

# RF AMPLIFIER

## MODEL *TM9139*

Available as: TM9139, 4 Pin TO-8 (T4)  
 TN9139, 4 Pin Surface Mount (SM3)  
 FP9139, 4 Pin Flatpack (FP4)  
 BX9139, Connectrized Housing (H1)  
 PN9139, Reduced Size Surface Mount (SM11)

### Features

- High Output Power: +22 dBm Typical
- High Third Order Intercept: +34 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	10-2000 MHz	10-2000 MHz
Gain (dB)	7.5	6.0 Min.
Power @ 1 dB Comp. (dBm)	+22	+19.5 Min.
Reverse Isolation (dB)	-10.5	-10.0 Max.
VSWR In	<1.75:1	2.0:1 Max.
VSWR Out	<1.75:1	2.0:1 Max.
Noise Figure (dB)	<8	9.5 Max.
VSWR Vdc	+15	+15
mA	90	98 Max.

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

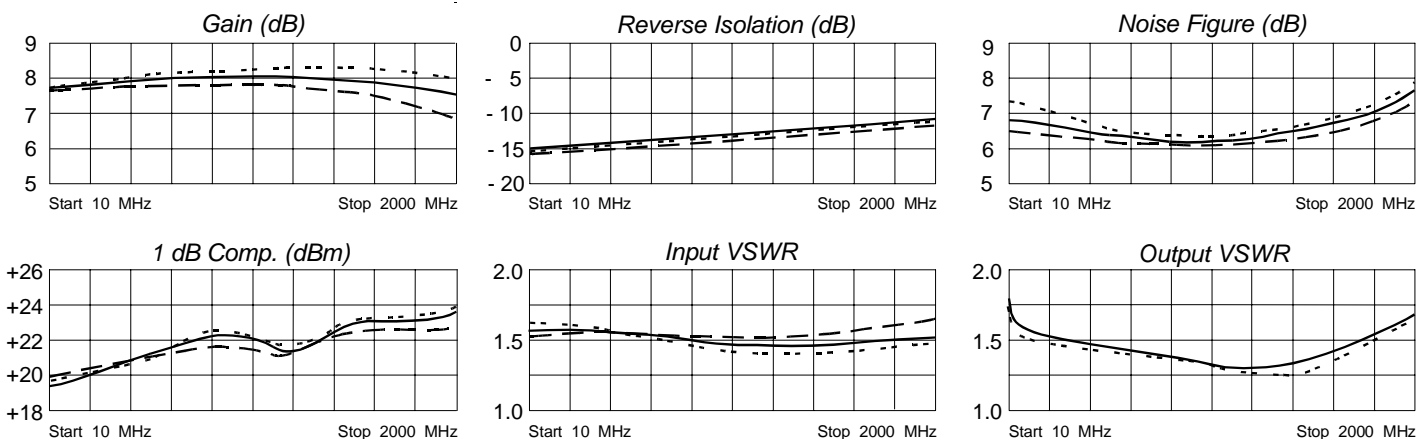
### Typical Intermodulation Performance at 25 ° C

Second Order Harmonic Intercept Point..... +56 dBm (Typ.)  
 Second Order Two Tone Intercept Point..... +50 dBm (Typ.)  
 Third Order Two Tone Intercept Point..... +34 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 ..... + 18 dBm  
 Short Term RF Input Power .... 200 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
10	.23	-145	2.42	-170	.19	13	.27	154
100	.23	180	2.45	173	.20	2	.22	162
200	.23	176	2.46	163	.20	1	.21	151
400	.23	168	2.46	145	.20	1	.19	125
600	.22	161	2.50	127	.21	1	.17	95
800	.21	153	2.52	109	.22	-1	.15	60
1000	.21	147	2.54	91	.22	-2	.13	19
1200	.20	139	2.54	73	.23	-4	.13	-31
1400	.20	129	2.52	54	.24	-6	.15	-75
1600	.21	114	2.50	36	.25	-7	.17	-112
1800	.21	91	2.47	17	.27	-9	.21	-142
2000	.21	60	2.36	-2	.30	-14	.24	-170



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