## Features

- Internal CMOS Decoder/Driver
- Low Power Consumption
- Fast Switching Speed, 60 ns Typical
- Very High Intercept Points
- 50 Ohm Nominal Impedance


## Description

## Ordering Information

| Part Number | Package |
| :---: | :---: |
| SW-369-PIN | FP-26 |

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

## Absolute Maximum Ratings ${ }^{3}$

| Parameter | Absolute Maximum |
| :---: | :---: |
| Max Input Power |  |
| 0.05 GHz | +27 dBm |
| $0.5-2.0 \mathrm{GHz}$ | +34 dBm |
| Bias Voltages | -0.5 to +7 V |
| Control Voltage | -0.5 V to $\mathrm{Vcc}+0.5 \mathrm{~V}$ |
| Operating Temperature | $-55^{\circ} \mathrm{C}$ to $+125^{\circ} \mathrm{C}$ |
| Storage Temperature | $-65^{\circ} \mathrm{C}$ to $+150^{\circ} \mathrm{C}$ |

3. Operation of this device above any one of these parameters may cause permanent damage.
4. When the RF input power is applied to the terminated port, the absolute maximum is +32 dBm .

## Functional Block Diagram

$\square$

## Truth Table

| Control Inputs |  | Condition of Switch     <br> " <br> (CMOS)  Rogic High <br> Port   <br> CMOS 1     CMOS 2 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| RF1 | RF2 | RF3 | RF4 |  |  |
| 0 | 0 | ON | OFF | OFF | OFF |
| 1 | 0 | OFF | ON | OFF | OFF |
| 0 | 1 | OFF | OFF | ON | OFF |
| 1 | 1 | OFF | OFF | OFF | ON |

[^0][^1]Visit www.macomtech.com for additional data sheets and product information.

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## 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 | - | $0.02-2.0 \mathrm{GHz}$ $0.02-1.0 \mathrm{GHz}$ $0.02-0.5 \mathrm{GHz}$ | dB <br> dB <br> dB | $\begin{aligned} & 2.8 \\ & 2.4 \\ & 1.8 \end{aligned}$ | — | — |
| VSWR | Common, RF1 - RF4 On | $\begin{gathered} 0.2-2.0 \mathrm{GHz} \\ 0.2-1.0 \mathrm{GHz} \\ 0.2-0.5 \mathrm{GHz} \\ 0.1-0.2 \mathrm{GHz} \\ 0.02-0.1 \mathrm{GHz} \end{gathered}$ | Ratio <br> Ratio <br> Ratio <br> Ratio <br> Ratio | $\begin{aligned} & - \\ & - \\ & - \end{aligned}$ | - - - | $\begin{aligned} & 2.0: 1 \\ & 1.6: 1 \\ & 1.5: 1 \\ & 1.5: 1 \\ & 1.4: 1 \end{aligned}$ |
| VSWR | RF1-RF4 Off | $\begin{gathered} 0.2-2.0 \mathrm{GHz} \\ 0.2-1.0 \mathrm{GHz} \\ 0.2-0.5 \mathrm{GHz} \\ 0.1-0.2 \mathrm{GHz} \\ 0.02-0.1 \mathrm{GHz} \end{gathered}$ | Ratio <br> Ratio <br> Ratio <br> Ratio <br> Ratio | - - - | — — — | $\begin{gathered} \text { 2.0:1 } \\ 1.6: 1 \\ 1.5: 1 \\ 1.7: 1 \\ \text { Not } \\ \text { Specified } \end{gathered}$ |
| Isolation | - | $\begin{aligned} & 0.02-2.0 \mathrm{GHz} \\ & 0.02-1.0 \mathrm{GHz} \\ & 0.02-0.5 \mathrm{GHz} \end{aligned}$ | dB <br> dB <br> dB | $\begin{aligned} & 40 \\ & 45 \\ & 50 \end{aligned}$ | — | — |
| Trise, Tfall Ton, Toff Transients | $\begin{gathered} 10 \% \text { to } 90 \% \text { RF } \\ 50 \% \text { CTL to } 90 / 10 \% \text { RF } \\ \text { In-band } \end{gathered}$ | — | $\begin{aligned} & \mathrm{nS} \\ & \mathrm{nS} \\ & \mathrm{mV} \end{aligned}$ | — | $\begin{aligned} & 3.0 \\ & 180 \\ & 150 \end{aligned}$ | — |
| 1 dB Compression | Input Power | $\begin{gathered} 0.5-2.0 \mathrm{GHz} \\ 0.05 \mathrm{GHz} \end{gathered}$ | dBm dBm | — | $\begin{aligned} & +23 \\ & +17 \end{aligned}$ | — |

1. All specifications apply when operated with bias voltages of 0 and +5 VDC and 50 ohm impedance at all RF Ports.
2. Contact the factory for standard or customer screening requirements.

| Parameter | Test Conditions | Frequency | Units | Min | Typ | Max |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{IP}_{2}$ | For two tone input power up to +5 dBm | $\begin{gathered} 0.5-2.0 \mathrm{GHz} \\ 0.05 \mathrm{GHz} \end{gathered}$ | dBm dBm | — | $\begin{aligned} & +72 \\ & +50 \end{aligned}$ | - |
| $\mathrm{IP}_{3}$ | For two tone input power up to +5 dBm | $\begin{gathered} 0.5-2.0 \mathrm{GHz} \\ 0.05 \mathrm{GHz} \end{gathered}$ | dBm dBm | — | $\begin{aligned} & +44 \\ & +40 \end{aligned}$ | - |
| Bias Power | +5 VDC | - | mA | - | - | 2 |
| Vin Low (0) <br> Vin High (1) | $\begin{aligned} & 0.0 \text { to } 1.5 \mathrm{~V} \\ & 3.5 \text { to } 5.0 \mathrm{~V} \end{aligned}$ | - | $\mu \mathrm{A}$ $\mu \mathrm{A}$ | - | - | $\begin{aligned} & 1 \\ & 1 \end{aligned}$ |

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, is considering for development. Performance is based on target specification
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## Typical Performance Curves

Insertion Loss


VSWR


## Isolation



## Pin Configuration

| Pin No. | Description | Pin No. | Description |
| :---: | :---: | :---: | :---: |
| 1 | RF1 | 11 | RF2 |
| 2 | GND | 12 | GND |
| 3 | GND | 13 | GND |
| 4 | GND | 14 | +5 VDC |
| 5 | RF Common | 15 | CMOS 2 |
| 6 | GND | 16 | CMOS 1 |
| 7 | GND | 17 | N/C |
| 8 | GND | 18 | GND |
| 9 | GND | 19 | GND |
| 10 | RF4 | 20 | RF3 |

Functional Schematic (Top View)


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

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