

# RF AMPLIFIER

## MODEL *TM5124PM*

Available as: TM5124PM, 4 Pin TO-8 (T4)  
 TN5124PM, 4 Pin Surface Mount (SM3)  
 FP5124PM, 4 Pin Flatpack (FP4)  
 BX5124PM, Connectorized Housing (H1)

### Features

- Superior Phase Noise Performance
- High Gain: 20.5 dB Typical
- High Output Power: +20 dBm Typical
- Operating Temp. -55 °C to +85 °C

### Specifications

CHARACTERISTIC	TYPICAL Ta= 25 °C	MIN/MAX Ta = -55 °C to +85 °C
Frequency (MHz)	20 - 200 MHz	20 - 200 MHz
Gain (dB)	20.5	19.5 Min.
Power @ 1 dB Comp. (dBm)	+20	+18 Min.
Reverse Isolation (dB)	-24	-23.5 Max.
VSWR In	1.5:1	1.6:1 Max.
VSWR Out	1.2:1	1.6:1 Max.
Noise Figure (dB)	2.5	3.5 Max.
Power Vdc	+15	+15
mA	53	58 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 ..... +49 dBm (Typ.)  
 Second Order Two Tone Intercept Point ..... +44 dBm (Typ.)  
 Third Order Two Tone Intercept Point ..... +34 dBm (Typ.)

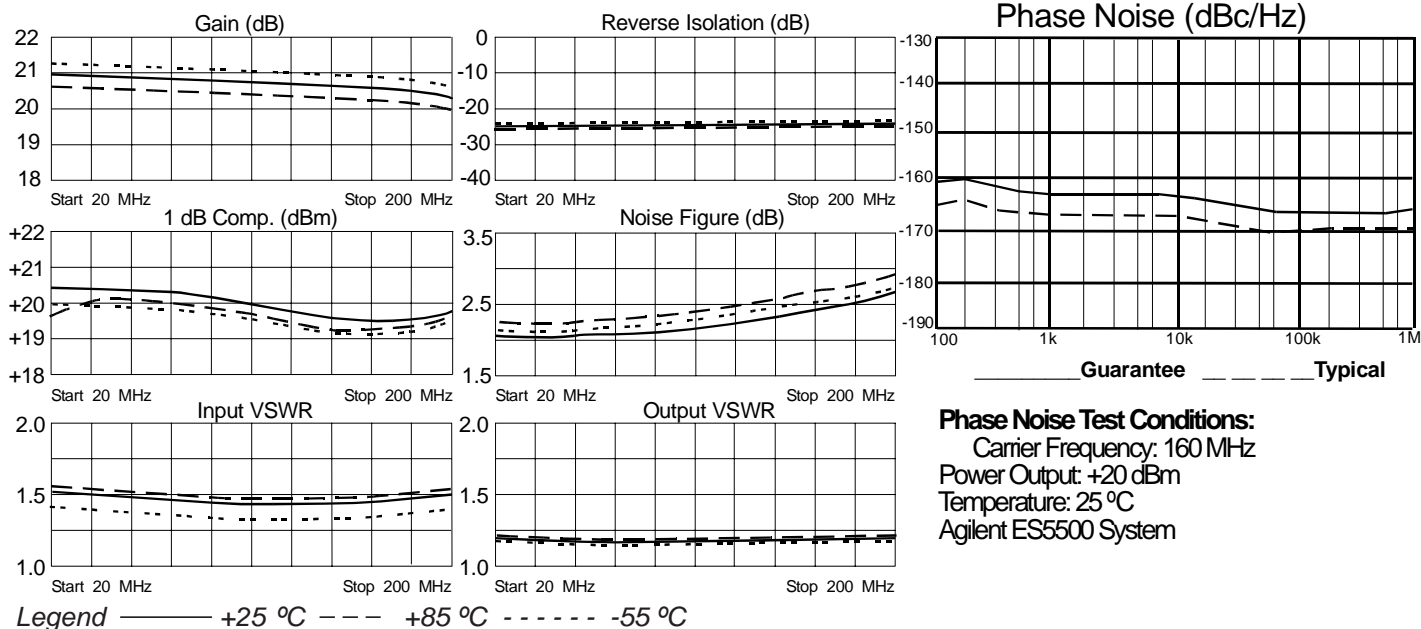
### Maximum Ratings

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 ..... +13 dBm  
 Short Term RF Input Power ..... 50 Milliwatts (1 Minute Max.)  
 Maximum Peak Power ..... 0.5 Watt (3 µsec Max.)

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

Frequency	Typical	Guarantee (Min.)
100 Hz	-165	-161
1 KHz	-166	-162
10 KHz	-166	-162
100 KHz	-170	-166
1 MHz	-169	-165

### Typical Performance Data



### 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
20	.21	-38	11.43	177	.06	178	.10	-42
50	.21	-60	11.40	158	.06	156	.08	-25
100	.23	-104	11.18	133	.06	131	.08	-25
150	.25	-150	10.94	109	.06	107	.10	-36
200	.26	158	10.58	82	.06	83	.13	-64



Spectrum Microwave · 2144 Franklin Drive N.E. · Palm Bay, Florida 32905 · PH (888) 553-7531 · Fax (888) 553-7532 11/19/03

www.SpectrumMicrowave.com Spectrum Microwave · 2707 Black Lake Place · Philadelphia, Pennsylvania 19154 · PH (215) 464-4000 · Fax (215) 464-4001