

# RF AMPLIFIER

## MODEL TR3044

Available as: TR3044, 4 Pin TO-8B (T8)  
 RN3044, 4 Pin Surface Mount (SM19)  
 BR3044, Connectorized Housing (H2)

### Features

- High Gain: 32 dB Typical
- Low Noise Figure: 1.8 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 (MHz)             | 200 - 300 MHz        | 200 - 300 MHz                    |
| Gain (dB)                   | 32                   | 30 Min.                          |
| Power @ 1 dB<br>Comp. (dBm) | +21                  | + 20 Min.                        |
| Reverse<br>Isolation (dB)   | -37.5                | -36 Max.                         |
| VSWR In                     | 1.4:1                | 1.5:1 Max.                       |
| Out                         | 1.4:1                | 1.5:1 Max.                       |
| Noise figure (dB)           | 1.8                  | 2.8 Max.                         |
| Power Vdc                   | +15                  | +15                              |
| mA                          | 90                   | 100 Max.                         |

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

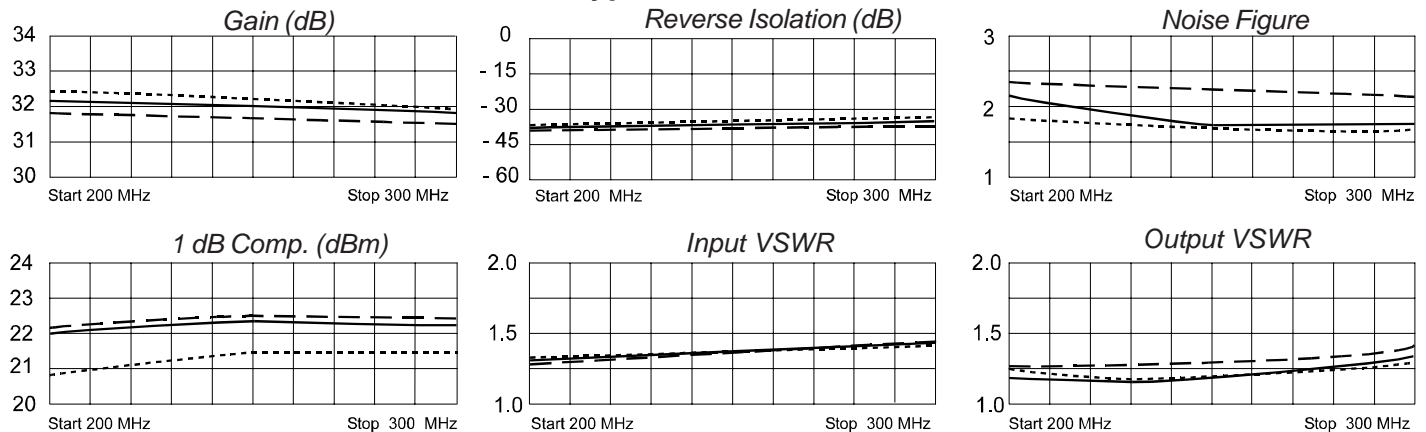
### Typical Intermodulation Performance at 25 ° C

Second Order Harmonic Intercept Point ..... +51 dBm (Typ.)  
 Second Order Two Tone Intercept Point ..... +45 dBm (Typ.)  
 Third Order Two Tone Intercept Point ..... +33 dBm (Typ.)

### Maximum Ratings

Ambient Operating Temperature ..... -55°C to + 140 °C  
 Storage Temperature ..... -62°C to + 150 °C  
 Case Temperature ..... + 150 °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 |     | K    | Del |
|--------------|-----|------|-------|------|-------|-----|-----|-----|------|-----|
|              | Mag | Deg  | Mag   | Deg  | Mag   | Deg | Mag | Deg |      |     |
| 10           | .12 | -153 | 10.22 | -175 | .0707 | 6   | .10 | 150 | 1.05 | .73 |
| 30           | .12 | -176 | 10.38 | 180  | .0721 | 1   | .07 | 164 | 1.04 | .76 |
| 50           | .12 | 178  | 10.38 | 178  | .0724 | 1   | .07 | 169 | 1.04 | .76 |
| 100          | .12 | 168  | 10.34 | 174  | .0731 | 0   | .07 | 165 | 1.03 | .76 |
| 200          | .13 | 153  | 10.28 | 168  | .0740 | -1  | .08 | 162 | 1.03 | .77 |
| 300          | .13 | 138  | 10.18 | 161  | .0725 | -4  | .08 | 151 | 1.04 | .74 |
| 400          | .15 | 128  | 10.00 | 155  | .0727 | -6  | .09 | 143 | 1.04 | .73 |
| 500          | .16 | 117  | 9.86  | 149  | .0723 | -6  | .10 | 137 | 1.04 | .72 |



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