# RF AMPLIFIER MODEL *TM7203*

**Available as:** TM7203, 4 Pin TO-8 (T4)
TN7203, 4 Pin Surface Mount (SM3)
FP7203, 4 Pin Flatpack (FP4)
BX7203,Connectorized Housing (H1)

## Features

- Low Noise Figure: 3 dB Typical
- High Gain: 32 dB Typical
- Operating Temp. - 55 ºC to +85 ºC
- Environmental Screening Available

## Typical Intermodulation Performance at 25 º C

Second Order Harmonic Intercept Point..... +36 dBm (Typ.)
Second Order Two Tone Intercept Point..... +30 dBm (Typ.)
Third Order Two Tone Intercept Point..... +18 dBm (Typ.)

## Specifications

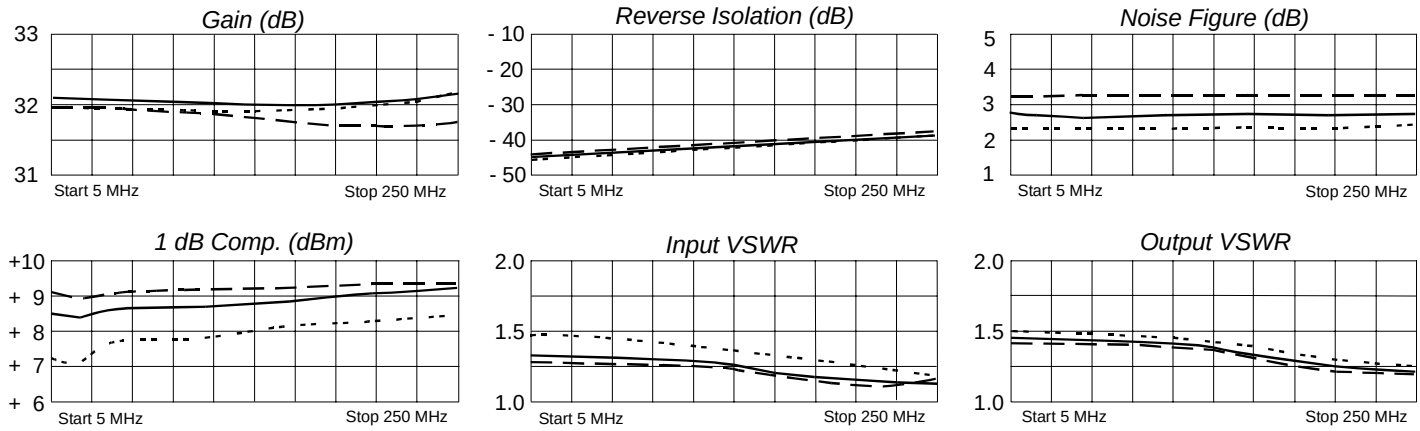
| CHARACTERISTIC | TYPICAL Ta= 25 ºC | MIN/MAX Ta = -55 ºC to +85 ºC |
|---|---|---|
| Frequency | 5-250 MHz | 5-250 MHz |
| Gain (dB) | 32 | 30.0 Min. |
| Power @ 1 dB Comp. (dBm) | +8 | +6.5 Min. |
| Reverse Isolation (dB) | -40 | -37 Max. |
| VSWR In<br>Out | <1.75:1<br><1.75:1 | 2.0:1 Max.<br>2.0:1 Max. |
| Noise Figure (dB) | 3 | 4.0 Max. |
| Power Vdc<br>mA | +15<br>35 | +15 Min.<br>38 Max. |

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

## Maximum Ratings

Ambient Operating Temperature ..... -55ºC to + 100 ºC
Storage Temperature ..... -62ºC to + 125 ºC
Case Temperature ..... + 125 ºC
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




*Legend* ——— *+ 25 ºC* – – – *+ 85 ºC* - - - - - - *-55 ºC*

### Linear S-Parameters

| FREQ. MHz | S11 Mag | S11 Deg | S21 Mag | S21 Deg | S12 Mag | S12 Deg | S22 Mag | S22 Deg |
|---|---|---|---|---|---|---|---|---|
| 5 | .14 | -169 | 40.30 | 2 | .01 | -0 | .19 | -7 |
| 10 | .14 | -175 | 40.29 | -2 | .01 | 3 | .19 | -5 |
| 20 | .13 | -178 | 40.24 | -8 | .01 | 1 | .19 | -7 |
| 50 | .13 | -179 | 40.09 | -24 | .01 | 10 | .18 | -14 |
| 100 | .12 | 177 | 39.69 | -47 | .01 | 17 | .16 | -27 |
| 150 | .10 | 177 | 39.77 | -70 | .01 | 23 | .14 | -44 |
| 200 | .07 | -176 | 39.96 | -94 | .01 | 23 | .11 | -69 |
| 250 | .04 | -113 | 40.67 | -118 | .01 | 27 | .09 | -119 |
| 300 | .14 | -75 | 41.64 | -145 | .01 | 20 | .16 | -169 |


*Spectrum Microwave · 2144 Franklin Drive N.E. · Palm Bay, Florida 32905 · PH (888) 553-7531 · Fax (888) 553-7532* 6/29/04

www.spectrummicrowave.com *Spectrum Microwave (Europe) · 2707 Black Lake Place · Philadelphia, Pa. 19154 · PH (215) 464-4000 · Fax (215) 464-4001*