

# RF AMPLIFIER

## MODEL *TM9136*

Available as: TM9136, 4 Pin TO-8 (T4)  
 TN9136, 4 Pin Surface Mount (SM3)  
 FP9136, 4 Pin Flatpack (FP4)  
 BX9136, Connectorized Housing (H1)

### Features

- High Gain: 17 dB Typical
- Medium Output Power: +12 dBm Typical
- Operating Temp. - 55 °C to +85 °C
- Environmental Screening Available

### Specifications

| CHARACTERISTIC              | TYPICAL<br>Ta= 25 °C | MIN/MAX<br>Ta = -55 °C to +85 °C |
|-----------------------------|----------------------|----------------------------------|
| Frequency                   | 10 - 2000 MHz        | 10 - 2000 MHz                    |
| Gain (dB)                   | 17                   | 15.0 Min.                        |
| Power @ 1 dB<br>Comp. (dBm) | +12                  | +11.0 Min.                       |
| Reverse<br>Isolation (dB)   | -26                  | -25.0 Max.                       |
| VSWR In                     | <1.5:1               | 2.0:1 Max.                       |
| Out                         | <1.5:1               | 2.0:1 Max.                       |
| Noise Figure (dB)           | <5.5                 | 7.5 Max.                         |
| Power Vdc                   | +15                  | +15                              |
| mA                          | 63                   | 68 Max.                          |

Note: Care should always be taken to effectively ground the case of each unit.

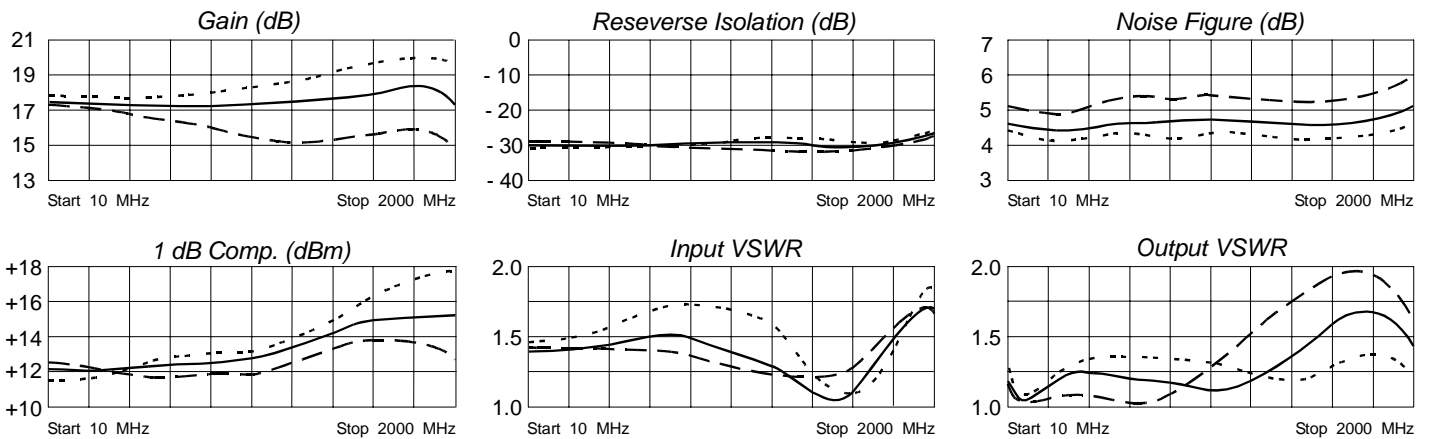
### Typical Intermodulation Performance at 25 ° C

Second Order Harmonic Intercept Point..... +33 dBm (Typ.)  
 Second Order Two Tone Intercept Point..... +28 dBm (Typ.)  
 Third Order Two Tone Intercept Point..... +22 dBm (Typ.)

### Maximum Ratings

Ambient Operating Temperature ..... -55°C to + 100 °C  
 Storage Temperature ..... -62°C to + 125 °C  
 Case Temperature ..... + 125 °C  
 DC Voltage ..... + 18 Volts  
 Continuous RF Input Power ..... + 10 dBm  
 Short Term RF Input Power ..... 50 Milliwatts (1 Minute Max.)  
 Maximum Peak Power ..... 0.5 Watt (3 µsec Max.)

### Typical Performance Data



Legend ——— + 25 °C - - - + 85 °C ······ -55 °C

### Linear S-Parameters

| FREQ.<br>MHz | S11 |     | S21  |      | S12 |     | S22 |      |
|--------------|-----|-----|------|------|-----|-----|-----|------|
|              | Mag | Deg | Mag  | Deg  | Mag | Deg | Mag | Deg  |
| 10           | .16 | 178 | 7.66 | 6    | .03 | 9   | .08 | 104  |
| 50           | .16 | 179 | 7.63 | - 8  | .03 | 2   | .01 | 151  |
| 100          | .16 | 179 | 7.62 | - 19 | .03 | - 5 | .02 | -123 |
| 250          | .17 | 175 | 7.51 | - 48 | .03 | - 6 | .07 | -141 |
| 500          | .19 | 159 | 7.31 | - 95 | .03 | -11 | .10 | 176  |
| 750          | .20 | 138 | 7.16 | -141 | .03 | -17 | .08 | 122  |
| 1000         | .18 | 104 | 7.24 | -173 | .03 | -26 | .05 | 21   |
| 1250         | .12 | 66  | 7.35 | 126  | .03 | -44 | .11 | - 72 |
| 1500         | .02 | 22  | 7.51 | 76   | .03 | -50 | .20 | -126 |
| 1750         | .12 | 120 | 7.85 | 21   | .04 | -55 | .24 | -180 |
| 2000         | .26 | 42  | 7.22 | - 54 | .05 | -81 | .14 | 103  |



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