

# RF AMPLIFIER

## MODEL *TM9522*

Available as: TM9522, 4 Pin TO-8 (T4)  
 TN9522, 4 Pin Surface Mount (SM3)  
 FP9522, 4 Pin Flatpack (FP4)  
 BX9522, Connectorized Housing (H1)

### Features

- High Gain: +20.5 dBm Typical
- Output Power: +14 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                   | 5 - 1500 MHz         | 5 - 1500 MHz                     |
| Gain (dB)                   | 20.5                 | 18.5 Min.                        |
| Power @ 1 dB<br>Comp. (dBm) | +14.0                | +10.0 Min                        |
| Reverse<br>Isolation (dB)   | -30                  | -27 Max.                         |
| VSWR In                     | <1.5:1               | 2.0:1 Max.                       |
| Out                         | <1.5:1               | 2.0:1 Max.                       |
| Noise figure (dB)           | <5.0                 | 6.0 Max.                         |
| Power Vdc                   | +15                  | +15                              |
| mA                          | 64                   | 70 Max.                          |

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

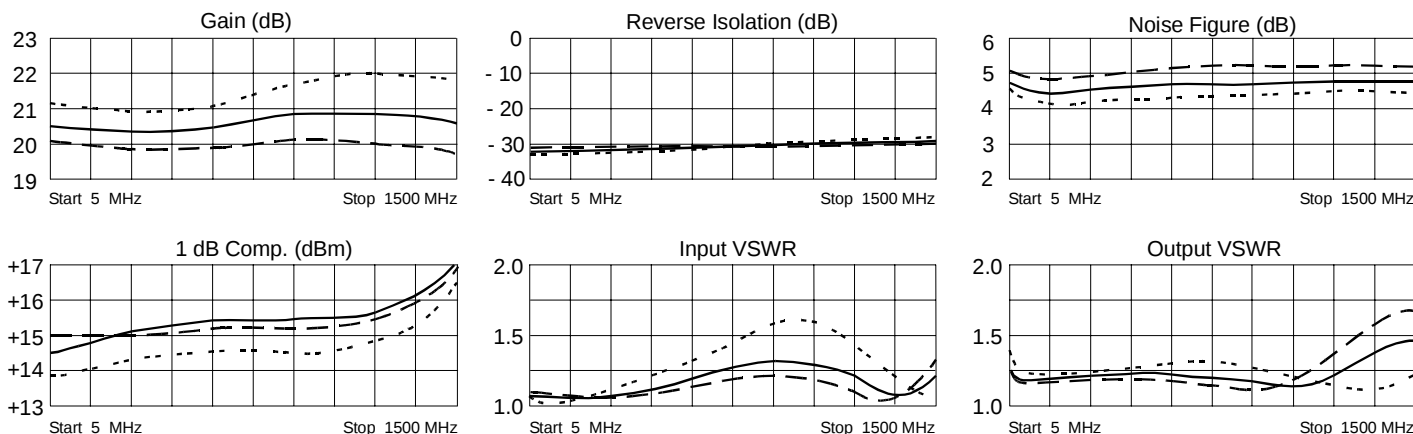
### Typical Intermodulation Performance at 25 °C

Second Order Harmonic Intercept Point.....+48 dBm (Typ.)  
 Second Order Two Tone Intercept Point.....+42 dBm (Typ.)  
 Third Order Two Tone Intercept Point.....+25 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 ..... + 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           | .02 | 50   | 10.88 | 5    | .03 | 8    | .12 | 145 |
| 50           | .01 | - 33 | 10.84 | - 11 | .03 | - 1  | .08 | 166 |
| 100          | .02 | - 74 | 10.62 | - 24 | .03 | - 8  | .08 | 172 |
| 300          | .05 | -154 | 10.50 | - 71 | .03 | - 19 | .09 | 166 |
| 500          | .10 | 156  | 10.61 | -119 | .03 | - 35 | .10 | 151 |
| 700          | .17 | 110  | 10.95 | -167 | .03 | - 54 | .10 | 133 |
| 900          | .20 | 65   | 11.55 | 143  | .03 | - 64 | .07 | 117 |
| 1100         | .19 | 20   | 11.83 | 89   | .03 | - 83 | .05 | 146 |
| 1300         | .11 | - 30 | 11.55 | 32   | .03 | -100 | .12 | 160 |
| 1500         | .07 | 102  | 10.77 | - 27 | .03 | -125 | .21 | 128 |



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