

RF AMPLIFIER

MODEL *TM6581PM*

Available as: TM6581PM, 4 Pin TO-8 (T4)
 TN6581PM, 4 Pin Surface Mount (SM3)
 FP6581PM, 4 Pin Flatpack (FP4)
 BX6581PM, Connectorized Housing (H1)

Features

- Superior Phase Noise Performance
- High Gain: >22 dB Typical
- Low Noise Figure: <3.5 dB Typical
- Operating Temp. -55 °C to +85 °C

Specifications

CHARACTERISTIC	TYPICAL Ta = 25 °C	MIN/MAX Ta = -55 °C to +85 °C
Frequency	20 - 500 MHz	20 - 500 MHz
Gain (dB)	22	21.0 Min.
Power @ 1 dB Comp. (dBm)	+16	+13.5 Min.
Reverse Isolation (dB)	-29	-28 Max.
VSWR In	<1.5:1	2.0:1 Max.
VSWR Out	<1.5:1	2.0:1 Max.
Noise Figure (dB)	<3.5	4.5 Max.
Power Vdc	+15	+15
mA	27	30 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 +46 dBm (Typ.)
 Second Order Two Tone Intercept Point +40 dBm (Typ.)
 Third Order Two Tone Intercept Point +28 dBm (Typ.)

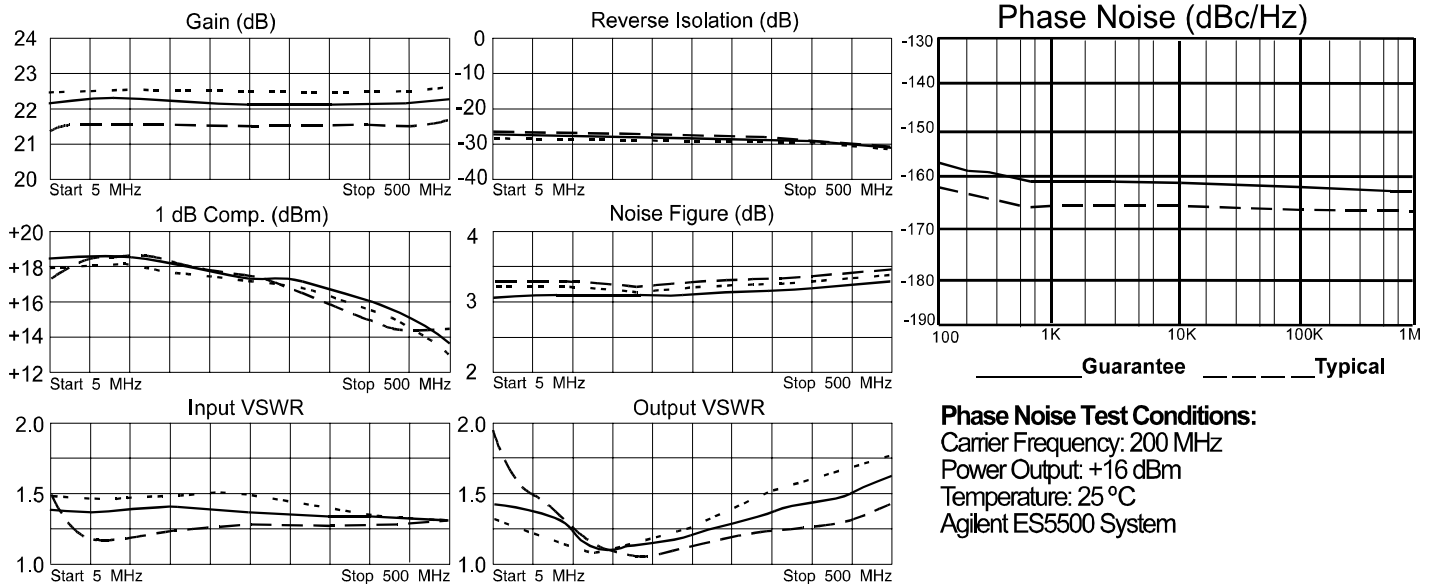
Maximum Ratings

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 +10 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	-162	-158
1 kHz	-165	-161
10 kHz	-166	-162
100 kHz	-166	-162
1 MHz	-166	-162

Typical Performance Data



Phase Noise Test Conditions:

Carrier Frequency: 200 MHz
 Power Output: +16 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	-125	12.73	-168	.04	3	.19	167
20	.16	-154	12.87	-180	.04	-2	.18	167
50	.14	169	12.98	163	.04	-7	.16	159
100	.15	132	12.96	141	.04	-16	.12	147
200	.16	79	12.91	99	.04	-40	.06	-175
300	.16	32	12.79	56	.04	-66	.13	-173
400	.15	-16	12.80	9	.03	-96	.18	130
500	.15	-90	12.93	-43	.03	-131	.23	50
600	.31	153	12.99	-112	.02	172	.32	6



Spectrum Microwave · 2144 Franklin Drive N.E. · Palm Bay, Florida 32905 · PH (888) 553-7531 · Fax (888) 553-7532 3/31/04

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