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 ºC to +85 ºC
- Environmental Screening Available

Specifications

CHARACTERISTIC		TYPICAL Ta= 25 ºC	MIN/MAX Ta = -55 ºC to +85 ºC
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.
	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 ºC

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 ..... -55ºC to +100 ºC
Storage Temperature ..... -62ºC to +125 ºC
Case Temperature ..... +125 ºC
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.)

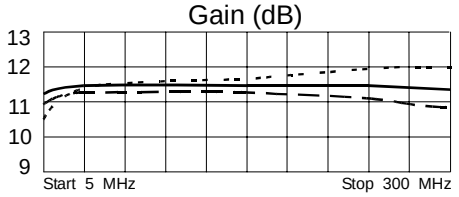
Note: Care should always be taken to effectively ground the case of each unit.

Guaranteed Phase Noise Performance (dBc/Hz)

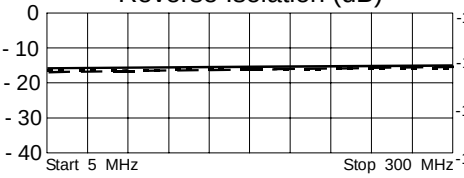
Frequency	Typical	Guarantee
100 Hz	-160	-156
1 kHz	-168	-164
10 kHz	-175	-171
100 kHz	-177	-173
1 MHz	-178	-174

Typical Performance Data

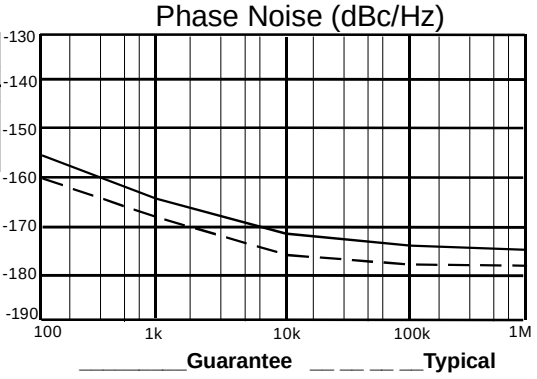
Gain (dB)



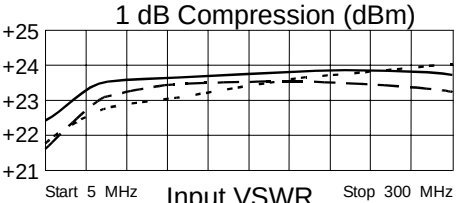
Reverse Isolation (dB)



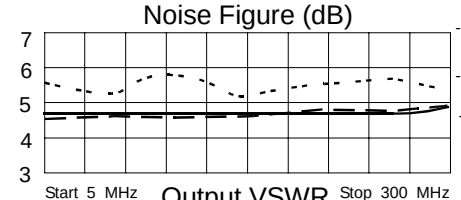
Phase Noise (dBc/Hz)



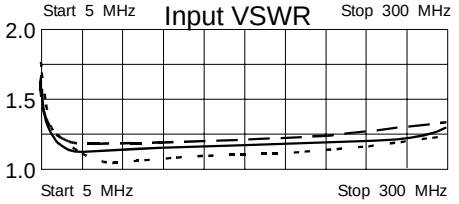
1 dB Compression (dBm)



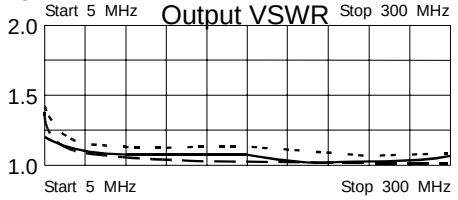
Noise Figure (dB)



Input VSWR



Output VSWR



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

Legend ——— *+25 ºC* – – – *+85 ºC* - - - - - - *-55 ºC*

Linear S-Parameters

FREQ.	S11		S12		S22	
MHz	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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