

## GaAs SPDT Switch, 5 - 3000 MHz

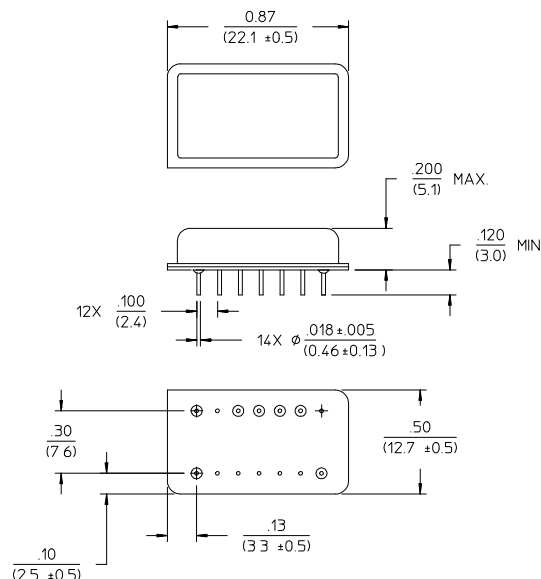
**SW-207-PIN  
V3**

### Features

- Low Insertion Loss: 1.0 dB Typical
- Fast Switching Speed
- Low DC Power Consumption
- Integral TTL
- 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-207-PIN  | DI-1    |

Note: Reference Application Note M513 for reel size information.

Note: Die quantity varies.

### Truth Table

| TTL Control Input<br>"1" = Logic High<br>TTL | Condition of Switch<br>RF Common to Each RF<br>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                          | —                                      | 5 - 3000 MHz | dB    | —   | —   | 2.3   |
|                                         |                                        | 5 - 2000 MHz | dB    | —   | —   | 1.4   |
|                                         |                                        | 5 - 1000 MHz | dB    | —   | —   | 1.0   |
| VSWR                                    | —                                      | 5 - 3000 MHz | Ratio | —   | —   | 2.5:1 |
|                                         |                                        | 5 - 2000 MHz | Ratio | —   | —   | 1.7:1 |
|                                         |                                        | 5 - 1000 MHz | Ratio | —   | —   | 1.5:1 |
| Isolation                               | —                                      | 5 - 3000 MHz | dB    | 18  | —   | —     |
|                                         |                                        | 5 - 2000 MHz | dB    | 28  | —   | —     |
|                                         |                                        | 5 - 1000 MHz | dB    | 38  | —   | —     |
| Trise, Tfall<br>Ton, Toff<br>Transients | 50% CTL to 90/10% RF<br>In-band        | —            | nS    | —   | 7   | —     |
|                                         |                                        | —            | nS    | —   | 20  | —     |
|                                         |                                        | —            | mV    | —   | 70  | —     |
| 1 dB Compression                        | Input Power                            | 0.5 - 3 GHz  | dBm   | —   | +27 | —     |
|                                         |                                        | 0.05 GHz     | dBm   | —   | +21 | —     |
| IP <sub>2</sub>                         | For two tone input power up to +13 dBm | 0.5 - 3 GHz  | dBm   | —   | +68 | —     |
|                                         |                                        | 0.05 GHz     | dBm   | —   | +60 | —     |
| IP <sub>3</sub>                         | For two tone input power up to +13 dBm | 0.5 - 3 GHz  | dBm   | —   | +27 | —     |
|                                         |                                        | 0.05 GHz     | dBm   | —   | +21 | —     |
| Bias Power                              | +5 VDC                                 | —            | mA    | —   | —   | 1     |

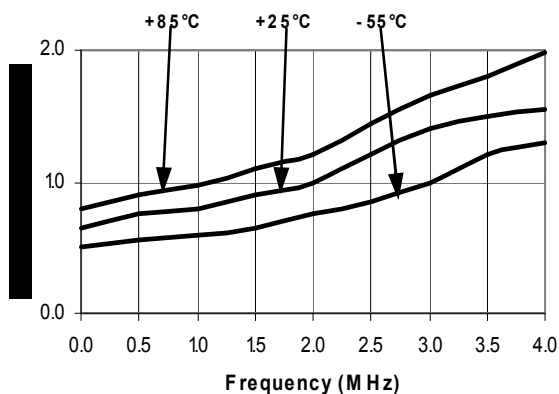
1. All specifications apply when operated with bias voltages of +5 VDC and 50 ohm impedance at all RF ports.

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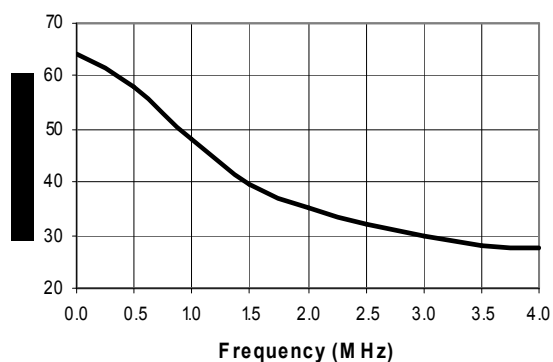
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## Typical Performance Curves

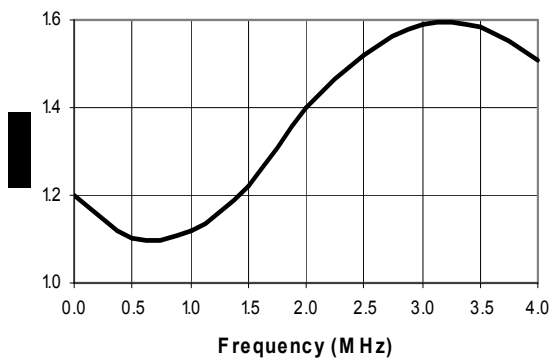
**Insertion Loss**



**Isolation**



**VSWR**



## Schematic

