

High Power Amplifier, Solid State, Broadband 20-500MHz, 60dB Gain, N Female Connectors, 1kilowatt

RAMP-20-500M-60d-Nf-1kW-e7



This amplifier utilizes high power push-pull MOSFET devices that provide wide frequency response, high gain, high peak power capability, and low distortions

- Solid-state linear design
- Instantaneous ultra broadband
- Suitable for most modulation types
- Modular design
- 50 ohm input/output impedance
- Built in Control, Monitoring and Protection functions
- Highly rugged and ruggedness

Electrical Specifications Over temperature -10~+50°C @ 260 VAC, 3Ø, 50 Ω System

Parameter	Symbol	Min	Typ	Max	Unit
Frequency Response	BW	20		500	MHz
Power Output CW (1)	P _{SAT}	1000	-	-	Watt
Output Power @ 1 dB Gain Compression (2)	P1dB	500	-	-	Watt
Power Gain @ 1 dB Gain Compression	G1dB	63	-	-	dB
Input Power for Rated P _{SAT}	P _{IN}	-	0	-	dBm
Input Power Range P _{IN}	P _{IN}	-3.0	-	+3.0	dBm
Gain Flatness / Leveled ALC	ΔG	-	-	±3.0 / ±1.0	dB
Gain Adjustment Range	VVA	20	-	-	dB
Input Return Loss	S11	-	-	-10	dB
Noise Figure @ maximum gain	NF	-	-	15	dB
Third Order Intercept Point (2-Tone @ 54dBm/Tone, 1MHz Spacing)	IP3	-	+64	-	dBm
Harmonics @ POUT = 1000W (without Harmonic Suppression Filters)	2 nd	-	-	-20	dBc
	3 rd	-	-	-10	dBc
Spurious Signals	Spur	-	-	-60	dBc
Supply Voltage (3 phase)	V _{AC}	180	220	260	Volt
Operating Voltage			208		Volt
AC Power Consumption @ 1000 W CW	PD			5000	Watt

Mechanical Specifications

Parameter	Value	Units	Limits
Dimensions	17.5 x 8.75 x 22 (438 x 222 x 560)	Inch (mm)	Max
Weight	92	lb.	Max
RF Connectors	Input Type-N female / Output 7/16 DIN F(SC-Female option)		
RF Sample	SMA Female		
Blanking Input	BNC, Female		
Cooling	Built in forced-air system		

Note: (1) CW measurement performed in MGC Mode (Manual Gain Control).

(2) P1dB measurement performed with CCDF method, IS-95, 1MHz BW

Environmental Characteristics

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	T _c	-10	-	50	°C
Non-operating Temperature	T _{stg}	-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				

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Specifications may be subject to change

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Protections

Input Overdrive	+10 dBm	Max
VSWR Protections	At 3:1 PA backs-off output power to a safe operating level no system shutdown, "On Air" time is maximized	Nom
Thermal Graceful Degradation	Ambient 50°C	Max
Default Data Recovery	Factory Default Calibration Recovery	

Communication Interfaces

Function	Utility	Connector
Ethernet	Network management of device / web interface	RJ45
USB	Mass storage / Expansion Bus	USB 1.x/2.0 compatible
RS-232 (default) RS-422 (optional)	Serial management of device / local operator access	D-Sub 9-position Male

System I/O Connector- 14-pin

Pin #	Description	Specifications
1	FWD TP	Forward detected power (analog voltage: 0 – 5 Volt)
2	REV TP	Reverse detected power (analog voltage: 0 – 5 Volt)
3	Summary Fault	Summary Fault: Active TTL Logic Low ($\leq 0.7V$) (Internally Pulled-High)
4	VVA control	Gain control/Monitor: Analog Voltage Range 0-5V Gain Control: 0V= Max. Attenuator, 5V= Min. Attenuator
5	Shutdown	Amplifier Disable: TTL Logic Low ($\leq 0.7V$) = Fault (Internally Pulled-High)
6	Aux P/S TP	+12.0VDC $\pm 2V$ (resettable 0.5amp fuse)
7	Main P/S TP	+44.0VDC $\pm 4.8V$ (resettable 0.5amp fuse)
8	GND	Ground
9	Open drain control	Site management utility (reserved)
10	Open drain control	Site management utility (reserved)
11	Open drain control	Site management utility (reserved)
12	Digital I/O (configurable)	Site management utility (reserved)
13	Digital I/O (configurable)	Site management utility (reserved)
14	GND	Ground

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Outline Drawing

