

# RF Amplifier

## High Gain: 16.3 dB

# Model TM5175

## 20 to 500 MHz

### Features

- High Gain: 16.3 dB Typical
- High Output Power: >+18 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	20 - 500 MHz	20 - 500 MHz
Gain (dB)	16.3	16.3 ± 0.8
Power @ 1 dB Comp. (dBm)	+18	+16.5 Min.
Reverse Isolation (dB)	- 20	-18.0 Max.
VSWR In	<1.75:1	2.0:1 Max.
VSWR Out	<1.75:1	2.0:1 Max.
Noise figure (dB)	<3.0	3.8 Max.
Power Vdc	+15	+15
mA	45	50 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 ..... +47 dBm (Typ.)  
 Second Order Two Tone Intercept Point ..... +41 dBm (Typ.)  
 Third Order Two Tone Intercept Point ..... +32 dBm (Typ.)

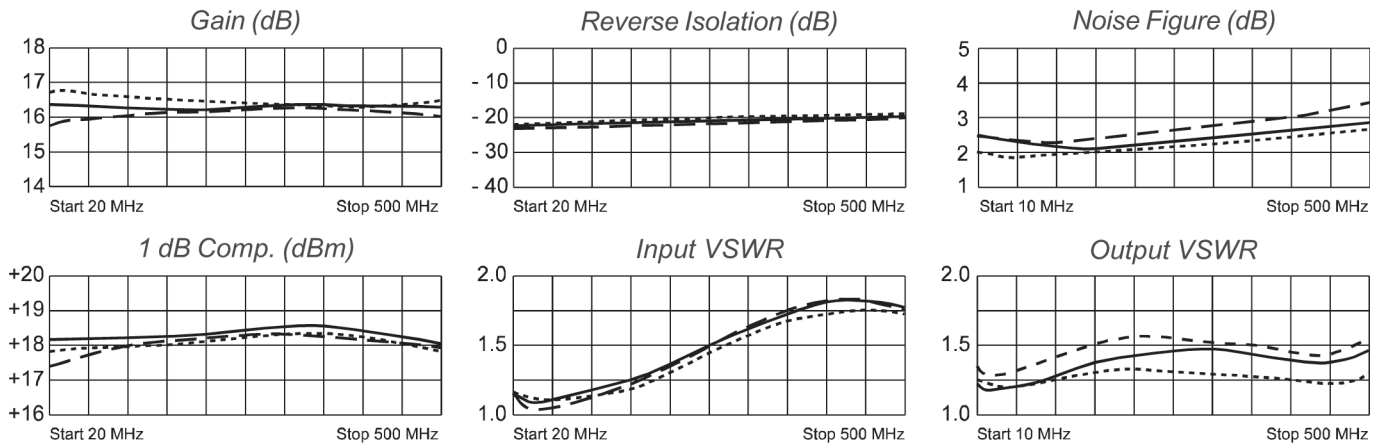
### Maximum Ratings

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 .... 100 Milliwatts (1 Minute Max.)  
 Maximum Peak Power ..... 0.2 Watt (3 μsec Max.)

### Packaging Options (see Appendix)

TM5175, 4 Pin TO-8 (T4)  
 TN5175, 4 Pin Surface Mount (SM3)  
 FP5175, 4 Pin Flatpack (FP4)  
 BX5175, Connectorized Housing (H1)

### 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	.16	- 76	6.49	-156	.09	-155	.15	- 33
50	.04	- 87	6.48	166	.09	163	.08	20
100	.07	- 94	6.44	148	.09	145	.12	23
200	.15	-123	6.46	114	.10	108	.18	3
300	.24	-159	6.50	80	.11	75	.18	- 30
400	.29	155	6.65	41	.11	41	.16	- 82
500	.29	89	6.58	1	.11	5	.19	-161

