

RF AMPLIFIER

MODEL *TM5103PM*

Available as: TM5103PM, 4 Pin TO-8 (T4)
 TN5103PM, 4 Pin Surface Mount (SM3)
 FP5103PM, 4 Pin Flatpack (FP4)
 BX5103PM, Connectorized Housing (H1)

Features

- Superior Phase Noise Performance
- Higher Third Order Intercept: +36 dBm
- 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	5-300 MHz	5-300 MHz
Gain (dB)	11.5	10 Min.
Power @ 1 dB Comp. (dBm)	23	21 Min.
Reverse Isolation (dB)	-14.5	-14 Max.
VSWR In	<1.25:1	2.0:1 Max.
VSWR Out	<1.25:1	2.0:1 Max.
Noise Figure (dB)	5	6.5 Max.
Power Vdc	+15	+15
mA	85	92 Max.

Typical Intermodulation Performance at 25 °C

Second Order Harmonic Intercept Point +51 dBm (Typ.)
 Second Order Two Tone Intercept Point +45 dBm (Typ.)
 Third Order Two Tone Intercept Point +36 dBm (Typ.)

Maximum Ratings

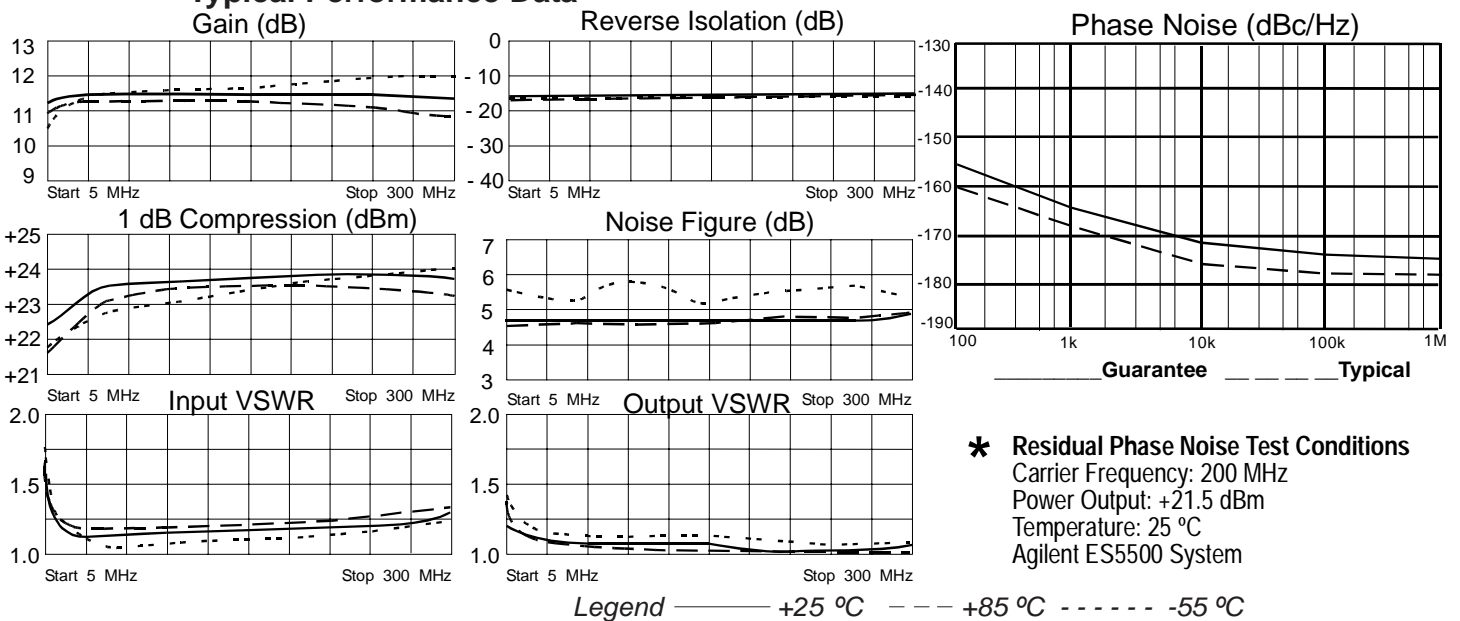
Ambient Operating Temperature -55°C to +100 °C
 Storage Temperature -62°C to +125 °C
 Case Temperature +125 °C
 DC Voltage +18 Volts
 Continuous RF Input Power +18 dBm
 Short Term RF Input Power ... 100 Milliwatts (1 Minute Max.)
 Maximum Peak Power 0.2 Watt (3 µsec Max.)

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	-160	-156
1 kHz	-168	-164
10 kHz	-175	-171
100 kHz	-177	-173
1 MHz	-178	-174

Typical Performance Data



* Residual Phase Noise Test Conditions
 Carrier Frequency: 200 MHz
 Power Output: +21.5 dBm
 Temperature: 25 °C
 Agilent ES5500 System

Linear S-Parameters

FREQ. MHz	S11		S12		S21		S22	
	Mag	Deg	Mag	Deg	Mag	Deg	Mag	Deg
5	.21	-65	3.63	-160	.15	10	.10	81
10	.12	-63	3.73	-171	.15	5	.06	61
25	.06	-48	3.78	178	.15	3	.04	29
50	.04	-26	3.80	169	.15	2	.04	6
100	.05	-13	3.81	155	.16	3	.04	-23
150	.07	-20	3.84	141	.16	3	.03	-51
200	.09	-34	3.85	127	.17	3	.03	-88
250	.11	-50	3.85	113	.18	2	.03	-147
300	.13	-68	3.80	97	.19	1	.05	159
350	.15	-88	3.67	80	.20	-1	.08	126
400	.15	-108	3.42	63	.20	-5	.12	98



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