

# RF AMPLIFIER

## MODEL *TM7101*

Available as: TM7101, 4 Pin TO-8 (T4)  
 TN7101, 4 Pin Surface Mount (SM3)  
 FP7101, 4 Pin Flatpack (FP4)  
 BX7101, Connectorized Housing (H1)

### Features

- Low Noise Figure: 1.8 dB Typical
- High Gain: 27.5 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                   | 10 - 150 MHz          | 10 - 150 MHz                     |
| Gain (dB)                   | 27.5                  | 26.0 Min.                        |
| Power @ 1 dB<br>Comp. (dBm) | +16.5                 | +15.0 Min.                       |
| Reverse<br>Isolation (dB)   | - 31.5                | - 30 Max.                        |
| VSWR In                     | <1.5:1                | 2.0:1 Max.                       |
| Out                         | <1.25:1               | 2.0:1 Max.                       |
| Noise figure (dB)           | 1.8                   | 2.5 Max.                         |
| Power Vdc                   | +15                   | +15                              |
| mA                          | 20                    | 23 Max.                          |

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

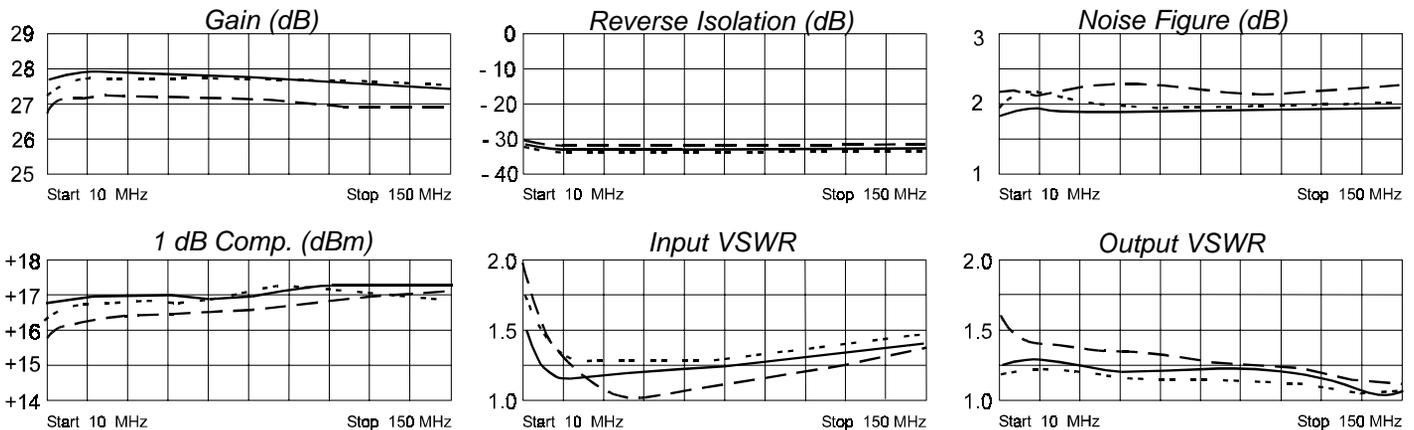
### Typical Intermodulation Performance at 25 ° C

Second Order Harmonic Intercept Point ..... +41 (Typ.)  
 Second Order Two Tone Intercept Point ..... +35 (Typ.)  
 Third Order Two Tone Intercept Point ..... +30 (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



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            | .23 | -99  | 24.64 | -165 | .02 | - 4 | .11 | -161 |
| 25           | .09 | -145 | 25.10 | 175  | .02 | - 1 | .13 | 171  |
| 50           | .07 | 151  | 24.87 | 158  | .02 | - 1 | .12 | 153  |
| 75           | .09 | 109  | 24.67 | 144  | .02 | - 1 | .11 | 133  |
| 100          | .12 | 81   | 24.39 | 130  | .02 | - 2 | .08 | 124  |
| 125          | .14 | 64   | 24.14 | 117  | .02 | -10 | .05 | 105  |
| 150          | .16 | 53   | 23.80 | 105  | .03 | -10 | .02 | 87   |
| 200          | .20 | 26   | 23.32 | 79   | .03 | -15 | .04 | -132 |
| 300          | .24 | - 32 | 23.14 | 27   | .02 | -47 | .13 | -169 |



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