

# RF AMPLIFIER

## MODEL TN4012

Available as: TM4012, 4 Pin TO-8 (T4)  
 TN4012, 4 Pin Surface Mount (SM3)  
 BX4012, Connectorized Housing (H1)

Preliminary

### Features

- +12 Volt Supply
- High Gain: 20 dB Typical
- Output Power: +19.5 dBm Typical
- Operating Temp. -55 °C to +85 °C

### Specifications

CHARACTERISTIC	TYPICAL Ta= 25 °C	MIN/MAX Ta = -55 °C to +85 °C
Frequency	10 - 500 MHz	10 - 500 MHz
Gain (dB)	+20	+19 Min.
Power @ 1 dB Comp. (dBm)	+19.5	+18.5 Min.
Reverse Isolation (dB)	-23	-22 Max.
VSWR In	1.4:1	1.75:1 Max.
Out	1.3:1	1.75:1 Max.
Noise Figure (dB)	4.0	5.0 Max.
Power Vdc	+12	+12
mA	80	85 Max.

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

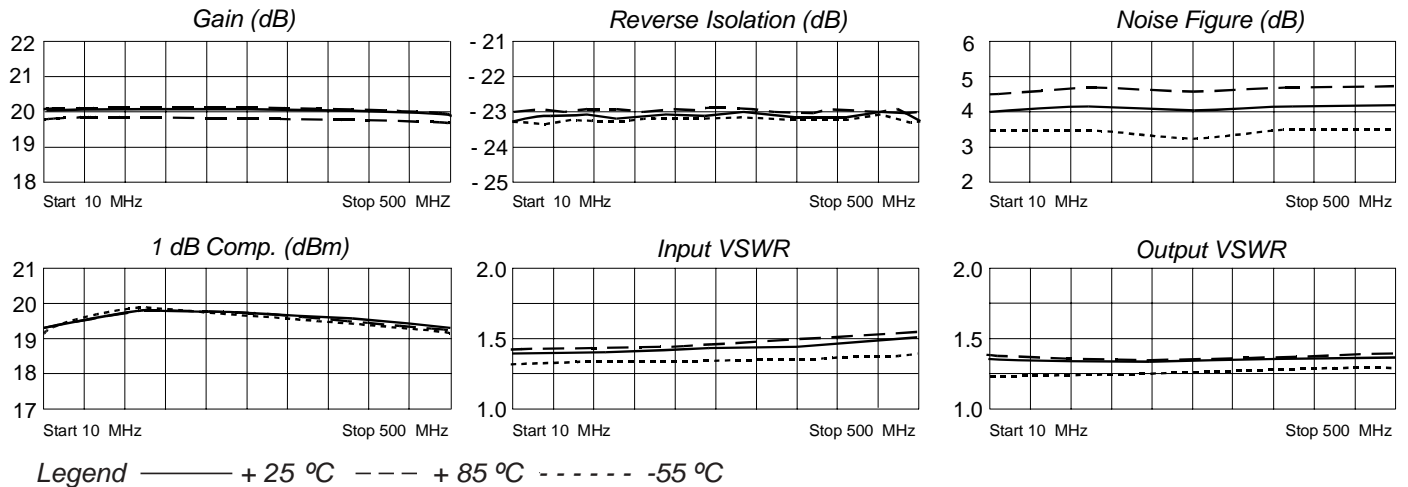
### Typical Intermodulation Performance at 25 °C

Second Order Harmonic Intercept Point ..... +51 dBm (Typ.)  
 Second Order Two Tone Intercept Point ..... +45 dBm (Typ.)  
 Third Order Two Tone Intercept Point ..... +35 dBm (Typ.)

### (Absolute) Maximum Ratings

Ambient Operating Temperature ..... -55°C to + 100 °C  
 Storage Temperature ..... -62°C to + 125 °C  
 Case Temperature ..... + 125 °C  
 DC Voltage ..... + 13 Volts  
 Continuous RF Input Power ..... + 10 dBm  
 Short Term RF Input Power .... 200 Milliwatts (1 Minute Max.)  
 Maximum Peak Power ..... 0.5 Watt (3 µsec Max.)

### Typical Performance Data



### Linear S-Parameters

FREQ. MHZ	S11		S21		S12		S22	
	Mag	Deg	Mag	Deg	Mag	Deg	Mag	Deg
10	.12	-153	10.22	-175	.0707	6	.10	150
30	.12	-176	10.38	180	.0721	1	.07	164
50	.12	178	10.38	178	.0724	1	.07	169
100	.12	168	10.34	174	.0731	0	.07	165
200	.13	153	10.28	168	.0740	-1	.08	162
300	.13	138	10.18	161	.0725	-4	.08	151
400	.15	128	10.00	155	.0727	-6	.09	143
500	.16	117	9.86	149	.0723	-6	.10	137



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