

# RF AMPLIFIER

## MODEL *TM7101PM*

Available as: TM7101PM, 4 Pin TO-8 (T4)  
 TN7101PM, 4 Pin Surface Mount (SM3)  
 BX7101PM, Connectorized Housing (H1)

### Features

- Low Noise Figure: 1.8 dB Typical
- High Gain: 27.5 dB Typical
- Operating Temp. -55 °C to +85 °C
- Environmental Screening Available

### Specifications

CHARACTERISTIC	TYPICAL Ta = 25 °C	MIN/MAX Ta = -55 °C to +85 °C
Frequency	10 - 150 MHz	10 - 150 MHz
Gain (dB)	27.5	26.0 Min.
Power @ 1 dB Comp. (dBm)	+16.5	+15.0 Min.
Reverse Isolation (dB)	-31.5	-30 Max.
VSWR In	<1.5:1	2.0:1 Max.
Out	<1.25:1	2.0:1 Max.
Noise Figure (dB)	1.8	2.5 Max.
Power Vdc	+15	+15
mA	20	23 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 ..... +41 dBm (Typ.)  
 Second Order Two Tone Intercept Point ..... +35 dBm (Typ.)  
 Third Order Two Tone Intercept Point ..... +30 dBm (Typ.)

### Absolute Maximum (No Damage) Ratings

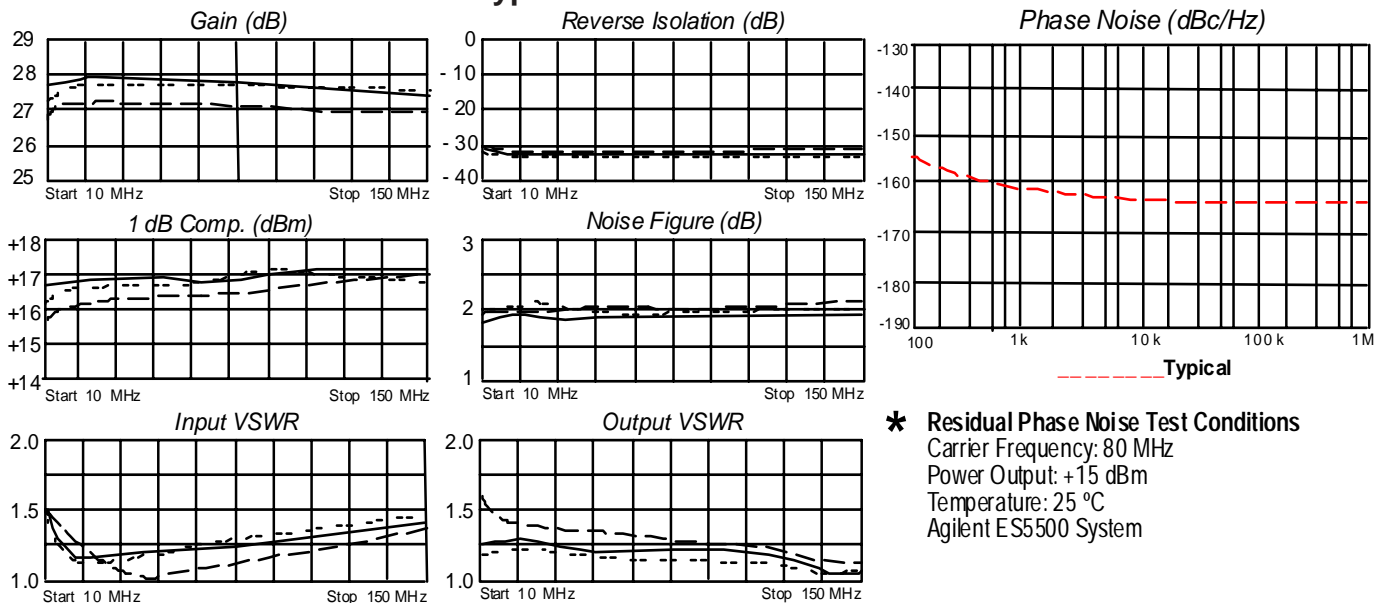
Ambient Operating Temperature ..... -55°C to +100 °C  
 Storage Temperature ..... -62°C to +125 °C  
 Case Temperature ..... +125 °C  
 DC Voltage ..... +18 Volts  
 Continuous RF Input Power ..... +13 dBm  
 Short Term RF Input Power ..... 50 Milliwatts (1 Minute Max.)  
 Maximum Peak Power ..... 0.5 Watt (3 µsec Max.)

### Guaranteed @ 25 °C (80 MHz) Phase Noise Performance (dBc/Hz)\*

Frequency	Typical	Guaranteed
100 Hz	-155	-150
1 kHz	-162	-155
10 kHz	-164	-160
100 kHz	-164	-160
1 MHz	-164	-160

\*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: 80 MHz  
 Power Output: +15 dBm  
 Temperature: 25 °C  
 Agilent ES5500 System

### Linear S-Parameters

FREQ. MHz	S11		S21		S12		S22	
	Mag	Deg	Mag	Deg	Mag	Deg	Mag	Deg
5	0.23	-99	24.64	-165	0.02	-4	0.11	-161
25	0.09	-145	25.10	175	0.02	1	0.13	171
50	0.07	151	24.87	158	0.02	-1	0.12	153
75	0.09	109	24.67	144	0.02	1	0.11	133
100	0.12	81	24.39	130	0.02	-2	0.08	124
125	0.14	64	24.14	117	0.02	-10	0.05	105
150	0.16	53	23.80	105	0.03	-10	0.02	87



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