

# RF AMPLIFIER

## MODEL *TM3002*

Available as: TM3002, 4 Pin TO-8 (T4)  
 TN3002, 4 Pin Surface Mount (SM3)  
 FP3002, 4 Pin Flatpack (FP4)  
 BX3002, Connectorized Housing (H1)

### Features

- High Output Power: +26 dBm Typical
- High Third Order Intercept: +37 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                   | 1400 - 2400 MHz      | 1400 - 2400 MHz                  |
| Gain (dB)                   | 12                   | 8 Min.                           |
| Power @ 1 dB<br>Comp. (dBm) | +26                  | +22 Min.                         |
| Reverse<br>Isolation (dB)   | -18                  | -16 Max.                         |
| VSWR In                     | <2.25:1              | 2.75:1 Max.                      |
| Out                         | <1.50:1              | 2.0:1 Max.                       |
| Noise Figure (dB)           | <4.0                 | 6.0 Max.                         |
| Power Vdc                   | +15                  | +15                              |
| mA                          | 150                  | 160 Max.                         |

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

### Typical Intermodulation Performance at 25 °C

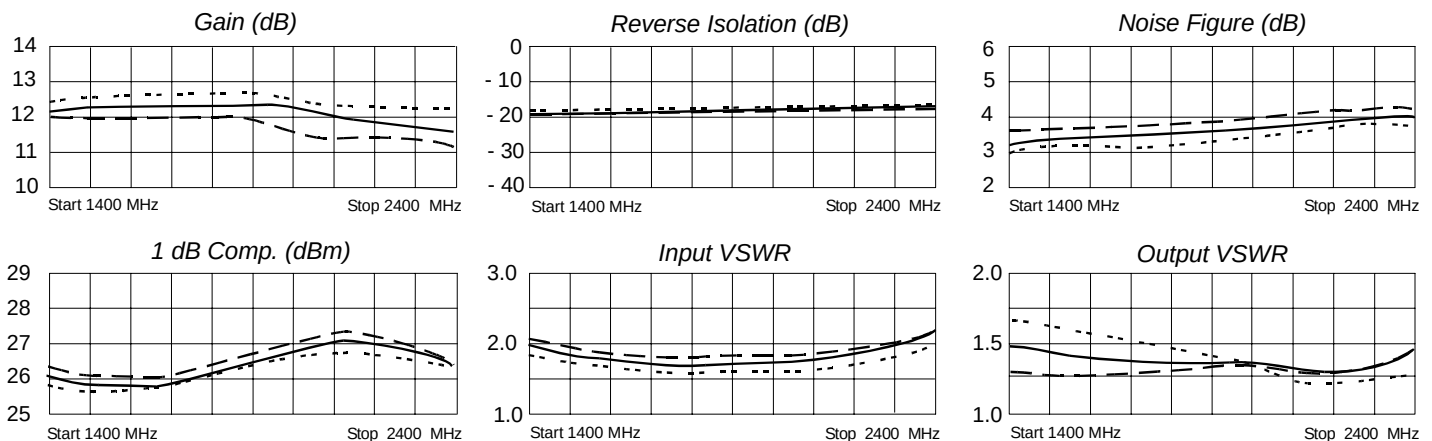
Second Order Harmonic Intercept Point ..... +52 dBm (Typ.)  
 Second Order Two Tone Intercept Point ..... +46 dBm (Typ.)  
 Third Order Two Tone Intercept Point ..... +37 dBm (Typ.)

### 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 ..... + 18 dBm  
 Short Term RF Input Power ..... 50 Milliwatts (1 Minute Max.)  
 Maximum Peak Power ..... 0.5 Watt (3 µsec Max.)

Legend ——— + 25 °C - - - + 85 °C - - - - -55 °C

### Typical Performance Data



### Linear S-Parameters

| Freq.<br>MHz | ---S11--- |     | ---S21--- |     | ---S12--- |     | ---S22--- |      |
|--------------|-----------|-----|-----------|-----|-----------|-----|-----------|------|
|              | Mag       | Deg | Mag       | Deg | Mag       | Deg | Mag       | Deg  |
| 1400         | .27       | 179 | 3.96      | 82  | .11       | -44 | .16       | 45   |
| 1500         | .26       | 174 | 4.03      | 73  | .10       | -47 | .15       | 31   |
| 1600         | .24       | 168 | 4.05      | 64  | .11       | -51 | .13       | 15   |
| 1700         | .22       | 162 | 4.14      | 54  | .11       | -55 | .13       | -8   |
| 1800         | .18       | 154 | 4.18      | 45  | .10       | -56 | .12       | -31  |
| 1900         | .14       | 146 | 4.27      | 34  | .11       | -62 | .12       | -50  |
| 2000         | .10       | 132 | 4.28      | 22  | .11       | -68 | .13       | -79  |
| 2100         | .06       | 82  | 4.17      | 10  | .10       | -73 | .14       | -106 |
| 2200         | .10       | -4  | 4.12      | 0   | .10       | -78 | .13       | -128 |
| 2300         | .19       | -36 | 4.11      | -13 | .10       | -84 | .12       | -143 |
| 2400         | .29       | -56 | 3.98      | -26 | .10       | -87 | .12       | -144 |



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