

# RF AMPLIFIER

## MODEL TR6589

Available as: TR6589, 4 Pin TO-8B (T8)  
 RN6589, 4 Pin Surface Mount (SM19)  
 BR6589, Connectorized Housing (H2)

### Features

- High Gain: 26.5 dB Typical
- High Output Power: +22 dBm Typical
- Operating Temp. -55 °C +85 °C
- Environmental Screening available

### Specifications

| CHARACTERISTIC              | TYPICAL<br>Ta= 25 °C | MIN/MAX<br>Ta = -55 °C to +85 °C |
|-----------------------------|----------------------|----------------------------------|
| Frequency                   | 5 - 500 MHz          | 5 - 500 MHz.                     |
| Gain (dB)                   | 26.5                 | 25 Min.                          |
| Power @ 1 dB<br>Comp. (dBm) | +22                  | +20 Min.                         |
| Reverse<br>Isolation (dB)   | -33                  | -31 Max.                         |
| VSWR In                     | <1.5:1               | 2.0:1 Max.                       |
| Out                         | <1.5:1               | 2.0:1 Max.                       |
| Noise figure (dB)           | 3.75                 | 5.0 Max.                         |
| Power Vdc                   | +15                  | +15                              |
| mA                          | 130                  | 135 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 ..... +51 dBm (Typ.)

Second Order Two Tone Intercept Point ..... +45 dBm (Typ.)

Third Order Two Tone Intercept Point ..... +35 dBm (Typ.)

### Maximum Ratings

Ambient Operating Temperature ..... -55°C to + 100 °C

Storage Temperature ..... -62°C to + 125 °C

Case Temperature ..... + 125 °C

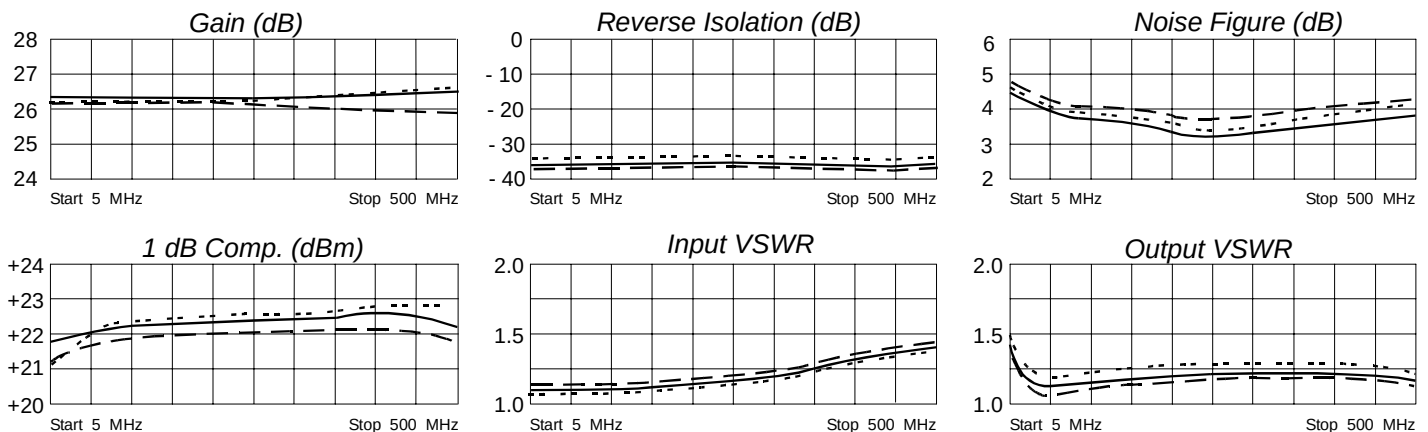
DC Voltage ..... + 18 Volts

Continuous RF Input Power ..... + 6 dBm

Short Term RF Input Power .... 200 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            | .05 | 126 | 21.71 | 15   | .01 | 19  | .17 | 86   |
| 50           | .02 | 66  | 20.95 | -15  | .02 | -1  | .03 | -26  |
| 100          | .04 | 63  | 20.84 | -31  | .02 | 7   | .05 | -73  |
| 200          | .08 | 54  | 20.77 | -62  | .02 | 8   | .09 | -119 |
| 300          | .11 | 34  | 20.83 | -94  | .02 | 4   | .13 | -149 |
| 400          | .14 | 14  | 20.92 | -126 | .02 | 5   | .14 | -177 |
| 500          | .16 | -11 | 21.00 | -159 | .02 | -2  | .15 | 156  |



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