

# Plug-In Switch

# TOSW-425+

50Ω SP4T Pin Diode, Reflective TTL Driver, 10 to 2500 MHz

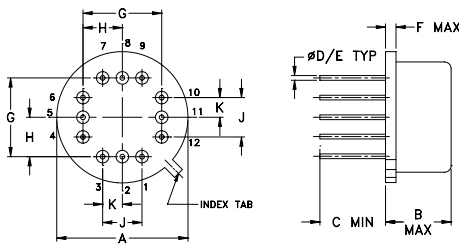
## Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power	L(+20 dBm), M(+28 dBm), U(+30 dBm)
Supply V	+6V max.

## Pin Connections

RF IN	8
RF OUT 1	4
RF OUT 2	6
RF OUT 3	10
RF OUT 4	12
TTL-1	2
TTL-2	3
+5V	1
GROUND	5,7,9,11
CASE GROUND	5,7,9,11

## Outline Drawing



## Outline Dimensions (inch/mm)

A	B	C	D	E	F
.600	.250	.25	.016	.020	.04
15.24	6.35	6.35	0.41	0.51	1.02
G	H	J	K		wt
.400	.200	.200	.100		grams
10.16	5.08	5.08	2.54		4.0

## Features

- wideband, 10 to 2500 MHz
- hermetic, compact TO-8 can

## Applications

- military, hi-rel applications
- antenna switching
- satellite communication



Generic photo used for illustration purposes only

CASE STYLE: QQ96

**+RoHS Compliant**

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

## Switch Electrical Specifications

MODEL NO.	FREQ. (MHz)		INSERTION LOSS (dB)				IN-OUT ISOLATION (dB)					
			Low band		Upper band		Frequency Band					
			Lw	U	L	M	U					
TOSW-425+	$f_L$	$f_U$	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.
	10	2500	1.1	1.7	1.5	2.5	60	40	40	30	35	22

L= low range( $f_L$  to 10  $f_L$ )

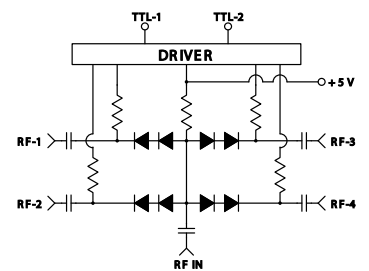
M=mid range(10  $f_L$  to  $f_U/2$ )  
U=low band ( $f_L$  to  $f_U/2$ )

U=upper range ( $f_U/2$  to  $f_U$ )

## Additional Specifications

VSWR("ON" STATE)	1.3 Typ., 1.9 Max.
SWITCHING TIME ( $\mu$ SEC)	2.0 Typ., 4.0 Max.
SUPPLY VOLTAGE	+5V
SUPPLY CURRENT	10mA Max.
TTL INPUT HIGH THRESHOLD	2V Min.
TTL INPUT LOW THRESHOLD	0.8V Max.
1 dB COMPRESSION	10 to 100 MHz above 100 MHz
	+6 increasing to +19 dBm +19 dBm min.

## Control Logic



## TTL LOGIC

	TTL-1	TTL-2
RF-1	High	Low
RF-2	High	High
RF-3	Low	High
RF-4	Low	Low

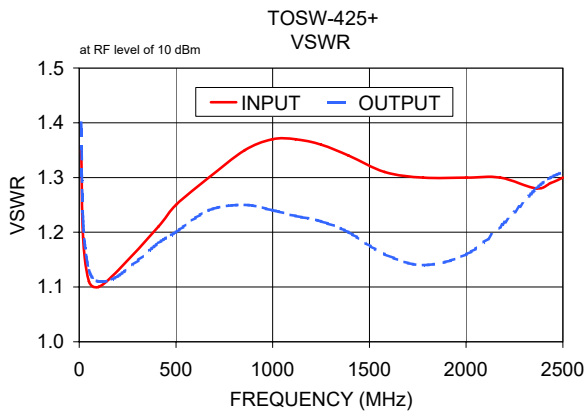
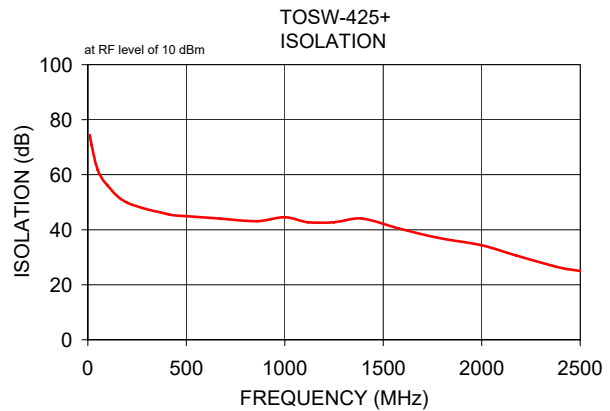
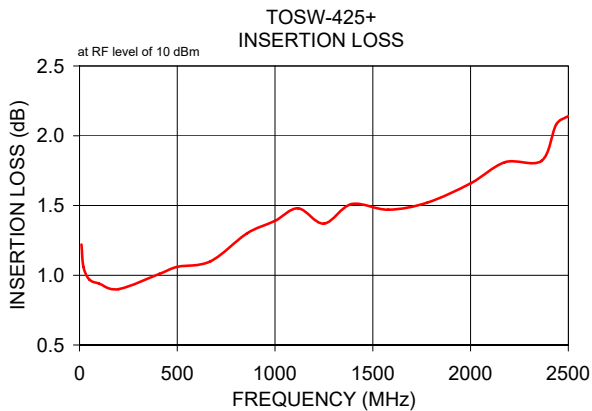
## Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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## Typical Performance Data

FREQ. (MHz)	ON INSERTION LOSS (dB) IN-OUT		AMP. UNBALANCE (dB)		OFF ISOLATION (dB) IN-OUT		OFF ISOLATION DELTA (dB)		VSWR		
	$\bar{X}$	$\sigma$	$\bar{X}$	$\sigma$	$\bar{X}$	$\sigma$	$\bar{X}$	$\sigma$	IN	OUT	OUT (RF1) OFF
									$\bar{X}$	$\bar{X}$	$\bar{X}$
10.00	1.22	0.16	0.18	0.15	74.41	4.10	9.64	5.24	1.35	1.40	27.25
20.00	1.06	0.12	0.15	0.12	70.64	2.69	8.25	4.56	1.19	1.22	27.08
50.00	0.97	0.09	0.13	0.09	61.72	2.10	8.97	7.88	1.11	1.13	27.42
100.00	0.94	0.09	0.12	0.09	56.09	1.46	6.48	2.94	1.10	1.11	26.82
200.00	0.90	0.08	0.12	0.08	49.80	1.51	6.32	3.03	1.13	1.12	26.58
408.40	1.01	0.07	0.11	0.07	45.66	1.36	5.61	1.32	1.21	1.18	26.03
500.00	1.06	0.08	0.12	0.09	44.93	1.43	5.49	1.62	1.25	1.20	24.98
669.85	1.10	0.07	0.12	0.07	44.06	1.59	5.94	1.86	1.30	1.24	24.36
856.60	1.30	0.07	0.13	0.08	43.15	1.93	6.13	2.01	1.35	1.25	22.45
1000.00	1.39	0.05	0.11	0.07	44.52	3.69	8.35	2.97	1.37	1.24	20.59
1118.05	1.48	0.05	0.13	0.07	42.72	2.91	8.56	3.40	1.37	1.23	19.44
1250.00	1.37	0.06	0.13	0.06	42.75	2.61	10.05	4.95	1.36	1.22	19.15
1391.95	1.51	0.09	0.16	0.07	44.07	3.21	10.73	3.71	1.34	1.20	18.57
1578.70	1.47	0.05	0.15	0.05	40.41	2.62	9.61	3.27	1.31	1.16	17.15
1777.90	1.52	0.05	0.17	0.05	37.07	2.87	9.43	3.26	1.30	1.14	16.04
2002.00	1.66	0.12	0.20	0.08	34.27	3.55	9.08	1.82	1.30	1.16	13.88
2176.30	1.81	0.09	0.20	0.08	30.64	3.24	7.16	1.46	1.30	1.21	12.25
2363.05	1.82	0.07	0.19	0.04	26.86	2.95	5.63	1.07	1.28	1.28	9.41
2437.75	2.08	0.14	0.24	0.05	25.66	2.78	5.42	1.03	1.29	1.30	7.81
2500.00	2.14	0.16	0.25	0.05	25.03	2.28	5.15	1.27	1.30	1.31	7.10



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