

# RF AMPLIFIER

## MODEL TM3109

Available as: TM3109, 4 Pin TO-8 (T4)  
 TN3109, 4 Pin Surface Mount (SM3)  
 BX3109, Connectorized Housing (H1)

### Features

- Low Noise Figure: 1.8 dB Typical
- High Second Order Harmonics: +60 dBm Typical
- Unconditionally Stable
- Environmental Screening Available

### Typical Intermodulation Performance at 25 °C

Second Order Harmonic Intercept Point.....+60 dBm (Typ.)  
 Second Order Two Tone Intercept Point.....+55 dBm (Typ.)  
 Third Order Two Tone Intercept Point.....+40 dBm (Typ.)

### Specifications

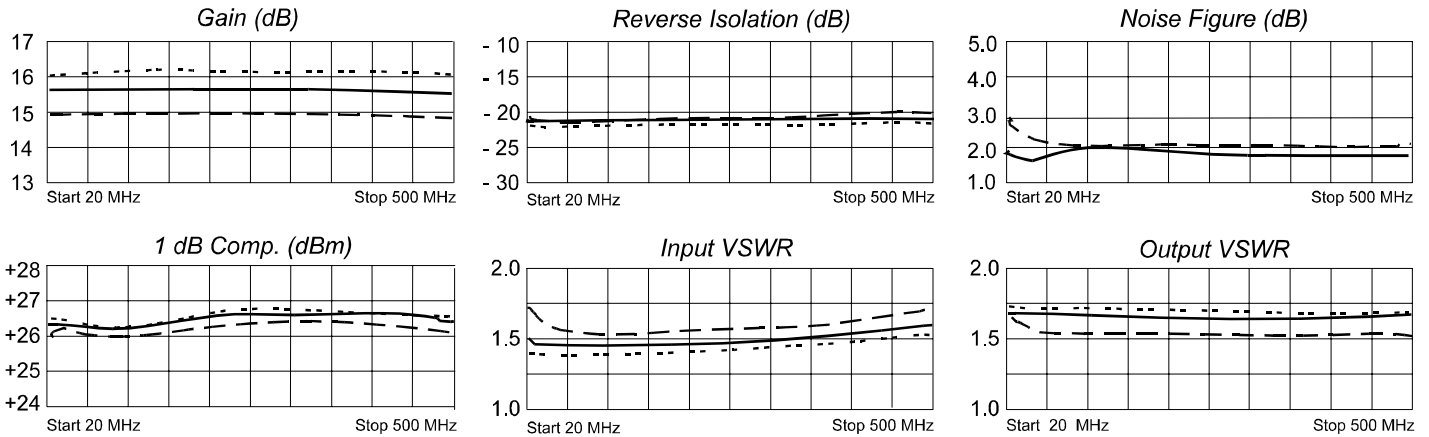
CHARACTERISTIC	TYPICAL Ta= 25 °C	MIN/MAX Ta = -40 °C to +85 °C
Frequency	20 - 500 MHz	20 - 500 MHz
Gain (dB)	15.0	14.0 / 16.0
Power @ 1 dB Comp. (dBm)	26	24 Min.
Reverse Isolation (dB)	-20	-19 Max.
VSWR In	1.5:1	1.8:1 Max.
Out	1.5:1	1.8:1 Max.
Noise Figure (dB)	1.8	3.0 Max.
Power Vdc	+15	+15
mA	160	165 Max.

### Absolute Maximum (No Damage) Ratings

Ambient Operating Temperature .....-55°C to +100 °C  
 Storage Temperature .....-62°C to +125 °C  
 Operating Case Temperature ..... +125 °C  
 DC Voltage.....+17 Volts  
 Short Term RF Input Power.....50 Milliwatts (1 Minute Max.)  
 Maximum Peak Power.....0.5 Watt (3 µsec Max.)

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

### Typical Performance Data



Legend ——— + 25 °C - - - - + 85 °C ······ -40 °C

### Linear S-Parameters

Frequency MHz	S11		S21		S12		S22	
	Mag	Angle	Mag	Angle	Mag	Angle	Mag	Angle
20	0.20	-30	5.87	-175	0.08	3	0.22	168
66	0.17	-24	5.89	170	0.08	-4	0.22	165
112	0.17	-33	5.88	161	0.08	-8	0.22	158
158	0.17	-42	5.85	152	0.08	-11	0.21	150
204	0.17	-52	5.81	144	0.08	-16	0.21	142
250	0.17	-63	5.77	136	0.08	-19	0.20	135
296	0.17	-74	5.72	127	0.08	-23	0.20	127
342	0.17	-84	5.68	119	0.08	-27	0.20	119
388	0.17	-96	5.64	111	0.08	-31	0.19	112
434	0.17	-107	5.57	103	0.09	-36	0.19	104
500	0.17	-118	5.50	95	0.09	-38	0.19	97



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