

## Power Amplifier, Solid State, Broadband 1000-3000MHz, 40dB Gain, SMA Female Connectors, 10 Watts



This amplifier is suitable for high power broadband and band specific linear applications. This amplifier is utilizing advanced GaAsFET power devices that provide high gain, wide dynamic range, low distortions and excellent linearity. Exceptional performance, long term reliability, and high efficiency are achieved by employing advanced broadband RF matching networks and combining techniques, built in high efficiency sequence regulator, EMI/RFI filters, machined housing, and qualified components. This RF's ISO9001 Quality Assurance Program assures consistent performance and the highest reliability.

- Solid State Class A Linear Design
- Instantaneous Broadband
- Small and lightweight
- Excellent Phase Linearity and Group Delay Characteristics
- Suitable for CW, AM & FM Consult Factory for order modulation types
- 50 ohm input/output impedance
- High reliability and ruggedness

### ELECTRICAL SPECIFICATIONS @ 120 VAC, 25°C, 50 Ω System

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	1000		3000	MHz
Output Power CW	P <sub>SAT</sub>	10	12		Watt
Output Power @ 1 dB Gain Compression Point	P <sub>1dB</sub>	8			Watt
Power Gain @ 1 dB Gain Compression Point	G <sub>1dB</sub>	40			dB
Input Power for Nominal rated Psat	P <sub>IN</sub>		0		dBm
Small Signal Gain Flatness	ΔG			±1.5	dB
Gain Adjustment Range	FGA	20	25		dB
Input Return Loss	S11			-10	dB
Noise Figure	NF			10	dB
Third Order Intercept Point 2-Tone@ 28dBm/Tone, 100kHz Spacing	IP3		+50		dBm
Harmonics @ POUT = 8W	H		-20		dBc
Spurious Signals	Spur		-70	-60	dBc
Operating Voltage (single phase)	VDC	12		15	Volt
Current Power Consumption @ 10W CW	I <sub>DD</sub>		4.0	4.5	Amp

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### Environmental Characteristics

Parameter	Symbol	Min	Typ	Max	Unit
Operating Temperature	Tc	0		+75	°C
Non-operating Temperature	Tstg	-40		+85	°C
Relative humidity (non-condensing)	RH			95	%
Altitude (MIL-STD-810F Method 500.4)	ALT	10,000		30,000	Feet
Shock / Vibration (MIL-STD-810F Method 516.5)	SH / VI		Airborne		

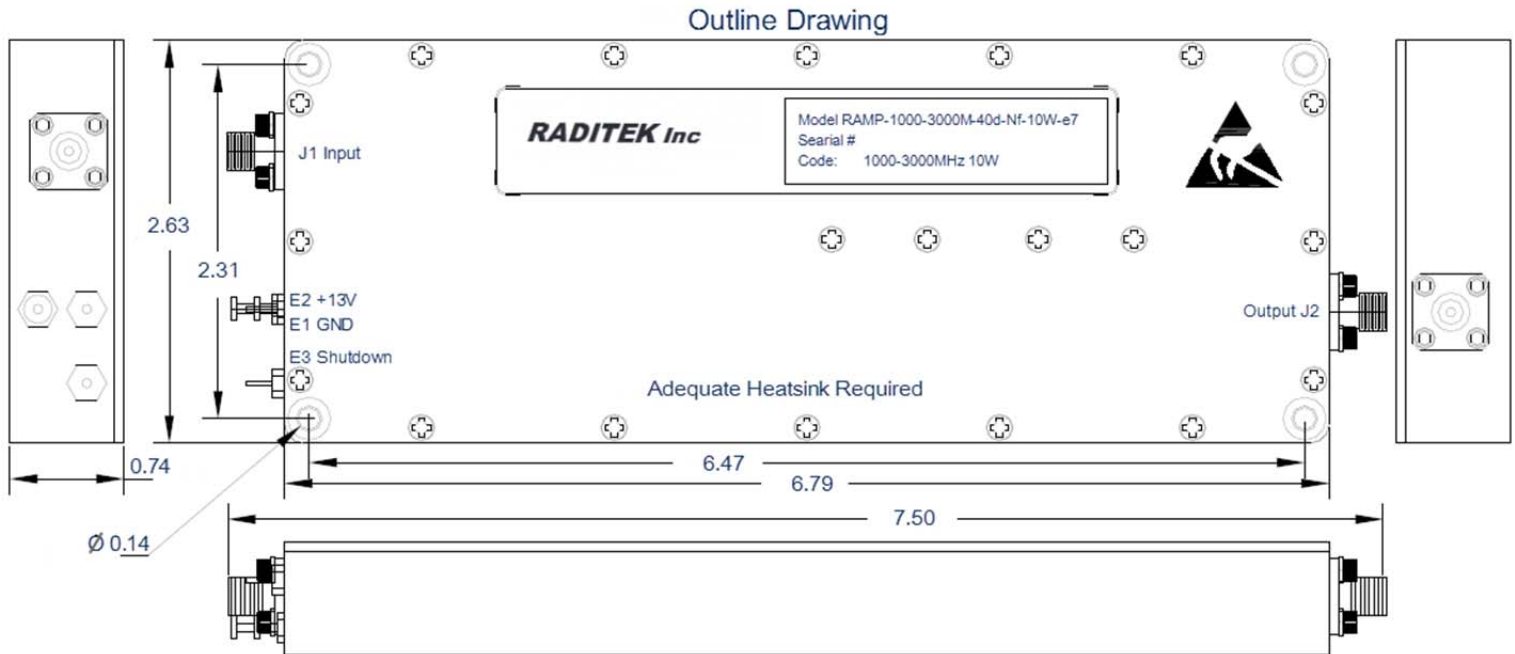
### Mechanical Specifications

Parameter	Value	Units
Dimensions	6.8 x 2.7 x 0.8	Inch Max
Weight	10	lb. Max
RF Connectors Input/Output	Type-SMA female	
Cooling	External Heatsink (Not Supplied)	

### DC Interface Connection

Pin #	Description	Specifications
E1	GND	Ground
E2	+13 V <sub>DC</sub>	+12-15 V <sub>DC</sub>
E3	Shutdown	Amplifier Disable: TTL Logic High (5 V) ( <i>Internally Pulled-Low</i> )

### SYSTEM OUTLINE

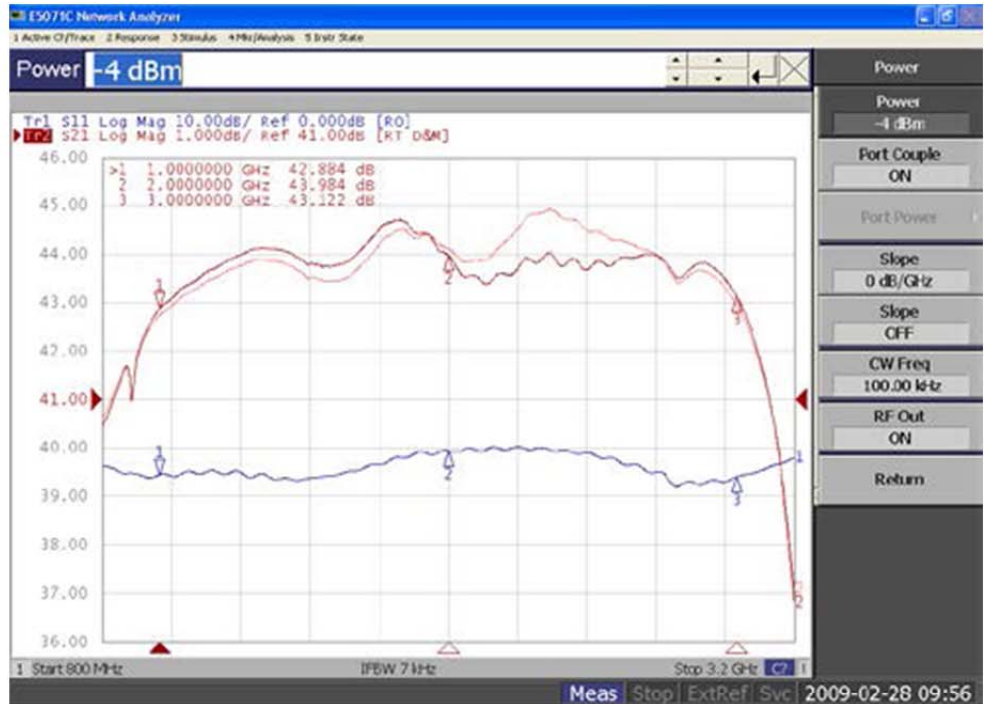


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### TYPICAL PERFORMANCE PLOTS

#### Plot 1- Small signal & P1dB Gain

Top Curve: Small Signal Gain @  $P_{IN} = -20\text{dBm}$   
 Middle Curve: Power Gain @ P1dB,  $P_{IN} = -4\text{dBm}$   
 Reference: 41dB, 1dB/div.  
 Bottom Curve: Input Return Loss  
 Reference: 0dB, 10dB/div.



#### Plot 2 - Small Signal Gain and $P_{SAT}$

Top Curve: Small Signal Gain @  $P_{IN} = -20\text{dBm}$   
 Middle Curve: Power Gain @  $P_{SAT}$ ,  $P_{IN} = -1\text{dBm}$   
 Reference: 41dB, 1dB/div  
 Bottom Curve: Input Return Loss  
 Reference: 0dB, 10dB/div

