

# RF AMPLIFIER

## MODEL TR6689

Available as: TR6689, 4 Pin TO-8B (T8)  
 RN6689, 4 Pin .525" Sq. Surface Mount (SM19)  
 BR6689, SMA Connectorized Housing (H2)

### Features

- High Gain: 30 dB Typical
- High Output Power: +21.5 dBm Typical
- Excellent Reverse Isolation
- Environmental Screening Available

### Typical Intermodulation Performance at 25 °C

Second Order Harmonic Intercept Point ..... +50 dBm (Typ.)  
 Second Order Two Tone Intercept Point ..... +44 dBm (Typ.)  
 Third Order Two Tone Intercept Point ..... +34 dBm (Typ.)

### Specifications

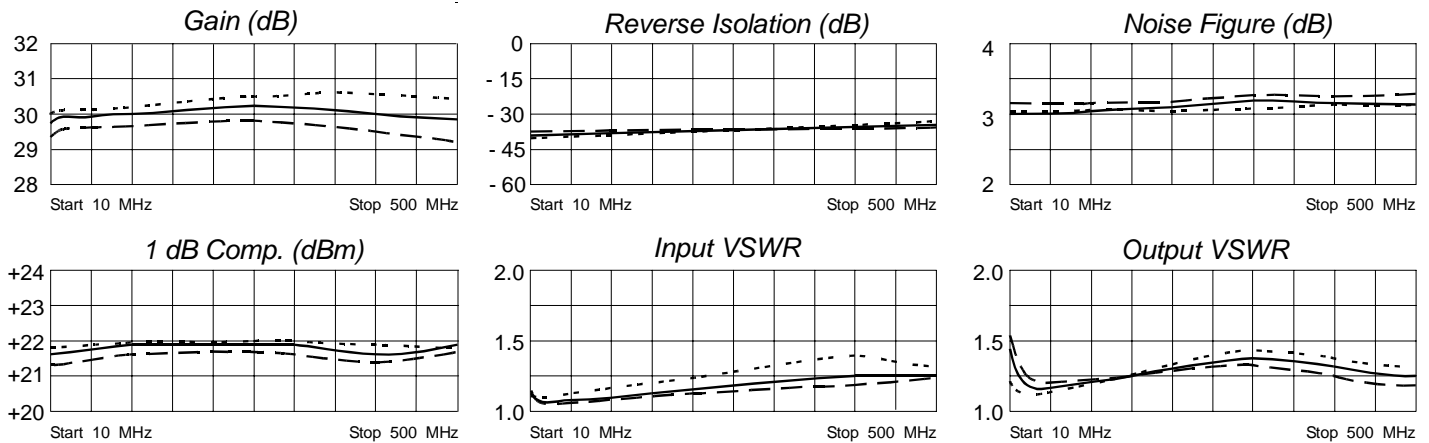
CHARACTERISTIC	TYPICAL Ta= 25 °C	MIN/MAX Ta = -55 °C to +85 °C
Frequency	10 - 500 MHz	10 - 500 MHz
Gain (dB)	30	28.0 Min.
Power @ 1 dB Comp. (dBm)	+21.5	+20 Min.
Reverse Isolation (dB)	-34.5	-33 Max.
VSWR In	<1.25:1	2.0:1 Max.
Out	<1.5:1	2.0:1 Max.
Noise Figure (dB)	<3.2	4.0 Max.
Power Vdc	+15	+15
mA	130	135 Max.

### 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 ..... + 20 dBm  
 Short Term RF Input Power.... 200 Milliwatts (1 Minute Max.)  
 Maximum Peak Power..... 0.5 Watt (3 μsec Max.)

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

### 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	136	28.82	17	.01	20	.26	130
10	.07	133	29.92	6	.01	11	.15	127
50	.04	142	30.12	- 17	.01	- 1	.06	179
100	.05	124	30.61	- 38	.01	10	.08	-159
200	.08	86	31.47	- 79	.01	8	.15	-165
300	.10	50	31.64	-121	.02	4	.20	171
400	.11	- 0	30.84	-165	.02	- 0	.23	145
500	.12	- 71	29.45	149	.02	-13	.23	123



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