

# RF AMPLIFIER

## MODEL *TM9524*

Available as: TM9524, 4 Pin TO-8 (T4)  
 TN9524, 4 Pin Surface Mount (SM3)  
 FP9524, 4 Pin Flatpack (FP4)  
 BX9524, Connectorized Housing (H1)

### Features

- High Gain: 22 dB Typical
- Operating Temp. - 55 °C to +85 °C
- Environmental Screening Available

### Typical Intermodulation Performance at 25 °C

Second Order Harmonic Intercept Point.....+37 dBm (Typ.)  
 Second Order Two Tone Intercept Point.....+31 dBm (Typ.)  
 Third Order Two Tone Intercept Point.....+23 dBm (Typ.)

### Specifications

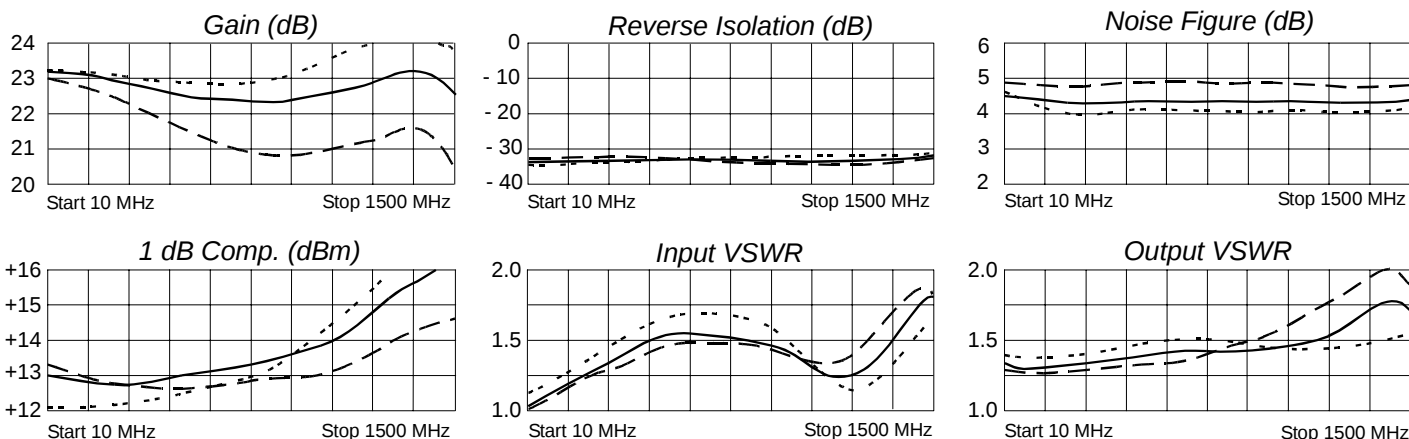
| CHARACTERISTIC              | TYPICAL<br>Ta= 25 °C | MIN/MAX<br>Ta = -55 °C to +85 °C |
|-----------------------------|----------------------|----------------------------------|
| Frequency                   | 10 - 1500 MHz        | 10 - 1500 MHz                    |
| Gain (dB)                   | 22.0                 | 20.0 Min.                        |
| Power @ 1 dB<br>Comp. (dBm) | +13                  | +10.0 Min.                       |
| Reverse<br>Isolation (dB)   | -33                  | -30 Max.                         |
| VSWR In                     | <1.75:1              | 2.0:1 max.                       |
| Out                         | <1.75:1              | 2.2:1 Max.                       |
| Noise figure (dB)           | 4.3                  | 5.0 Max.                         |
| Power Vdc                   | +15                  | +15                              |
| mA                          | 56                   | 65 Max.                          |

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

### 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 ..... + 13 dBm  
 Short Term RF Input Power ..... 50 Milliwatts (1 Minute Max.)  
 Maximum Peak Power ..... 0.5 Watt (3 µsec Max.)

### Typical Performance Data



### Linear S-Parameters

| FREQ.<br>MHz | S11 |      | S21  |      | S12 |     | S22 |      |
|--------------|-----|------|------|------|-----|-----|-----|------|
|              | Mag | Deg  | Mag  | Deg  | Mag | Deg | Mag | Deg  |
| 10           | .10 | -173 | 6.98 | 0    | .03 | 4   | .21 | -176 |
| 50           | .11 | 177  | 6.88 | -8   | .03 | -0  | .22 | -180 |
| 100          | .11 | 172  | 6.84 | -16  | .03 | 1   | .22 | 178  |
| 250          | .12 | 156  | 6.83 | -39  | .03 | -4  | .24 | 173  |
| 500          | .15 | 129  | 6.90 | -79  | .03 | -3  | .28 | 158  |
| 750          | .18 | 100  | 7.01 | -119 | .03 | -7  | .31 | 132  |
| 1000         | .21 | 70   | 7.17 | -160 | .03 | -11 | .30 | 98   |
| 1250         | .18 | 44   | 7.04 | 158  | .03 | -21 | .23 | 55   |
| 1500         | .14 | 39   | 6.92 | 117  | .03 | -43 | .15 | -9   |
| 1750         | .16 | 50   | 7.04 | 75   | .03 | -46 | .16 | -99  |
| 2000         | .27 | 29   | 7.61 | 22   | .03 | -54 | .30 | -165 |



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