

# 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 Ta= 25 °C	MIN/MAX Ta = -55 °C to +85 °C
Frequency	10 - 500 MHz	10 - 500 MHz
Gain (dB)	+20	+19 Min.
Power @ 1 dB Comp. (dBm)	+19.5	+18.5 Min.
Reverse 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

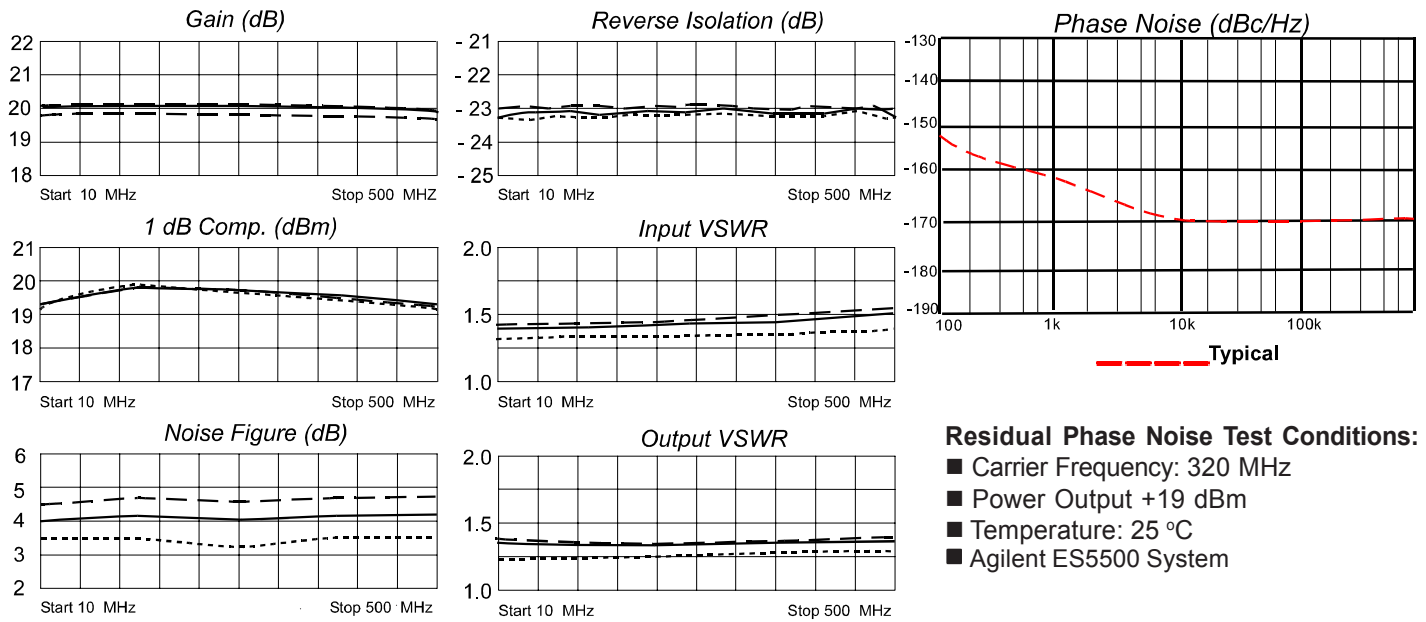
Ambient Operating Temperature ..... -55°C to +100 °C  
 Storage Temperature ..... -62°C to +125 °C  
 Case Temperature ..... +125 °C  
 DC Voltage ..... +8 Volts  
 Continuous RF Input Power ..... +10 dBm  
 Short Term RF Input Power .... 200 Milliwatts (1 Minute Max.)  
 Maximum Peak Power ..... 0.5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



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

### Residual Phase Noise Test Conditions:

- Carrier Frequency: 320 MHz
- Power Output +19 dBm
- Temperature: 25 °C
- Agilent ES5500 System

