

# RF AMPLIFIER

## MODEL *TM4003PM*

Available as: TM4003PM, 4 Pin TO-8 (T4)  
TN4003PM, 4 Pin Surface Mount (SM3)  
BX4003PM, Connectorized Housing (H1)

### Features

- High Gain: 20 dB Typical
- Output Power: +19.5 dBm Typical
- Low +7 Volt Supply
- Operating Temp. -55 °C to +85 °C

### Specifications

| CHARACTERISTIC              | TYPICAL<br>Ta= 25 °C | MIN/MAX<br>Ta = -55 °C to +85 °C |
|-----------------------------|----------------------|----------------------------------|
| Frequency                   | 10 - 500 MHz         | 10 - 500 MHz                     |
| Gain (dB)                   | +20                  | +19 Min.                         |
| Power @ 1 dB<br>Comp. (dBm) | +19.5                | +18.5 Min.                       |
| Reverse<br>Isolation (dB)   | -23                  | -22 Max.                         |
| VSWR In                     | 1.4:1                | 1.75:1 Max.                      |
| Out                         | 1.3:1                | 1.75:1 Max.                      |
| Noise Figure (dB)           | 4.0                  | 5.0 Max.                         |
| Power Vdc                   | +7                   | +7                               |
| mA                          | 80                   | 85 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.)

### Absolute Maximum (No Damage) Ratings

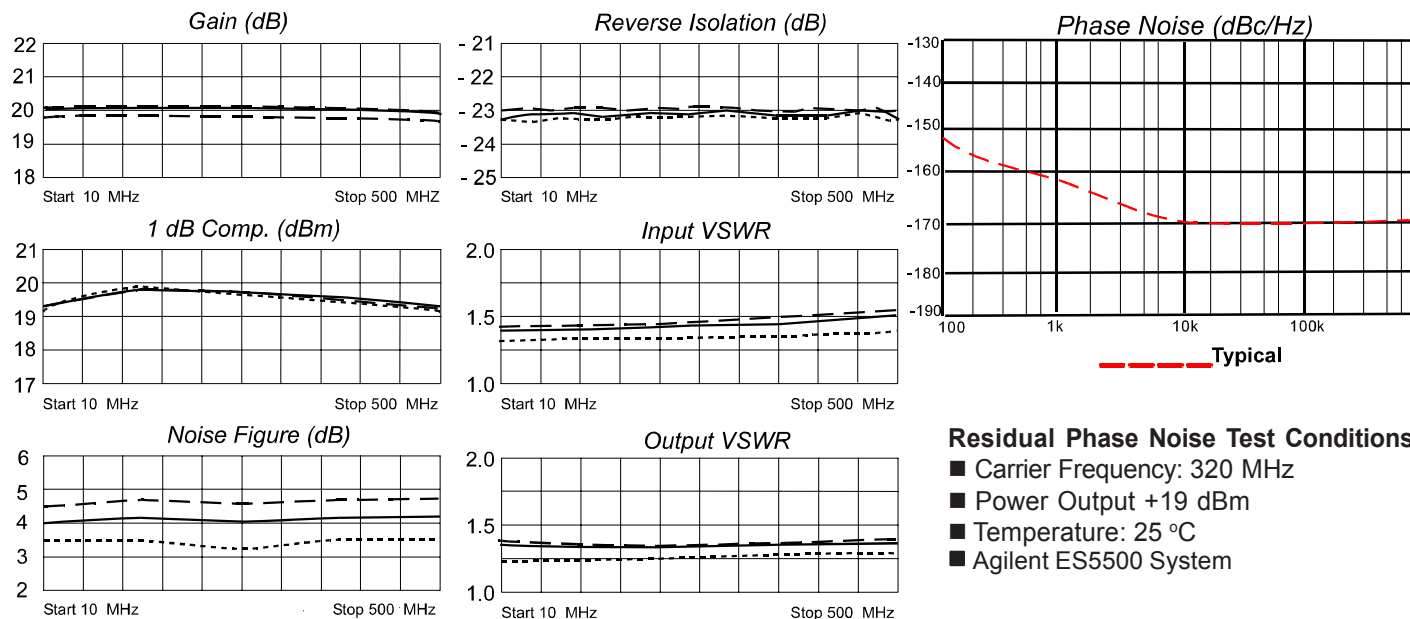
Ambient Operating Temperature ..... -55°C to +100 °C  
Storage Temperature ..... -62°C to +125 °C  
Case Temperature ..... +125 °C  
DC Voltage ..... +8 Volts  
Continuous RF Input Power ..... +10 dBm  
Short Term RF Input Power .... 200 Milliwatts (1 Minute Max.)  
Maximum Peak Power ..... 0.5 Watt (3 µsec Max.)

### Guaranteed @ 25 °C (320 MHz) Phase Noise Performance (dBc/Hz)\*

| Frequency | Typical | Guarantee (min.) |
|-----------|---------|------------------|
| 100 Hz    | 152     | 150              |
| 1 kHz     | 162     | 160              |
| 10 kHz    | 170     | 165              |
| 100 kHz   | 170     | 165              |
| 1 MHz     | 170     | 165              |

\*Note: Phase Noise Performance typically tested at midband.  
Bandedge performance may vary.

### Typical Performance Data



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