

# RF AMPLIFIER

## MODEL *TM5104*

Available as: TM5104, 4 Pin TO-8 (T4)  
 TN5104, 4 Pin Surface Mount (SM3)  
 FP5104, 4 Pin Flatpack (FP4)  
 BX5104, Connectorized Housing (H1)

### Features

- Low Noise Figure: 2.0 dB Typical
- High Third Order Intercept: +32 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	10-500 MHz	10-500 MHz
Gain (dB)	12.0	10.5 Min
Power @ 1 dB Comp. (dBm)	+15.0	+13.0 Min
Reverse Isolation (dB)	-15.5	-14.5 Max
VSWR In	1.35:1	2.0:1 Max
VSWR Out	1.50:1	2.0:1 Max
Noise Figure (dB)	2.0	3.5 Max
Power Vdc	+15	+15
mA	35	38 Max

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

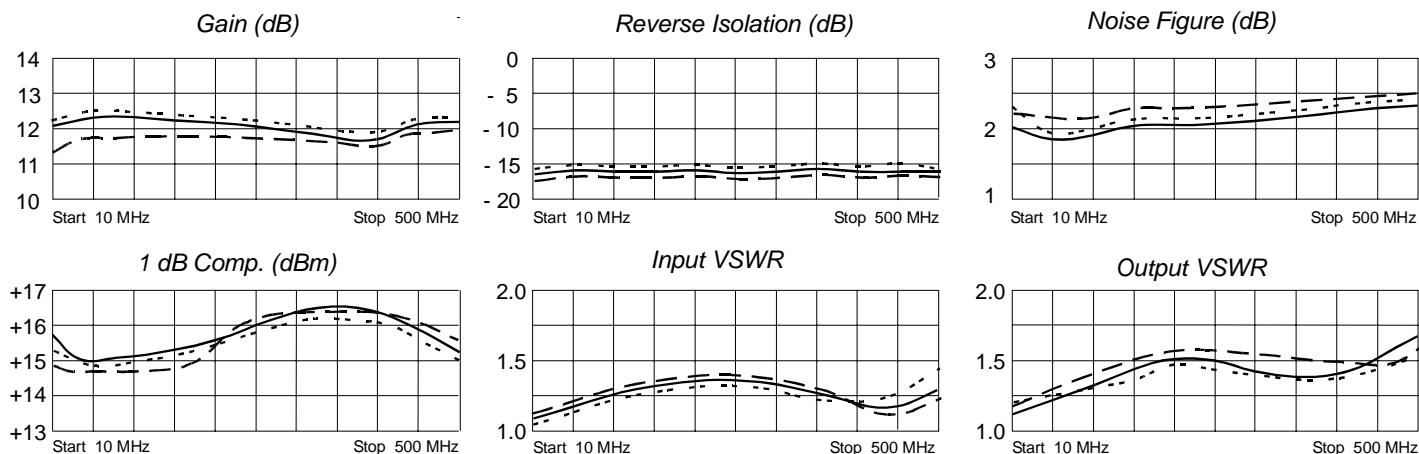
### Typical Intermodulation Performance at 25 °C

Second Order Harmonic Intercept Point..... +52 dBm (Typ.)  
 Second Order Two Tone Intercept Point..... +46 dBm (Typ.)  
 Third Order Two Tone Intercept Point..... +32 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 ..... + 13 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	.07	-114	4.04	-161	.16	-160	.06	-115
10	.03	-144	4.18	-171	.17	-171	.03	-152
50	.04	112	4.21	174	.17	173	.04	122
100	.08	89	4.19	165	.17	163	.07	92
200	.16	60	4.17	148	.17	145	.13	56
300	.20	36	4.17	132	.17	129	.18	29
400	.23	15	4.25	116	.17	114	.22	5
500	.21	-5	4.26	98	.18	99	.25	-19



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