

# SW-162-PIN



Matched SPDT RF Switch,  
20 - 1500 MHz

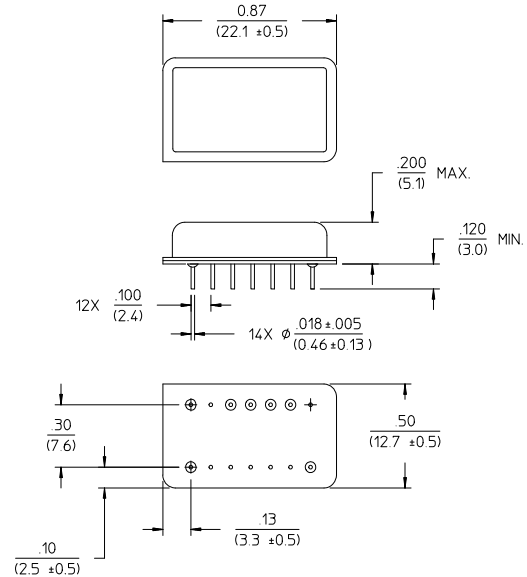
Rev. V3

## Features

- Internally Terminated
- Integral TTL Driver
- Low Loss: 0.8 dB Typical
- 50 Ohm Nominal Impedance
- MIL-STD-883 Screening Available

## Description

## Functional Block Diagram



Dimensions in () are in mm  
Unless Otherwise Noted: .XXX = ±0.010 (XX = ±0.25)  
XX = ±0.02 (X = ±0.5)  
WEIGHT (APPROX): 0.14 OUNCES 4 GRAMS

## Ordering Information

| Part Number | Package |
|-------------|---------|
| SW-162-PIN  | DI-1    |

Note: Reference Application Note M513 for reel size information.

Note: Die quantity varies.

## Truth Table

| TTL Control Input<br>"1" = TTL Logic High | Condition of Switch<br>RF Common to Each RF Port |     |
|---|--|-----|
|   | RF1  | RF2 |
| 0   | On   | Off |
| 1   | Off  | On  |

\* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

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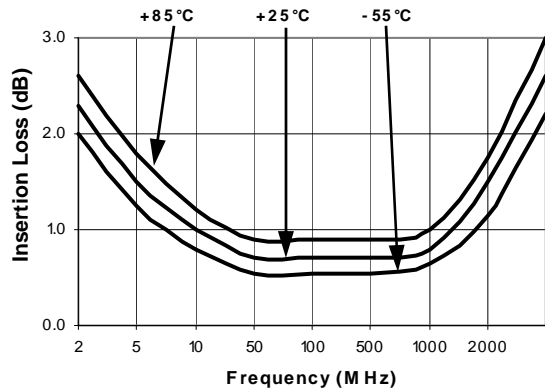
## Electrical Specifications: $T_A = -55^{\circ}\text{C}$ to $+85^{\circ}\text{C}$ <sup>1</sup>

| Parameter                 | Test Conditions  | Frequency     | Units         | Min | Typ | Max    |
|---------------------------|--|---------------|---------------|-----|-----|--------|
| Insertion Loss            | —  | 20 - 1500 MHz | dB            | —   | —   | 1.5    |
|                           |  | 20 - 1000 MHz | dB            | —   | —   | 1.2    |
|                           |  | 30 - 500 MHz  | dB            | —   | —   | 2.0    |
| VSWR                      | —  | 20 - 1500 MHz | Ratio         | —   | —   | 1.50:1 |
|                           |  | 30 - 1000 MHz | Ratio         | —   | —   | 1.25:1 |
| Isolation                 | —  | 20 - 1500 MHz | dB            | 40  | —   | —      |
|                           |  | 20 - 1000 MHz | dB            | 50  | —   | —      |
|                           |  | 30 - 500 MHz  | dB            | 60  | —   | —      |
| Ton<br>Toff<br>Transients | In-band  | —             | $\mu\text{S}$ | —   | 3.0 | —      |
|                           |  | —             | $\mu\text{S}$ | —   | 1.5 | —      |
|                           |  | —             | mV            | —   | 40  | —      |
| 1 dB Compression          | Input Power  | 20 - 1500 MHz | dBm           | —   | +5  | —      |
|                           |  | 50 - 1500 MHz | dBm           | —   | +15 | —      |
| IP <sub>2</sub>           | For two tone input power up to +5 dBm                    | 20 - 1500 MHz | dBm           | —   | +55 | —      |
|                           |  | 50 - 1500 MHz | dBm           | —   | +70 | —      |
| IP <sub>3</sub>           | For two tone input power up to +5 dBm                    | 20 - 1500 MHz | dBm           | —   | +25 | —      |
|                           |  | 50 - 1500 MHz | dBm           | —   | +40 | —      |
| Bias Power                | +9 to +15 VDC @ 35 mA Max<br>-5 VDC $\pm$ 5% @ 35 mA Max | —             | mW            | —   | 500 | —      |

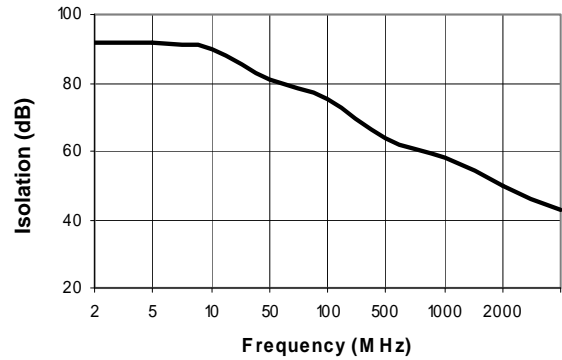
1. All specifications apply when operated with bias voltages of +12 VDC and -5 VDC ( $\pm$  5%) and 50 ohm impedance at all RF ports.

## Typical Performance Curves

**Insertion Loss**



**Isolation**



**VSWR**

