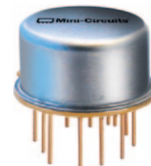


# Plug-In Switch

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

## TOSW-425+



CASE STYLE: QQ96

PRICE: \$74.45 ea. QTY (1-9)

**+RoHS Compliant**

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

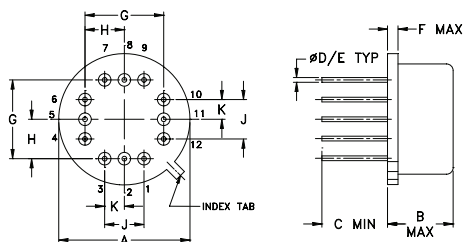
### Maximum Ratings

|                       |                                    |
|-----------------------|------------------------------------|
| 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

### 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    |      |
|           |             |      | Typ.                | Max. | Typ.       | Max. | Typ.                  | Min. | Typ. | Min. | Typ. | Min. |
| TOSW-425+ | 10          | 2500 | 1.1                 | 1.7  | 1.5        | 2.5  | 60                    | 40   | 40   | 30   | 35   | 22   |

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

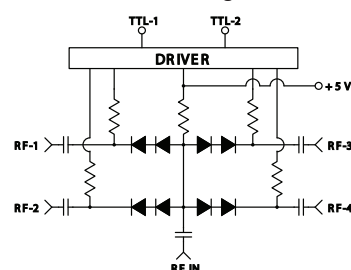
M=mid range(10  $f_L$  to  $f_U/2$ )  
Lw=low band ( $f_L$  to  $f_U/2$ )

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<br>above 100 MHz           |
|                             | +6 increasing to +19 dBm<br>+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   |

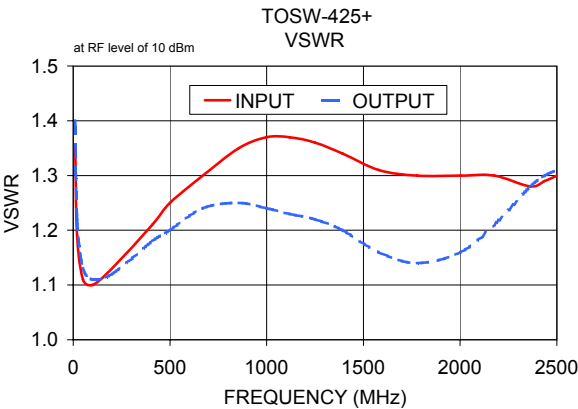
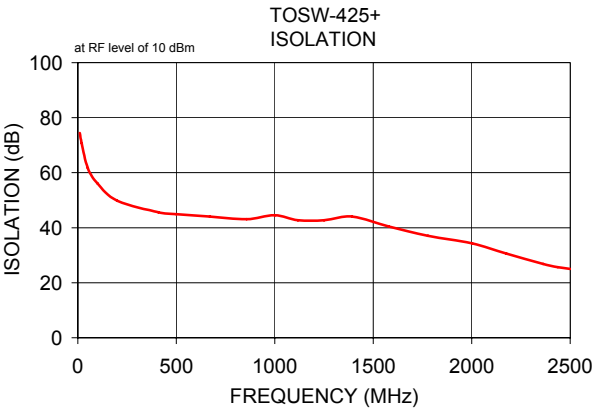
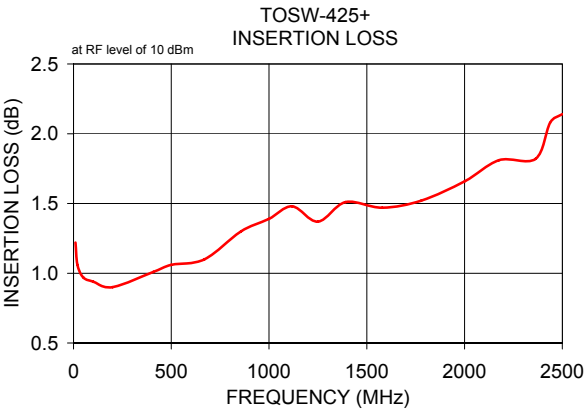
### Notes

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Typical Performance Data

| FREQ.<br>(MHz) | ON        |          | INSERTION LOSS<br>(dB)<br>IN-OUT |          | AMP. UNBALANCE<br>(dB) |          | OFF ISOLATION (dB)<br>IN-OUT |          | OFF ISOLATION<br>DELTA (dB) |           | VSWR      |     |                  |
|----------------|-----------|----------|----------------------------------|----------|------------------------|----------|------------------------------|----------|-----------------------------|-----------|-----------|-----|------------------|
|                |           |          |                                  |          |                        |          |                              |          |                             |           | IN        | OUT | OUT (RF1)<br>OFF |
|                | $\bar{X}$ | $\sigma$ | $\bar{X}$                        | $\sigma$ | $\bar{X}$              | $\sigma$ | $\bar{X}$                    | $\sigma$ | $\bar{X}$                   | $\bar{X}$ | $\bar{X}$ |     |                  |
| 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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