

# RF AMPLIFIER

## MODEL *TM9163*

Available as: TM9163, 4 Pin TO-8 (T4)  
 TN9163, 4 Pin Surface Mount (SM3)  
 FP9163, 4 Pin Flatpack (FP4)  
 BX9163, Connectorized Housing (H1)

### Features

- Medium Gain: 16 dB Gain Typical
- Low Noise Figure: <2.5 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	5-1000 MHz	5-1000 MHz
Gain (dB)	16	15.0 Min.
Power @ 1 dB Comp. (dBm)	+5	+3.0 Min.
Reverse Isolation (dB)	-18	-17 Max.
VSWR In	<1.25:1	2.0:1 Max.
Out	<1.5:1	2.0:1 Max.
Noise Figure (dB)	<2.5	3.5 Max.
Power Vdc	+15	+15
mA	14	16 Max.

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

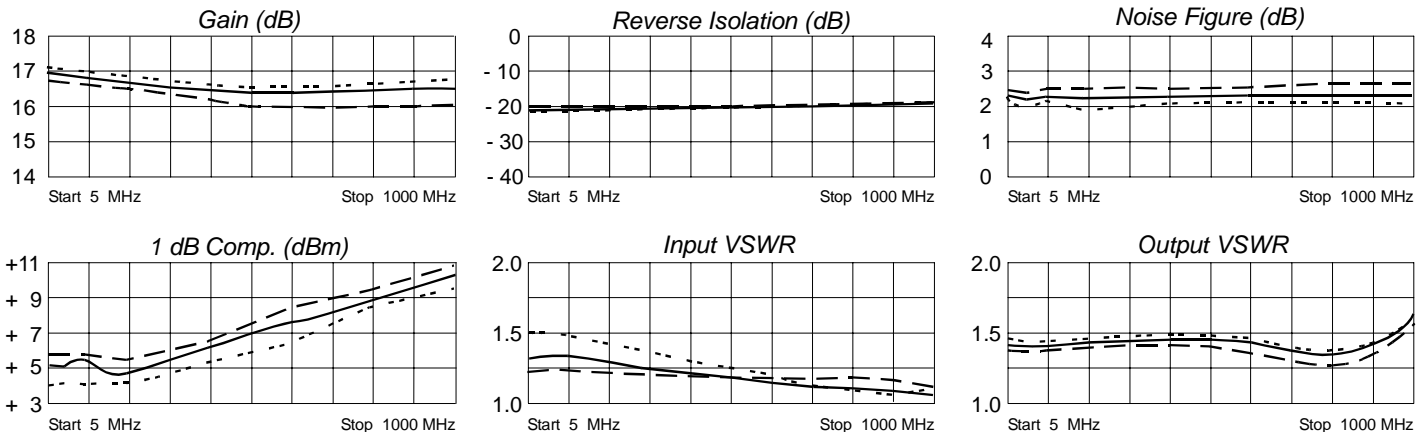
### Typical Intermodulation Performance at 25 ° C

Second Order Harmonic Intercept Point..... +27 dBm (Typ.)  
 Second Order Two Tone Intercept Point..... +21 dBm (Typ.)  
 Third Order Two Tone Intercept Point..... +16 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 ..... 50 Milliwatts (1 Minute Max.)  
 Maximum Peak Power ..... 0.5 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	-173	7.07	-177	.09	4	.17	-176
10	.13	-176	7.04	180	.09	2	.16	179
50	.14	177	6.96	171	.09	- 1	.15	167
100	.13	173	6.91	163	.09	- 0	.16	153
200	.12	166	6.80	146	.09	- 4	.17	128
400	.08	161	6.64	113	.10	-11	.18	91
600	.06	173	6.55	80	.10	-18	.17	69
800	.05	174	6.59	45	.11	-25	.15	73
1000	.02	75	6.56	3	.12	-36	.27	86



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