



# SMJ 1000-10A

Quad-Diode Mixer

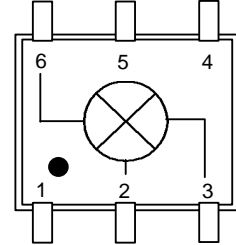
The Communications Edge™

Preliminary Product Information

## Product Features

- Input IP3 +15 dBm
- RF Freq 5 - 1000 MHz
- LO Freq 5 - 1000 MHz
- IF Freq DC - 1000 MHz
- LO Drive Level +10 dBm

## Functional Diagram



| Function | Pin No. |
|----------|---------|
| Ground   | 1       |
| IF       | 2       |
| RF       | 3       |
| Ground   | 4-5     |
| LO       | 6       |

## Specifications

| Parameters          | Units | Minimum | Typical | Maximum | Comments |
|---------------------|-------|---------|---------|---------|----------|
| RF Frequency        | MHz   | 5       |         | 1000    |          |
| LO Frequency        | MHz   | 5       |         | 1000    |          |
| IF Frequency        | MHz   | DC      |         | 1000    |          |
| SSB Conversion Loss | dB    |         | 7.0     |         |          |
| L-R Isolation       | dB    |         | 35      |         |          |
| L-I Isolation       | dB    |         | 30      |         |          |
| IIP3                | dBm   |         | +15     |         |          |
| LO Drive            | dBm   |         | +10     |         |          |
| RF - Return Loss    | dB    |         | 12      |         |          |
| LO - Return Loss    | dB    |         | 14      |         |          |
| IF - Return Loss    | dB    |         | 12      |         |          |

Test conditions unless otherwise noted  
 1. Tested in a 50 Ohm System, low Side LO.

## Recommended Maximum Rating

| Parameters                          | Rating         |
|-------------------------------------|----------------|
| Operating Case Temperature          | -40 to +70 °C  |
| Storage Temperature                 | -65 to +100 °C |
| RF Input Power at 25°C (continuous) | +17 dBm        |

## Ordering Information

| Part No.         | Description                               |
|------------------|---|
| SMJ 1000-10A     | Diode Mixer<br>(Available in Tape & Reel) |
| SMJ 1000-10A-PCB | Fully Assembled Application Circuit       |

This document contains information on a new product.  
 Specifications and information are subject to change without notice



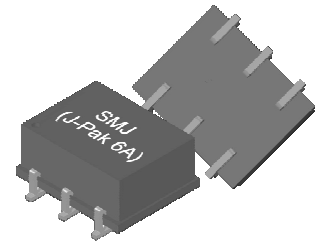
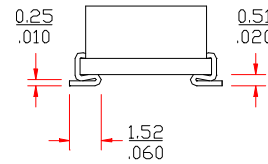
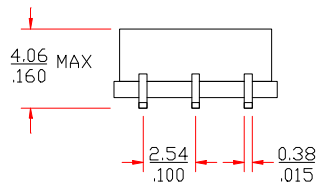
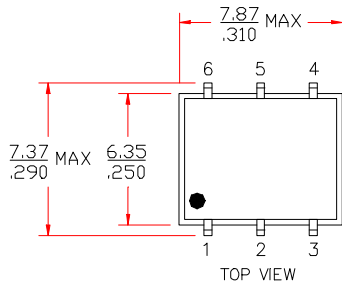
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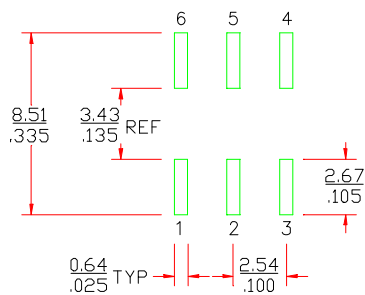
Preliminary Product Information

## OUTLINE DRAWING



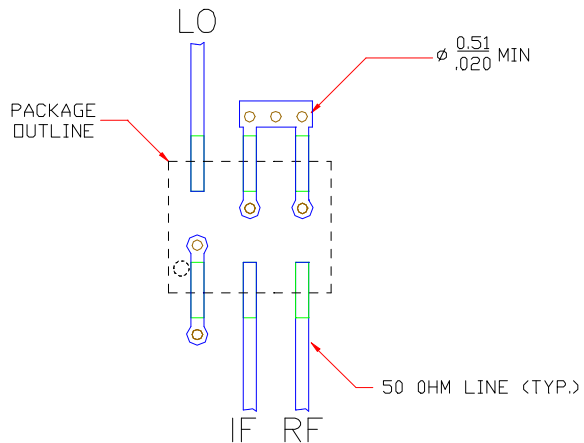
mm  
inch

## LAND PATTERN



| FUNCTION | PIN NO. |
|----------|---------|
| GROUND   | 1       |
| IF       | 2       |
| RF       | 3       |
| GROUND   | 4-5     |
| LO       | 6       |

## MOUNTING CONFIGURATION



- Notes:
1. Ground vias are critical for RF grounding considerations.
  2. If your PCB design rules allow, ground vias should be placed under the land pattern for better RF performance. Otherwise ground vias should be placed as close land pattern as possible.
  3. Trace width depends on PC board.

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