

# RF AMPLIFIER

## MODEL *TM5101*

Available as: TM5101, 4 Pin TO-8 (T4)  
 TN5101, 4 Pin Surface Mount (SM3)  
 FP5101, 4 Pin Flatpack (FP4)  
 BX5101, Connectorized Housing (H1)

### Features

- Low Noise Figure: 2.75 dB Typical
- Medium Gain: 13 dB 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 - 500 MHz	5 - 500 MHz
Gain (dB)	13	12 Min. / 14 Max.
Power @ 1 dB Comp. (dBm)	+7.5	+6.0 Min.
Reverse Isolation (dB)	-15.5	-15 Max.
VSWR In	1.25:1	2.0:1 Max.
Out	1.40:1	2.0:1 Max.
Noise Figure (dB)	2.75	4.0 Max.
Power Vdc	+15	+15
mA	17	20 Max.

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

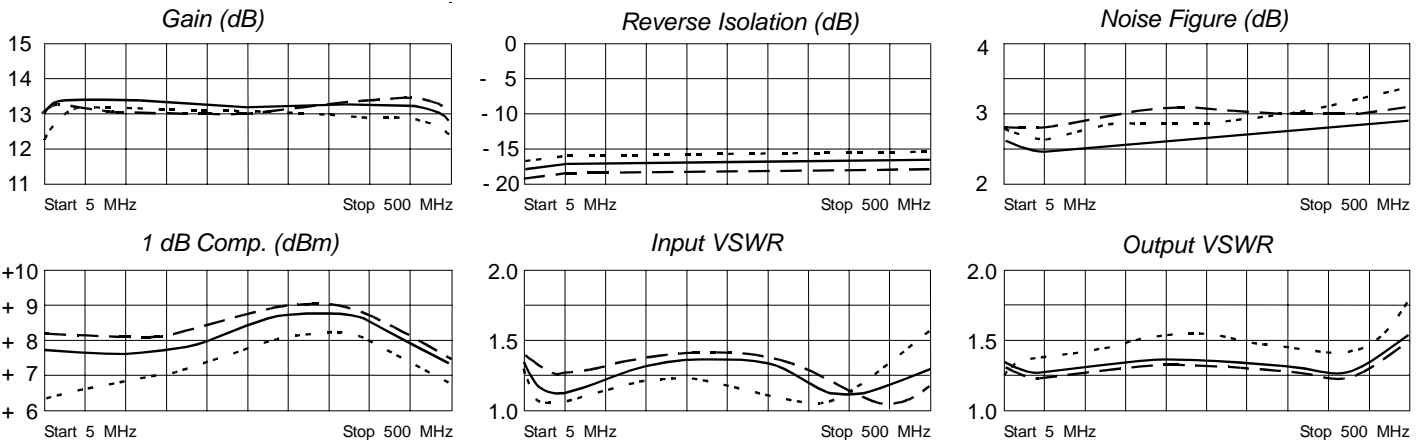
### Typical Intermodulation Performance at 25 ° C

Second Order Harmonic Intercept Point..... +36 dBm (Typ.)  
 Second Order Two Tone Intercept Point..... +31 dBm (Typ.)  
 Third Order Two Tone Intercept Point..... +21 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 ..... + 18Volts  
 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	.13	-48	4.53	-165	.13	-164	.15	-35
50	.08	11	4.64	167	.14	167	.12	5
100	.11	22	4.61	153	.14	150	.14	11
200	.15	8	4.58	126	.14	122	.18	-5
300	.13	-21	4.58	98	.15	94	.16	-42
400	.03	-99	4.62	66	.16	66	.12	-121
500	.16	112	4.38	32	.17	36	.26	155



Spectrum Microwave · 2144 Franklin Drive N.E. · Palm Bay, Florida 32905 · PH (888) 553-7531 · Fax (888) 553-7532 06/02/04

www.spectrummicrowave.com Spectrum Microwave (Europe) · 2707 Black Lake Place · Philadelphia, Pa. 19154 · PH (215) 464-4000 · Fax (215) 464-4001