

High Isolation Switches GAAs Surface Mount □ & Coaxial

SPST/SPDT With/ Without TTL Drivers DC to 5 GHz



MODEL NO.	FREQ. GHz f _L - f _U	SPST	SPDT	TTL DRIVER ABSORPTIVE REFLECTIVE	INSERTION LOSS (dB) frequency band										1 dB COMPR. (dBm) frequency band				IN-OUT ISOLATION (dB) frequency band					CASE STYLE Note B	CONNECTION	PRICE \$ Qty. (1-9)						
					A		B		C		D		E		A		B		C		D		E									
					Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.				Max.					
◆ KSWHA-1-20	DC-2.0	●	●		0.8	1.2	1.3	1.7	1.3	1.7	—	—	—	—	19	19	26	—	75	60	65	58	65	58	—	—	—	XX112	ek	34.95		
▲ ZFSWHA-1-20	DC-2.0			●	0.8	1.2	1.3	1.7	1.3	1.7	—	—	—	—	19	19	26	—	75	60	65	58	65	58	—	—	—	J17	em	74.95		
◆ RSW-2-25P	DC-2.5	●		●	0.5	0.9	0.7	1.1	1.0	1.5	1.2	1.8	—	—	26	27	29	28	75	55	49	44	48	43	42	30	—	CL620	ke	3.95***		
NEW ZASW-2-50DR	DC-5		●	●	●	1.3	2.0	1.7	2.5	1.8	3.0	—	—	3.0	4.5	17	20	20	19	100	80	90	75	82	65	—	—	68	46	CY353	lw	89.95
NEW ZASWA-2-50DR	DC-5		●	●	●	1.3	2.0	1.7	2.5	1.8	3.0	—	—	3.0	4.5	17	20	20	19	100	80	90	75	82	65	—	—	68	46	CY353	lw	89.95
A=DC to 100 MHz					B=100 to 1000 MHz					C=1000 to 2000 MHz					D=2000 to 2500MHz					E= 2000 to 5000MHz												

A=DC to 100 MHz B=100 to 1000 MHz C=1000 to 2000 MHz D=2000 to 2500MHz E= 2000 to 5000MHz

additional specifications, all models

Model Series	KSWHA	ZFSWHA	RSW	ZASW, ZASWA
Control Voltage, V	-8/0 for compression		0/+5V	
Low Threshold, V	-8 to -5/0 other specs		-0.2 min., 0.2 max.	0 min., 0.8 max.
High Threshold, V			3 min., 7 max.	2 min., 5 max.
Control Current, mA	0.2 max. to -8V		.165 typ.	High V, 5 max.
	0.5 max. at -9V to -12V typ.			Low V, 0.2 max.
Positive Supply V.	n/a		5 typ., 7 max.	+5+0.5/-0.1
Negative Supply V.	n/a		n/a	-5-0.5/+0.1
Positive Supply Current, mA	n/a		50-100 μ A typ.	22 typ., 60 max.
Negative Supply Current, mA	n/a		n/a	22 typ., 60 max.
VSWR(:1)	DC-0.2GHz	0.2-2GHz		
ON, all ports	1.25 max	1.5 max	1.3 typ.	1.3 typ.
OFF, Input	1.25 max.	1.5 max.	1.7 max.	1.3 typ.
OFF, Output	1.4 max.	1.5 max.	—	3.3 typ.
Rise/ Fall time (10% - 90%), ns	3 typ., 5 max.		10 typ.	5 typ., 15 max.
Switching time, 50% of Control to 90% RF (Turn-on), ns	7 typ., 10 max.		20 typ.	10 typ., 20 max.
10% RF (Turn-off), ns	3 typ., 10 max.		20 typ.	10 typ., 20 max.
**Video Leakage, mVp-p	30 typ., 50 max.		50 typ.	140 typ.
Operating Temperature, °C	-55 to 100		-40 to 85	-20 to 85
Storage Temperature, °C	-55 to 150		-65 to 150	-55 to 150
RF Power Input Max.★	Steady state DC-.02	.02-.5	.5-2 GHz	
	0/-8V control, +23	+30	+33 dBm	1W
	As modulator^+14.5	+20	+27 dBm	(>500 MHz)
				250 mW

★ Above 20°C derate power linearly to zero at 150°C.

^ In modulator service, unrestricted switching is permitted with RF applied.

** Video leakage or break through is defined as leakage of TTL switching signal to RF output ports.

NOTES:

♦ Aqueous washable.

* KSWHA model hermetically sealed.

*** Prices for quantities 10-49

▲ Available with SMA connectors

□ Non-hermetic

A. Environmental specifications and re-flow soldering information available in General Information Section.

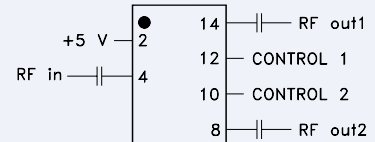
B. Connector types and case mounted options, case finishes are given in section 0, see "Case styles & outline drawings".

C. Prices and Specifications subject to change without notice.

control logic, all models

Model Series	Control Ports	RF outputs
	1 2	1 2
KSWHA	0 -v	Off —
ZFSWHA	-v 0	On —
RSW	Low High	On Off
	High Low	Off On
ZASW/ ZASWA	TTL High Low	Off On
		On Off

RSW-2-25P connection schematic showing external dc blocking capacitors



NOTE: impedance of the capacitor should be less than 5 ohms over the operating frequency range.

pin and coaxial connections

see case style outline drawings for pin locations

PORT	ek	em	ke	lw
RF IN	1	1	4	1
RF OUT 1	5	2	14	3
RF OUT 2	—	—	8	6
TTL IN	—	—	—	4
+5V	—	—	2	2
-5V	—	—	—	5
CONTROL 1	2	4	12	—
CONTROL 2	3	3	10	—
GND CASE	—	—	—	—
GND EXT.	4,6,7,8	—	1,3,5,6	—
			7,9,11,13	

Mini-Circuits®

Distribution Centers NORTH AMERICA 800-654-7949 • 417 335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

ISO 9001 CERTIFIED

000616

