.0

Additional Specifications				
Control Voltage, V	-0.2 to 0			
Low State				
High State(negative)	-8			
for compression specs	-5 to -8			
Control Current, mA	0.2 Max. to -8V			
	0.5 Max. at -9V to -12V Typ.			
RF Power Input Max. ¹	Steady State 0/-8V	DC-.02	.02-5	.5-2
	As Modulator ²	+23	+30	+33
		+14.5	+20	+27
Video Leakage ³ , mVp-pmVp-p	30 Typ., 50 Max.			
VSWR (:1)	DC-0.2 GHz		0.2-2 GHz	
ON, all ports	1.25 Max.		1.5 Max.	
OFF, Input	1.25 Max.		1.5 Max.	
OFF, Output	1.4 Max.		1.5 Max.	
Rise/Fall Time (10%-90%), ns	3 Typ., 5 Max.			
Switching Time, 50% of control to 90% RF (Turn-on), ns	7 Typ., 10 Max.			
10% RF (Turn-off), ns	3 Typ., 10 Max.			

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

1. Above 20° C derate power linearly to zero at 150°C
2. In modulator service, unrestricted switching is permitted with RF applied.
3. Video leakage or break through is defined as leakage of switching signal to RF output ports.
4. All RF connections must be DC blocked or held at 0V DC.

Electrical Schematic



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RF/IF MICROWAVE COMPONENTS

REV. A
M107792
ZFSWHA-1-20
WP/CP/AM
080225
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Typical Performance Data

FREQ. (MHz)	ON INSERTION LOSS (dB) (ctrl1 @ -8V, ctrl2 @ 0V) IN-OUT		OFF ISOLATION (dB) (ctrl1 @ 0V, ctrl2 @ -8V) IN-OUT		VSWR		
	\bar{x}	σ	\bar{x}	σ	IN \bar{x}	OUT	
						ON \bar{x}	OFF \bar{x}
0.30	0.62	0.01	90.61	3.68	1.15	1.15	1.03
5.30	0.63	0.01	85.48	6.29	1.16	1.15	1.03
10.30	0.69	0.01	83.23	4.25	1.16	1.15	1.03
100.29	0.79	0.01	67.92	1.22	1.15	1.15	1.03
280.26	0.85	0.01	66.96	1.83	1.15	1.14	1.03
390.24	0.92	0.00	67.09	1.35	1.15	1.14	1.03
445.23	0.90	0.01	67.05	1.41	1.16	1.15	1.03
610.21	0.96	0.01	65.89	1.85	1.16	1.15	1.04
780.18	0.99	0.01	64.48	1.97	1.17	1.16	1.05
890.17	1.02	0.01	63.58	2.32	1.18	1.16	1.06
945.16	1.04	0.01	63.07	2.05	1.18	1.16	1.07
1000.15	0.99	0.00	62.55	1.47	1.18	1.15	1.08
1165.13	1.09	0.02	61.49	2.35	1.18	1.15	1.09
1335.10	1.11	0.02	61.45	1.70	1.17	1.14	1.12
1445.08	1.14	0.02	61.66	1.64	1.16	1.13	1.13
1500.08	1.09	0.02	62.32	2.10	1.16	1.12	1.14
1665.05	1.17	0.01	60.72	1.78	1.15	1.10	1.17
1835.03	1.13	0.01	60.34	0.70	1.14	1.07	1.20
1945.01	1.22	0.03	60.54	1.60	1.13	1.06	1.22
2000.00	1.17	0.01	61.08	1.47	1.13	1.05	1.23

