## Features

- Fast Switching Speed: 6 nS Typical
- Ultra Low DC Power Consumption
- Terminated
- 50 Ohm Nominal Impedance
- MIL-STD-883 screening available


## Description

Functional Block Diagram


## Ordering Information

| Part Number | Package |
| :---: | :---: |
| SW-214-PIN | FP-13 |

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

Truth Table

| Control Input |  | Condition of Switch |
| :---: | :---: | :---: |
| A | B | RF1 to RF2 |
| Hi | Lo | On |
| Lo | Hi | Off |

[^0]GaAs SPST Switch， DC－3 GHz

Electrical Specifications： $\mathrm{T}_{\mathrm{A}}=\mathbf{2 5}{ }^{\circ} \mathrm{C}{ }^{1,2,3}$

| Parameter | Test Conditions | Frequency | Units | Min | Typ | Max |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Insertion Loss | － | $\begin{gathered} \mathrm{DC}-3 \mathrm{GHz} \\ \mathrm{DC}-2 \mathrm{GHz} \\ \mathrm{DC}-1 \mathrm{GHz} \\ \mathrm{DC}-0.5 \mathrm{GHz} \end{gathered}$ | $\begin{aligned} & \mathrm{dB} \\ & \mathrm{~dB} \\ & \mathrm{~dB} \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \square \\ & \square \\ & - \\ & \hline \end{aligned}$ | $\begin{aligned} & - \\ & - \\ & - \end{aligned}$ | $\begin{aligned} & 1.3 \\ & 1.2 \\ & 0.9 \\ & 0.9 \end{aligned}$ |
| Isolation | － | $\begin{gathered} \mathrm{DC}-3 \mathrm{GHz} \\ \mathrm{DC}-2 \mathrm{GHz} \\ \mathrm{DC}-1 \mathrm{GHz} \\ \mathrm{DC}-0.5 \mathrm{GHz} \end{gathered}$ | $\begin{aligned} & \mathrm{dB} \\ & \mathrm{~dB} \\ & \mathrm{~dB} \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & 25 \\ & 38 \\ & 45 \\ & 50 \end{aligned}$ | $\begin{aligned} & - \\ & - \\ & - \end{aligned}$ | 二 |
| VSWR | － | $\begin{gathered} \mathrm{DC}-3 \mathrm{GHz} \\ \mathrm{DC}-2 \mathrm{GHz} \\ \mathrm{DC}-1 \mathrm{GHz} \\ \mathrm{DC}-0.5 \mathrm{GHz} \end{gathered}$ | Ratio <br> Ratio Ratio Ratio | - | - | $\begin{aligned} & 2.0: 1 \\ & 1.7: 1 \\ & 1.3: 1 \\ & 1.3: 1 \end{aligned}$ |
| Trise，Tfall Ton，Toff Transients | 50\％CTL to 90／10\％RF In－Band | - | $\begin{aligned} & \hline \mathrm{nS} \\ & \mathrm{nS} \\ & \mathrm{mV} \end{aligned}$ | - | $\begin{gathered} \hline 3 \\ 6 \\ 30 \end{gathered}$ | 二 |
| 1 dB Compression | Control Voltage 0／－5 VDC <br> Control Voltage 0／－8 VDC | $\begin{gathered} 0.5-3 \mathrm{GHz} \\ 0.05 \mathrm{GHz} \\ 0.5-3 \mathrm{GHz} \\ 0.05 \mathrm{GHz} \end{gathered}$ | dBm <br> dBm <br> dBm <br> dBm | － | $\begin{aligned} & +27 \\ & +21 \\ & +33 \\ & +26 \end{aligned}$ | 二 |
| $1 \mathrm{P}_{2}$ | For two－tone Input power up to +13 dBm | $\begin{gathered} 0.5-3 \mathrm{GHz} \\ 0.05 \mathrm{GHz} \end{gathered}$ | dBm dBm | - | $\begin{aligned} & +68 \\ & +62 \end{aligned}$ | － |
| $\mathrm{IP}_{3}$ | For two－tone Input power up to＋13 dBm | $\begin{gathered} 0.5-3 \mathrm{GHz} \\ 0.05 \mathrm{GHz} \end{gathered}$ | dBm dBm | - | $\begin{aligned} & +46 \\ & +40 \end{aligned}$ | － |
| Control Voltages | $\mathrm{V}_{\text {IN }}$ Low： 0 to -0.2 V <br> $\mathrm{V}_{\text {IN }}$ High：-5 V ＠ $50 \mu \mathrm{~A}$ Typ to -8 V | 二 | - | - | - | $\begin{gathered} 20 \mu \mathrm{~A} \\ 300 \mu \mathrm{~A} \end{gathered}$ |

1．All specifications apply with 50 ohm impedance connected to all RF ports with 0 and -5 VDC control voltages．
2．Faster switching speed can be achieved with enhanced driver waveform．

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## Typical Performance Curves

## Insertion Loss




Pin Configuration

## Isolation





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

