

SP4T WITH TTL Drivers DC to 3 GHz



GSWA



ZSWA

MODEL NO.	FREQ. (GHz) f _L - f _U	TTL DRIVER	ABSORPTIVE	REFLECTIVE	INSERTION LOSS (dB)						1 dB COMPRESSION (dBm)						IN-OUT ISOLATION (dB)						CASE STYLE	CONNECTION	PRICE \$ Qty. (1-9)
					frequency band						frequency band						frequency band								
					A		B		C		A ³		B		C		A		B		C				
					Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.			
◆ GSWA-4-30DR	DC-3	●	●		1.25	1.8	2.0	3.0	2.75	3.9	22	—	28	—	28	—	50	40	37	32	31	26	AN213	hb	19.95
ZSWA-4-30DR	DC-3	●	●		1.0	1.8	1.5	3.0	2.0	3.9	22	—	28	—	28	—	50	40	37	32	31	26	CV665	mn	119.95
A = DC to 500MHz					B = 500MHz to 2000MHz						C = 2000MHz to 3000MHz														

features

- excellent repeatability, specification limits 4.5σ typical from mean
- high isolation
- low video break thru, 30 mVP-P typical
- low DC power consumption, 120mW typical

control logic, all models

Model Series	Control Ports				RF outputs			
	1	2	3	4	1	2	3	4
GSWA, ZSWA	Low	High	High	High	On	Off	Off	Off
	High	Low	High	High	Off	On	Off	Off
	High	High	Low	High	Off	Off	On	Off
	High	High	High	Low	Off	Off	Off	On
ZFSW, ZFSWA	-v	0	—	—	On	Off	—	—
	0	-v	—	—	Off	On	—	—
ZYSW, ZYSWA	Low	—	—	—	On	Off	—	—
	High	—	—	—	Off	On	—	—

NOTES:

- ◆ Aqueous washable.
 - ▲ Available with SMA connectors
 - Moisture Resistance of models on this page is not guaranteed.
 - Non-hermetic
 - ★ 1.8 dB max. up to 3 GHz, 2.8 dB max. 3-4.6 GHz.
 - 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.
 - 1. Absolute maximum RF power input ratings.
- | Models | Power, dBm | | | | |
|-----------------------|------------|---------|----------|-----------|-----------|
| ZSWA/GSWA-4-30DR | DC-100 | 100-500 | 500-2000 | 2000-3000 | 3000-5000 |
| Steady state control: | +20 | +24 | +30 | +30 | — |
| As modulator: | +8 | +14 | +20 | +20 | — |
| ZFSW-2-46 | +24 | +27 | +30 | +30 | +30 |
| ZFSWA-2-46 | +24 | +24 | +27 | +27 | +27 |
| ZYSW-2-50DR | +22 | +22 | +22 | +24 | +24 |
| ZYSWA-2-50DR | +20 | +20 | +20 | +20 | +20 |
- 2. For reflective switches ZFSW, ZYSW models, OFF state of RF output is low impedance.
 - 3. Below 100 MHz, 1 dB compression gradually decreases to 10 dBm at 1 MHz.

pin and coaxial connections

see case style outline drawings for pin locations

PORT	eg	ej	hb	mn
RF IN	3	S	1	1
RF OUT 1	2	3	25	2
RF OUT 2	1	2	21	3
RF OUT 3	—	—	9	4
RF OUT 4	—	—	5	5
CONTROL 1	—	4	15	C5
CONTROL 2	—	1	16	C3
CONTROL 3	—	—	13	C4
CONTROL 4	—	—	14	C6
TTL-1	4	—	—	—
TTL-2	—	—	—	—
+5V	+5 VDC	—	12	C2
-5V	-5 VDC	—	18	C1
NOT USED	—	—	—	—
GND EXT.	—	—	all other pins	—

Coaxial

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SPDT With/ Without TTL Drivers DC to 5 GHz



ZFSWA
ZFSW



ZYSWA
ZYSW

MODEL NO.	FREQ. (GHz)	TTL DRIVER	ABSORPTIVE	REFLECTIVE	INSERTION LOSS (dB)						1 dB COMPRESSION (dBm)						IN-OUT ISOLATION (dB)						CASE STYLE	CONNECTION	PRICE \$
	f _L - f _U				frequency band						frequency band						frequency band						Note B		Qty. (1-9)
					A		B		C		A		B		C		A		B		C				
					Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.			
▲ ZFSW-2-46	DC-4.6	●	●	0.9	1.1	1.0	1.3	1.3	1.8★	10	—	17	—	27	—	60	50	50	40	40	28	G144	ej	79.95	
▲ ZFSWA-2-46	DC-4.6			0.8	1.1	0.9	1.3	1.5	2.6	10	—	17	—	27	—	60	45	50	40	30	25	G144	ej	89.95	
▲ ZYSW-2-50DR	DC-5	●	●	0.9	1.5	1.3	1.7	2.1	—	20	15	23	19	21.0	18	44	38	38	28	20	—	ZZ121	eg	59.95	
▲ ZYSWA-2-50DR	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	ZZ121	eg	69.95	

ZFSW, ZFSWA:
ZYSW, ZYSWA:

A = DC to 200MHz
A = DC to 500MHz

B = 200MHz to 1000MHz
B = 500MHz to 2000MHz

C = 1000MHz to 4600MHz
C = 2000MHz to 5000MHz

additional specifications, all models

Model Series	ZFSW, ZFSWA	ZYSW, ZYSWA	GSWA/ZSWA
Control Voltage	-8/0 for compression spec, -8 to -5/0 for all other specs	0/5.5, max.	0/ 5.5
Low Threshold, max.		0.8	0.8
High Threshold, min.		3.5	3.5
Control Current, mA	2.5 typ. at -8V	High V: 2 typ., 5 max. Low V: 0.2 max.	High V: 0.2 max Low V: 0.02 max
Positive Supply V.	none	+5 +0.5/-0.1	+5±0.5
Negative Supply V.	none	-5 -0.5/+0.1	-5±0.25
Positive Supply Current, mA	n/a	20 max.	4 max.
Negative Supply Current, mA	n/a	20 max.	20 max.
VSWR(:1)	1.3 typ.	1.4 typ., 2.0 max. DC to 3 GHz 2.5 max. 3 to 5 GHz	1.28 typ., ON 1.24 typ., OFF DC-2GHz
Rise/ Fall time (10% - 90%), ns	2 typ.	6 typ., 12 max.	25 typ.
Switching time, 50% of Control to 90% RF (Turn-on), ns		20 typ., 40 max.	45 typ.
10% RF (Turn-off), ns			
**Video Leakage, mVp-p 0/-5V Control	30 typ.	30 typ.	30 typ.
Temperature, °C operating	-55 to 100	-20 to 85	-30 to 85
storage	-55 to 150	-55 to 100	-55 to 100
MTBF, hrs @85°C case			30X10 ⁶

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

NSN GUIDE

MCL NO.

ZYSW-2-50DR
ZYSWA-2-50DR

NSN

5895-01-464-8969
5895-01-467-3232



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