GaAs SPDT Switch,

## Features

- Low Insertion Loss, 0.5 dB Typical
- Integral TTL Driver
- Low DC Power Consumption
- 50 Ohm Nominal Impedance
- MIL-STD-883 screening available


## Description

TO-5-3 (SW-224)


LOCATED AS SHOWN
BOTTOM VIEW
Bottom of Case is AC Ground
Dimensions in 0) or on bottom are in mm. Unless Otherwise Noted. $x \times x= \pm 0.010$ ( $x \times= \pm 025$ ) WEIGHT (APPROX): 0.025 OUNCES 0.7 GRAMS

FP-13 (SW-225)

## Ordering Information

| Part Number | Package |
| :---: | :---: |
| SW-224-PIN | TO-5-3 |
| SW-225-PIN | FP-13 |

Note: Reference Application Note M513 for reel size information.
Note: Die quantity varies.

Truth Table

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



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GaAs SPDT Switch, DC - 2 GHz

Electrical Specifications: $\mathrm{T}_{\mathrm{A}}=-55^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}{ }^{1}$

| Parameter | Test Conditions | Frequency | Units | Min | Typ | Max |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Insertion Loss | - | DC - 2 GHz DC - 1 GHz DC -0.5 GHz | $\begin{aligned} & \mathrm{dB} \\ & \mathrm{~dB} \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & 0.8 \\ & 0.7 \\ & 0.7 \end{aligned}$ | - | - |
| VSWR | - | $\begin{gathered} \mathrm{DC}-2 \mathrm{GHz} \\ \mathrm{DC}-1 \mathrm{GHz} \\ \mathrm{DC}-0.5 \mathrm{GHz} \end{gathered}$ | Ratio Ratio Ratio | - | - | $\begin{gathered} 1.5: 1 \\ 1.25: 1 \\ 1.15: 1 \end{gathered}$ |
| Isolation | - | DC-2 GHz <br> DC -1 GHz <br> DC-0.5 GHz | $\begin{aligned} & \mathrm{dB} \\ & \mathrm{~dB} \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & 30 \\ & 35 \\ & 40 \end{aligned}$ | 二 | - |
| $\mathrm{IP}_{2}$ | For two tone input power up to +13 dBm | $\begin{gathered} 0.5-2 \mathrm{GHz} \\ 0.05 \mathrm{GHz} \end{gathered}$ | dBm dBm | - | $\begin{aligned} & +68 \\ & +62 \end{aligned}$ | - |
| $1 \mathrm{P}_{3}$ | For two tone input power up to +13 dBm | $\begin{gathered} 0.5-2 \mathrm{GHz} \\ 0.05 \mathrm{GHz} \end{gathered}$ | dBm dBm | - | $\begin{aligned} & +46 \\ & +40 \end{aligned}$ | - |
| Trise, Tfall Ton, Toff Transients | 50\% CTL to 90/10\% RF In-band | 二 | $\begin{aligned} & \mathrm{nS} \\ & \mathrm{nS} \\ & \mathrm{mV} \end{aligned}$ | - | $\begin{gathered} \hline 10 \\ 150 \\ 15 \end{gathered}$ | - |
| 1 dB Compression | Input Power | $\begin{gathered} 0.5-2 \mathrm{GHz} \\ 0.05 \mathrm{GHz} \end{gathered}$ | dBm dBm | - | $\begin{aligned} & +27 \\ & +21 \end{aligned}$ | - |
| Bias Power | $\begin{aligned} & +5 \mathrm{VDC} \\ & -5 \mathrm{VDC} \end{aligned}$ | - | $\begin{aligned} & \mathrm{mA} \\ & \mathrm{~mA} \end{aligned}$ | - | - | $\begin{aligned} & 1 \\ & 1 \end{aligned}$ |

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

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## Typical Performance Curves

Insertion Loss


## Isolation



Pin Configuration



[^0]:    * Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

