

# RF AMPLIFIER

## MODEL *TM5126PM*

Available as: TM5126PM, 4 Pin TO-8 (T4)  
 TN5126PM, 4 Pin Surface Mount (SM3)  
 FP5126PM, 4 Pin Flatpack (FP4)  
 BX5126PM, Connectorized Housing (H1)

### Features

- Superior Phase Noise Performance
- Low Noise Figure: Less than 3.0 dB
- 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	5-500 MHz	5-500 MHz
Gain (dB)	15	14 Min.
Power @ 1 dB Comp. (dBm)	17	16 Min
Reverse Isolation (dB)	-21	-20 Max.
VSWR In	<1.5:1	2.0:1 Max.
VSWR Out	<1.5:1	2.0:1 Max.
Noise Figure (dB)	<3.0	3.5 Max.
Power Vdc	+15	+15
mA	50	55 Max.

### Typical Intermodulation Performance at 25 °C

Second Order Harmonic Intercept Point ..... +48 dBm (Typ.)  
 Second Order Two Tone Intercept Point ..... +42 dBm (Typ.)  
 Third Order Two Tone Intercept Point ..... +32 dBm (Typ.)

### Maximum Ratings

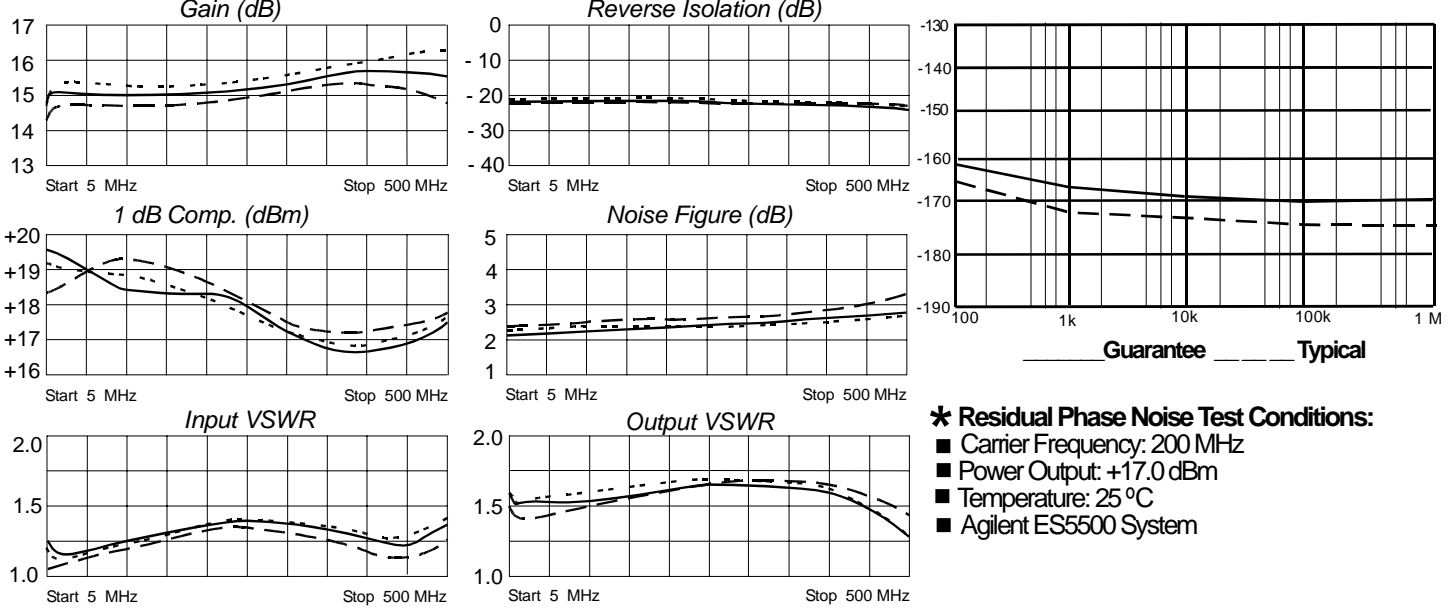
Ambient Operating Temperature ..... -55°C to +100 °C  
 Storage Temperature ..... -62°C to +125 °C  
 Case Temperature ..... +125 °C  
 DC Voltage ..... +18 Volts  
 Continuous RF Input Power ..... +13 dBm  
 Short Term RF Input Power ..... 50 Milliwatts (1 Minute Max.)  
 Maximum Peak Power ..... 0.5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

Note: Care should always be taken to effectively ground the case of each unit.

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

Frequency	Typical	Guarantee
100 Hz	-165	-161
1 kHz	-172	-168
10 kHz	-173	-169
100 kHz	-174	-170
1 MHz	-174	-170

### Typical Performance Data



### \* Residual Phase Noise Test Conditions:

- Carrier Frequency: 200 MHz
- Power Output: +17.0 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	.11	-46	5.48	-166	.09	-165	.22	-9
10	.08	-38	5.58	-175	.09	-175	.21	-9
50	.08	-60	5.57	164	.09	163	.21	-25
100	.11	-93	5.53	146	.08	144	.21	-48
200	.14	-145	5.54	112	.08	109	.22	-87
300	.15	169	5.78	76	.08	73	.23	-121
400	.12	111	6.08	35	.07	35	.21	-150
500	.15	45	6.08	-16	.06	-3	.13	-172
600	.31	-7	4.83	-75	.04	-46	.15	-98



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