

# RF AMPLIFIER

## MODEL **TM5304**

Available as: TM5304, 4 Pin TO-8 (T4)  
 TN5304, 4 Pin Surface Mount (SM3)  
 FP5304, 4 Pin Flatpack (FP4)  
 BX5304, Connectorized Housing (H1)

### Features

- High Gain: 19.5 dB Typical
- Low Noise Figure: <2.5 dB 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 - 200 MHz          | 5 - 200 MHz                      |
| Gain (dB)                   | 19.5                 | 18.5 Min.                        |
| Power @ 1 dB<br>Comp. (dBm) | +10.5                | +9.5 Min.                        |
| Reverse<br>Isolation (dB)   | - 26                 | - 25 Max.                        |
| VSWR In                     | <1.75:1              | 2.0:1 Max.                       |
| Out                         | <1.5:1               | 2.0:1 Max.                       |
| Noise figure (dB)           | <2.5                 | 3.0 Max.                         |
| Power Vdc                   | +15                  | +15                              |
| mA                          | 24                   | 25 Max.                          |

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

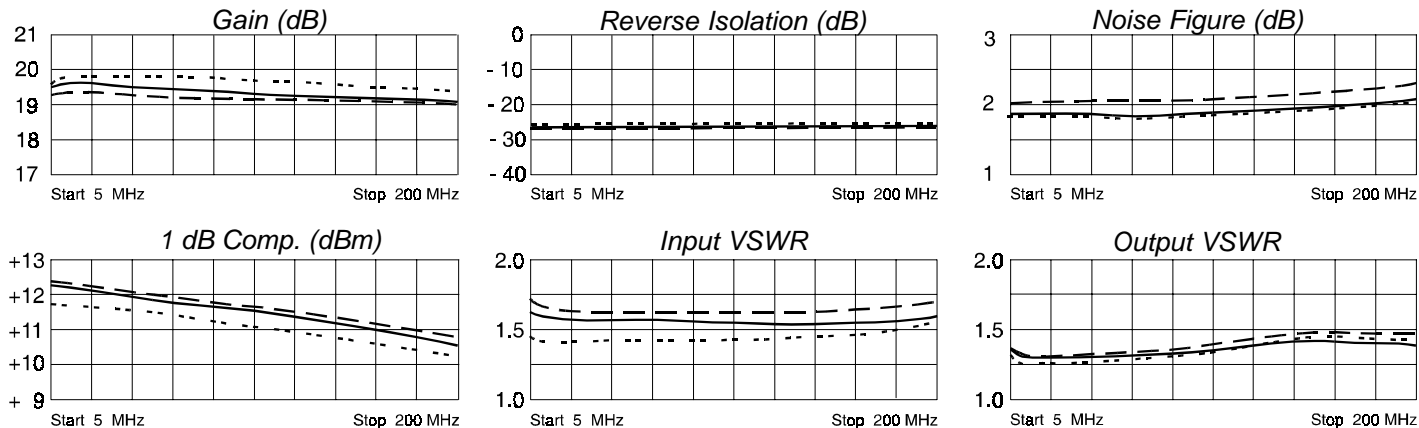
### Typical Intermodulation Performance at 25 ° C

Second Order Harmonic Intercept Point ..... +39 (Typ.)  
 Second Order Two Tone Intercept Point ..... +33 (Typ.)  
 Third Order Two Tone Intercept Point ..... +25 (Typ.)

### Maximum Ratings

Ambient Operating Temperature ..... -55°C to + 100 °C  
 Storage Temperature ..... -62°C to + 125 °C  
 Case Temperature ..... + 125 °C  
 DC Voltage ..... + 17Volts  
 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



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  |
| 5           | .24 | - 18 | 9.29 | -173 | .05 | -172 | .15 | - 28 |
| 10          | .23 | - 14 | 9.37 | 180  | .05 | -179 | .13 | - 18 |
| 50          | .22 | - 32 | 9.27 | 160  | .05 | 157  | .13 | - 19 |
| 100         | .21 | - 65 | 9.20 | 138  | .05 | 137  | .15 | - 37 |
| 150         | .21 | -104 | 9.09 | 117  | .05 | 111  | .17 | - 60 |
| 200         | .24 | -145 | 8.85 | 94   | .05 | 89   | .16 | - 82 |
| 300         | .37 | 150  | 7.82 | 45   | .05 | 46   | .07 | -106 |



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