

RF AMPLIFIER

MODEL *TM9311*

Available as: TM9311, 4 Pin TO-8 (T4)
 TN9311, 4 Pin Surface Mount (SM3)
 FP9311, 4 Pin Flatpack (FP4)
 BX9311, Connectorized Housing (H1)

Features

- Low Noise Figure: 2.3 dB Typical
- Medium Gain: +16.5 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)	16.5	15.0 Min.
Power @ 1 dB Comp. (dBm)	+2	-1 Min.
Reverse Isolation (dB)	-18.5	-18 Max.
VSWR In	<1.5:1	2.0:1 Max.
Out	<1.5:1	2.0:1 Max.
Noise Figure (dB)	2.3	3.0 Max.
Power Vdc	+15	+15
mA	10	12 Max.

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

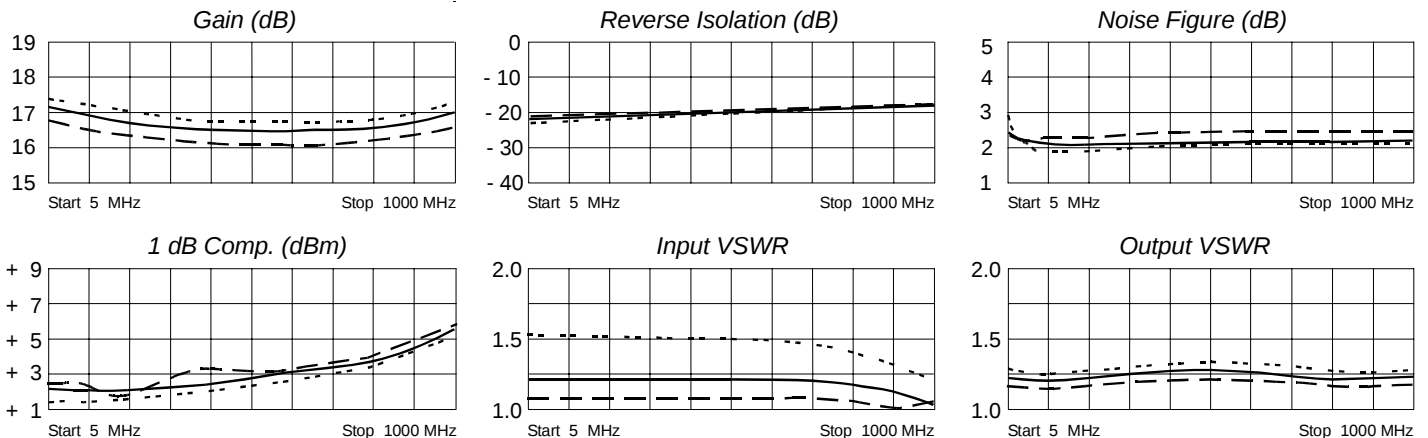
Typical Intermodulation Performance at 25 ° C

Second Order Harmonic Intercept Point.....+23 dBm (Typ.)
 Second Order Two Tone Intercept Point.....+17 dBm (Typ.)
 Third Order Two Tone Intercept Point.....+14 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	.11	-173	7.19	-177	.09	4	.10	-172
50	.11	173	7.04	172	.09	-0	.09	159
100	.11	163	6.99	164	.09	-2	.09	140
200	.11	145	6.89	149	.09	-3	.10	109
400	.10	115	6.69	120	.10	-8	.12	63
600	.10	88	6.62	91	.10	-13	.12	29
800	.08	60	6.76	61	.11	-21	.10	9
1000	.02	23	7.14	26	.12	-29	.11	-4



Spectrum Microwave · 2144 Franklin Drive N.E. · Palm Bay, Florida 32905 · PH (888) 553-7531 · Fax (888) 553-7532 08/03/04

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