

# RF Amplifier

## High Output Power: +21 dBm

# Model TM7282

## 20 to 250 MHz

### Features

- High Output Power: +21 dBm Typical
- High Gain: 23.5 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                   | 20-250 MHz           | 20-250 MHz                       |
| Gain (dB)                   | 23.5                 | 21.0 Min.                        |
| Power @ 1 dB<br>Comp. (dBm) | +21                  | +18.0 Min.                       |
| Reverse<br>Isolation (dB)   | -28                  | -27 Max.                         |
| VSWR In                     | <1.5:1               | 2.0:1 Max.                       |
| Out                         | <1.5:1               | 2.3:1 Max.                       |
| Noise Figure (dB)           | 4.0                  | 5.0 Max.                         |
| Power Vdc                   | +15                  | +15 Min.                         |
| mA                          | 45                   | 50 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..... +43 dBm (Typ.)  
 Second Order Two Tone Intercept Point..... +38 dBm (Typ.)  
 Third Order Two Tone Intercept Point..... +34 dBm (Typ.)

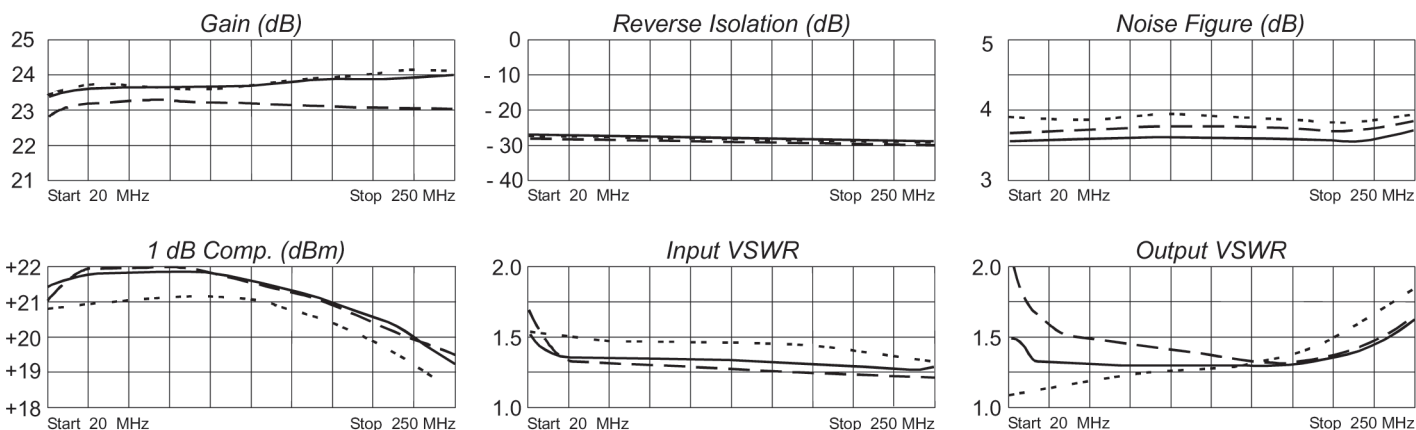
### Maximum Ratings

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.)

### Packaging Options (see Appendix)

TM7282, 4 Pin TO-8 (T4)  
 TN7282, 4 Pin Surface Mount (SM3)  
 FP7282, 4 Pin Flatpack (FP4)  
 BX7282, Connectorized Housing (H1)

### Typical Performance Data



### Linear S-Parameters

| FREQ.<br>MHz | S11 |      | S21   |      | S12 |     | S22 |      |
|--------------|-----|------|-------|------|-----|-----|-----|------|
|              | Mag | Deg  | Mag   | Deg  | Mag | Deg | Mag | Deg  |
| 10           | .34 | - 94 | 14.03 | -148 | .03 | 19  | .34 | 112  |
| 20           | .22 | -128 | 14.93 | -171 | .03 | 6   | .19 | 99   |
| 50           | .16 | -168 | 15.15 | 164  | .03 | - 5 | .13 | 76   |
| 100          | .15 | 157  | 15.21 | 136  | .03 | -13 | .13 | 38   |
| 150          | .13 | 127  | 15.31 | 111  | .03 | -23 | .13 | - 9  |
| 200          | .12 | 91   | 15.46 | 84   | .03 | -38 | .15 | - 69 |
| 250          | .10 | 40   | 15.34 | 56   | .03 | -51 | .24 | -129 |
| 300          | .12 | - 34 | 14.77 | 25   | .02 | -69 | .41 | -173 |