

**SW-255-PIN**  
**V4**

### Functional Block Diagram

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- Technical drawing of the 73 Gram 0.26 Ounce Weight, showing top, side, and bottom views with dimensions in inches and millimeters.
- Top View:** A rectangular weight with a width of  $970 \pm 0.20$  inches ( $24.6 \pm 5$  mm). The top surface is marked with "RF1", "RF", and "RF4" on the top edge, and "RF2" and "1 2 3 4 RF3" on the bottom edge.
- Side View:** Shows the weight's profile. The top surface is flat. The bottom surface features a series of vertical ridges. The total height is  $200 \pm 5.1$  inches (MAX). The distance from the bottom surface to the top of the ridges is  $120 \pm 9.0$  inches (MIN). The width of the ridges is  $14 \times$  inches ( $100 \pm 2.54$  mm).
- Bottom View:** Shows the base of the weight. The overall width is  $600 \pm 15.2$  inches. The overall height is  $80 \pm 20.3$  inches. The base has a series of circular indentations. The distance from the bottom surface to the top of the indentations is  $10 \pm 2.5$  inches. The distance from the bottom surface to the top of the ridges is  $13 \pm 3.3$  inches.
- Dimensions:** Dimensions in ( ) or on bottom are in mm.
- Unless Otherwise Noted:** .xxx  $\pm$   $\pm 0.010$  (.xx  $\pm$   $\pm 0.25$ )
- xx  $\pm$   $\pm 0.02$  (x  $\pm$   $\pm 0.5$ )**
- WEIGHT (APPROX): 0.26 OUNCES 73 GRAMS**

| Part Number | Package |
|-------------|---------|
| SW-255-PIN  | DI-5    |

Note: Die quantity varies.

| Control Input    |       |       |       | Condition of Switch       |     |     |     |
|------------------|-------|-------|-------|---------------------------|-----|-----|-----|
| "1" = Logic High |       |       |       | RF Common to Each RF Port |     |     |     |
| CTL 1            | CTL 2 | CTL 3 | CTL 4 | RF1                       | RF2 | RF3 | RF4 |
| 1                | 0     | 0     | 0     | ON                        | OFF | OFF | OFF |
| 0                | 1     | 0     | 0     | OFF                       | ON  | OFF | OFF |
| 0                | 0     | 1     | 0     | OFF                       | OFF | ON  | OFF |
| 0                | 0     | 0     | 1     | OFF                       | OFF | OFF | ON  |

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**GaAs SP4T Switch,  
5 - 2000 MHz**
**SW-255-PIN  
V4**
**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 - 2000 MHz   | dB    | 2.1 | —   | —     |
|                                         |                                        | 5 - 1000 MHz   | dB    | 1.6 | —   | —     |
|                                         |                                        | 5 - 500 MHz    | dB    | 1.4 | —   | —     |
| VSWR                                    | —                                      | 5 - 2000 MHz   | Ratio | —   | —   | 2.3:1 |
|                                         |                                        | 5 - 1000 MHz   | Ratio | —   | —   | 1.8:1 |
|                                         |                                        | 5 - 500 MHz    | Ratio | —   | —   | 1.4:1 |
| Isolation                               | —                                      | 5 - 2000 MHz   | dB    | 35  | —   | —     |
|                                         |                                        | 5 - 1000 MHz   | dB    | 36  | —   | —     |
|                                         |                                        | 5 - 500 MHz    | dB    | 42  | —   | —     |
| Trise, Tfall<br>Ton, Toff<br>Transients | 50% CTL to 90/10% RF<br>In-band        | —              | nS    | —   | 7   | —     |
|                                         |                                        | —              | nS    | —   | 20  | —     |
|                                         |                                        | —              | mV    | —   | 80  | —     |
| 1 dB Compression                        | Input Power                            | 500 - 2000 MHz | dBm   | —   | +27 | —     |
|                                         |                                        | 50 MHz         | dBm   | —   | +21 | —     |
| IP <sub>2</sub>                         | For two tone input power up to +13 dBm | 500 - 2000 MHz | dBm   | —   | +68 | —     |
|                                         |                                        | 50 MHz         | dBm   | —   | +60 | —     |
| Bias Power                              | +5 VDC @ 0.30 mA Typ                   | —              | mA    | —   | —   | 1     |

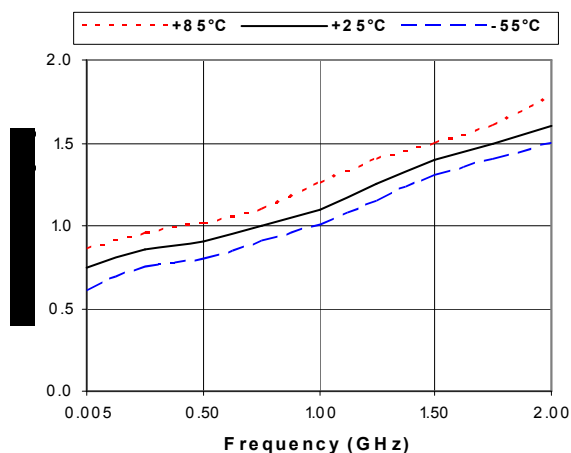
1. All specifications apply when operated with bias voltages of +5 VDC and 50 ohm impedance at all RF Ports.

# GaAs SP4T Switch, 5 - 2000 MHz

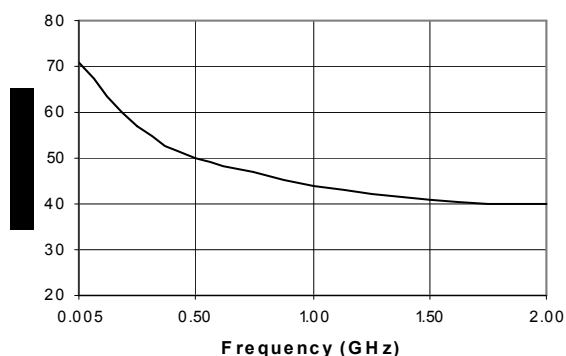
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V4**

## Typical Performance Curves

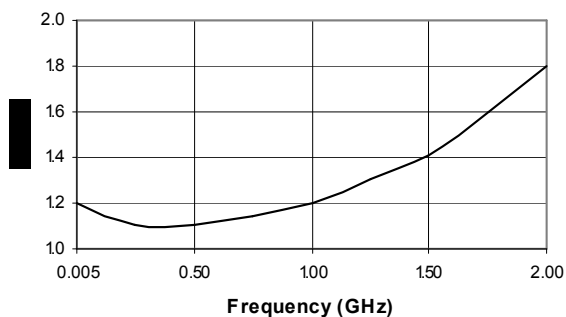
**Insertion Loss**



**Isolation**



**VSWR**



## Schematic

