

# RF AMPLIFIER

## MODEL **TM5103**

Available as: TM5103, 4 Pin TO-8 (T4)  
 TN5103, 4 Pin Surface Mount (SM3)  
 FP5103, 4 Pin Flatpack (FP4)  
 BX5103, Connectorized Housing (H1)

### Features

- High Third Order Intercept: +36 dBm Typical
- High Output Power: +23 dBm Typical
- 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	10.0 Min.
Power @ 1 dB Comp. (dBm)	+23	+21.0 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)	5.0	6.5 Max.
Power Vdc	+15	+15
mA	85	92 Max.

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

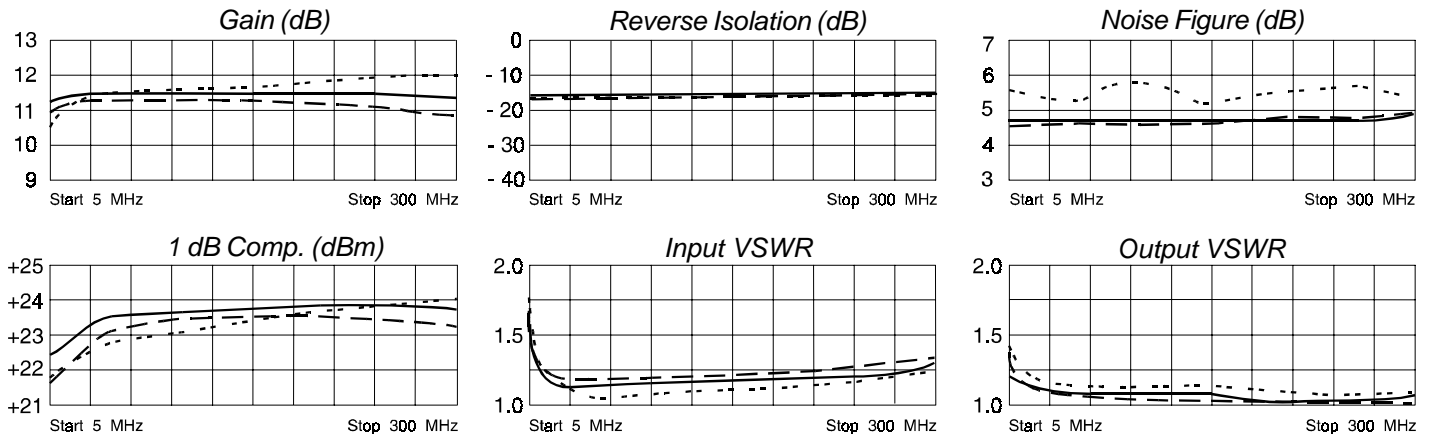
### Typical Intermodulation Performance at 25 ° C

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

### Maximum Ratings

Ambient Operating Temperature ..... -55°C to + 100 °C  
 Storage Temperature ..... -62°C to + 125 °C  
 Case Temperature ..... + 125 °C  
 DC Voltage ..... + 18Volts  
 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.)

### Typical Performance Data



Legend ——— + 25 °C    - - - - + 85 °C    ······ -55 °C

### Linear S-Parameters

FREQ. MHz	S11		S21		S12		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	8
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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