

RF AMPLIFIER

MODEL TM7281PM

Available as: TM7281PM, 4 Pin TO-8 (T4)
 TN7281PM, 4 Pin Surface Mount (SM3)
 FP7281PM, 4 Pin Flatpack (FP4)
 BX7281PM, Connectorized Housing (H1)

Features

- Superior Phase Noise Performance
- High Gain: 25.5 dB Typical
- Low Noise Figure: 2.4 dB Typical
- Operating Temp. -55 °C to +85 °C

Specifications

CHARACTERISTIC	TYPICAL Ta= 25 °C	MIN/MAX Ta = -55 °C to +85 °C
Frequency	10 - 300 MHz	20 - 250 MHz
Gain (dB)	25.5	23.0 Min.
Power @ 1 dB Comp. (dBm)	+17.5	+15.5 Min.
Reverse Isolation (dB)	-32	-30 Max.
VSWR In	<1.5:1	2.0:1 Max.
VSWR Out	<1.75:1	2.0:1 Max.
Noise Figure (dB)	2.4	3.3 Max.
Power Vdc	+15	+15
mA	30	33 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 +40 dBm (Typ.)
 Second Order Two Tone Intercept Point +35 dBm (Typ.)
 Third Order Two Tone Intercept Point +31 dBm (Typ.)

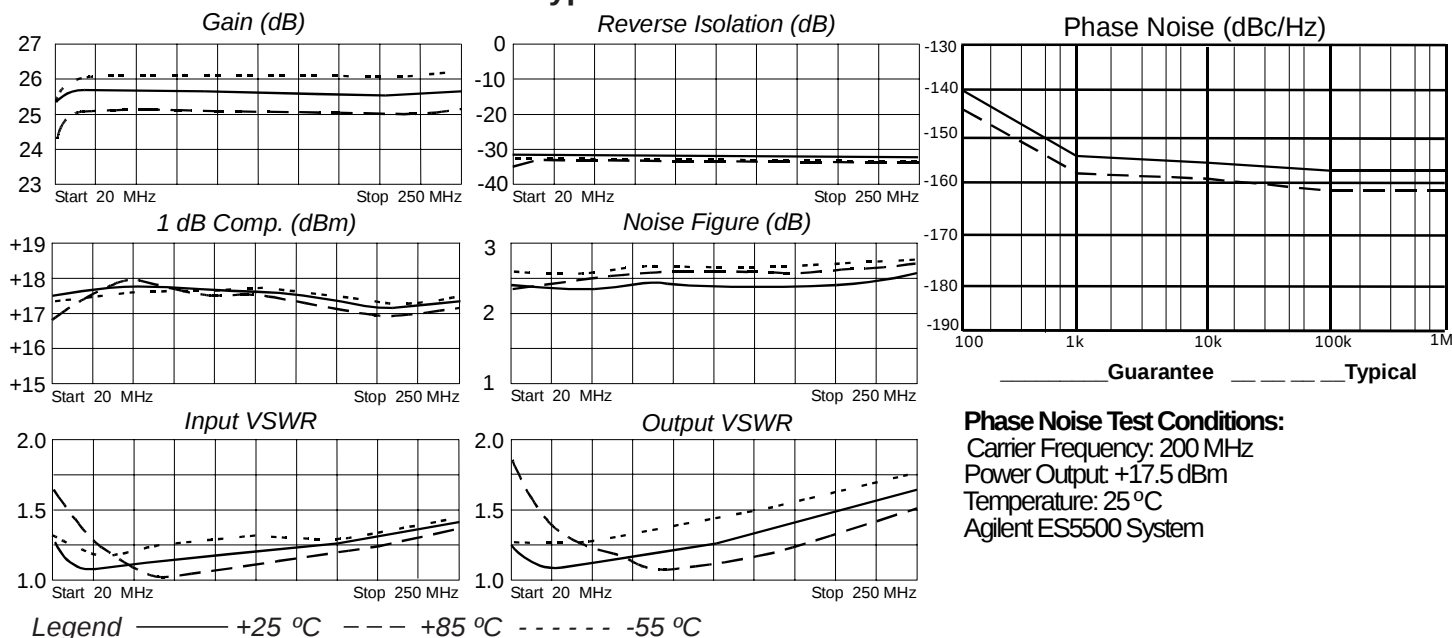
Maximum Ratings

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	-145	-141
1 kHz	-158	-154
10 kHz	-159	-155
100 kHz	-161	-157
1 MHz	-161	-157

Typical Performance Data



Phase Noise Test Conditions:

Carrier Frequency: 200 MHz
 Power Output: +17.5 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	.21	- 86	19.49	-162	.02	4	.10	77
20	.10	-104	19.91	-178	.02	2	.06	48
50	.02	175	20.13	161	.02	- 5	.04	- 12
100	.06	75	20.02	134	.02	-10	.07	- 73
150	.11	47	19.92	109	.02	-19	.12	-103
200	.14	23	19.79	84	.02	-26	.17	-128
250	.18	- 4	19.83	59	.02	-29	.22	-149
300	.21	-32	19.96	32	.02	-38	.27	-168



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