

# RF AMPLIFIER

## MODEL *TM3068*

Available as: TM3068, 4 Pin TO-8 (T4)  
TN3068, 4 Pin Surface Mount (SM3)  
BX3068, Connectorized Housing (H1)

### Features

- Output Power: +12.5 dBm Typical
- High Gain: +21 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                   | 5 - 1000 MHz         | 5 - 1000 MHz                     |
| Gain (dB)                   | 21                   | 20 Min.                          |
| Power @ 1 dB<br>Comp. (dBm) | +12.5                | +10 Min.                         |
| Reverse<br>Isolation (dB)   | -30                  | -29 Max.                         |
| VSWR In                     | <1.65:1              | 2.0:1 Max.                       |
| Out                         | <1.75:1              | 2.0:1 Max.                       |
| Noise Figure (dB)           | 4.0                  | 5.0 Max.                         |
| Power Vdc                   | +15                  | +15                              |
| mA                          | 55                   | 60 Max.                          |

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

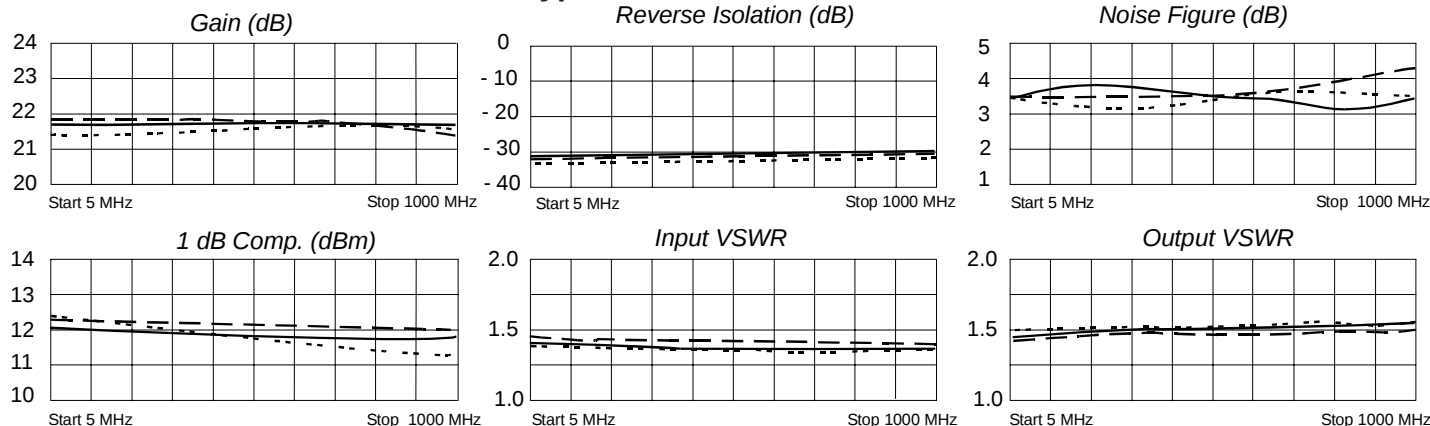
### Typical Intermodulation Performance at 25 °C

Second Order Harmonic Intercept Point..... +50 dBm (Typ.)  
Second Order Two Tone Intercept Point.... +44 dBm (Typ.)  
Third Order Two Tone Intercept Point..... +24 dBm (Typ.)

### Maximum Ratings

Ambient Operating Temperature ..... -55°C to + 125 °C  
Storage Temperature ..... -62°C to + 125 °C  
Case Temperature ..... + 125 °C  
DC Voltage ..... + 18 Volts  
Continuous RF Input Power ..... + 8 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            | .10       | 3    | 12.22     | 8    | .0227     | 11  | .19       | 174 |
| 30           | .10       | -15  | 12.15     | -5   | .0254     | 4   | .18       | 178 |
| 55           | .09       | -26  | 12.14     | -11  | .0285     | 2   | .18       | 176 |
| 80           | .10       | -34  | 12.12     | -16  | .0242     | 5   | .18       | 175 |
| 100          | .10       | -38  | 12.12     | -21  | .0241     | 1   | .18       | 175 |
| 200          | .11       | -77  | 12.21     | -42  | .0258     | 3   | .19       | 170 |
| 300          | .13       | -106 | 12.26     | -64  | .0256     | 9   | .20       | 163 |
| 400          | .15       | -142 | 12.24     | -86  | .0239     | 6   | .22       | 150 |
| 500          | .16       | -151 | 11.99     | -107 | .0285     | -9  | .18       | 142 |
| 600          | .19       | -177 | 12.08     | -129 | .0235     | 6   | .20       | 134 |
| 700          | .20       | 159  | 11.95     | -151 | .0270     | 5   | .21       | 120 |
| 800          | .18       | 137  | 11.88     | -174 | .0248     | -4  | .18       | 106 |
| 900          | .14       | 118  | 11.76     | 164  | .0273     | -13 | .17       | 91  |
| 1000         | .11       | 112  | 12.02     | 142  | .0306     | -15 | .11       | 88  |

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