

# RF AMPLIFIER

## MODEL *TM6121PM*

Available as: TM6121PM, 4 Pin TO-8 (T4)  
 TN6121PM, 4 Pin Surface Mount (SM3)  
 FP6121PM, 4 Pin Flatpack (FP4)  
 BX6121PM, Connectorized Housing (H1)

### Features

- Superior Phase Noise Performance
- High Third Order Intercept: +38 dBm Typical
- Low Noise Figure: <3.0 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	20 - 200 MHz	20 - 200 MHz
Gain (dB)	10	9.4 Min.
Power @ 1 dB Comp. (dBm)	+20.0	+18.0 Min.
Reverse Isolation (dB)	- 18	-17 Max.
VSWR In	1.75:1	2.0:1 Max.
Out	1.75:1	2.0:1 Max.
Noise Figure (dB)	<3.0	4.0 Max.
Power Vdc	+15	+15
mA	60	70 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 ..... +60 dBm (Typ.)  
 Second Order Two Tone Intercept Point ..... +55 dBm (Typ.)  
 Third Order Two Tone Intercept Point ..... +38 dBm (Typ.)

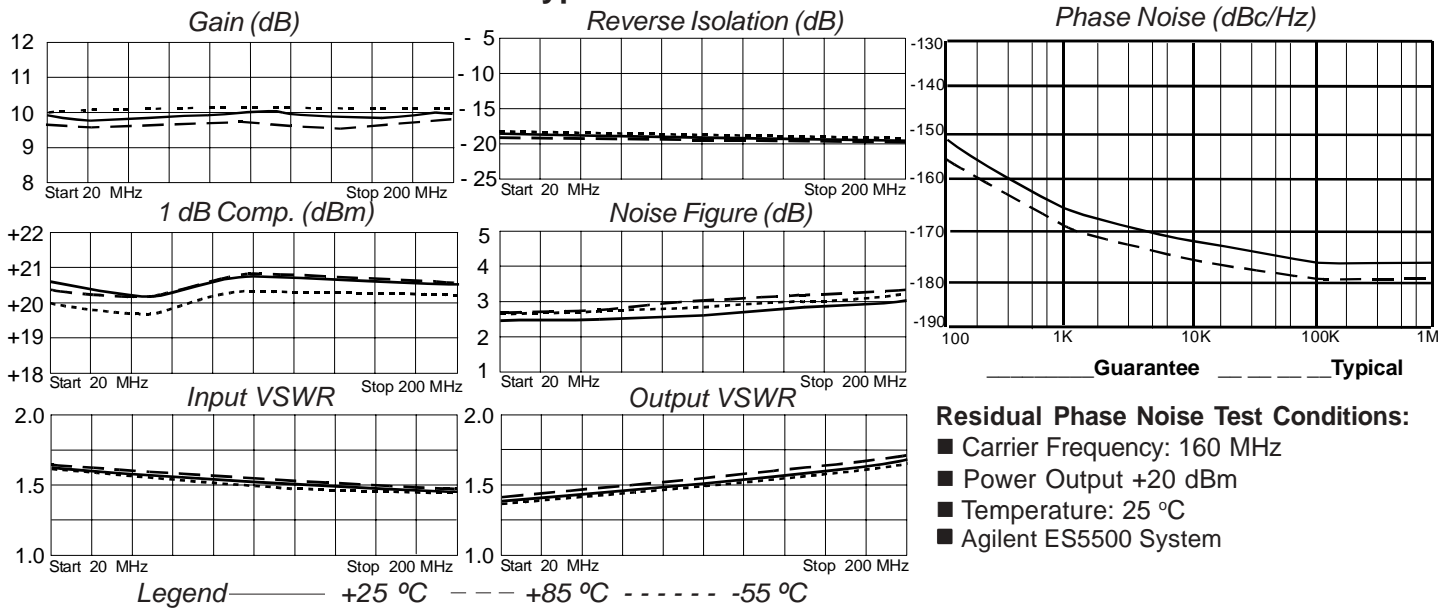
### Maximum Ratings

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 ..... +17 dBm  
 Short Term RF Input Power ..... 200 mW (1 Minute Max.)  
 Maximum Peak Power ..... 0.5 Watt (3 µsec Max.)

### Guaranteed Phase Noise Performance (dBc/Hz) \*

Frequency	Typical	Guarantee (min.)
100 Hz	-155	-151
1 kHz	-169	-165
10 kHz	-175	-171
100 kHz	-179	-175
1 MHz	-179	-175

### Typical Performance Data



### Residual Phase Noise Test Conditions:

- Carrier Frequency: 160 MHz
- Power Output +20 dBm
- Temperature: 25 °C
- Agilent ES5500 System

### Linear S-Parameters

FREQ. MHz	S11		S21		S12		S22	
	Mag	Deg	Mag	Deg	Mag	Deg	Mag	Deg
10	.20	-148	3.10	-174	.11	-175	.21	-169
20	.19	-166	3.12	178	.12	176	.22	-176
50	.18	176	3.09	165	.11	163	.22	176
100	.18	161	3.07	147	.11	143	.23	-165
150	.18	151	3.08	130	.11	126	.24	155
200	.20	139	3.10	112	.11	108	.24	148
300	.25	108	3.01	71	.09	78	.30	143



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