

## Power Amplifier 1.0 MHz to 18.0 GHz, Split Bands Modules Family Data Sheet

### Features

- Solid state GaAs/ GaN design
- Instantaneous full bandwidth
- Unconditional stability
- High reliability and ruggedness
- Reverse polarity protection
- Over Temp protection & Alarm



**5 Years Warranty”**

### Order Example : RAMP-M-9.0-9.6-60d-15230V-Sf-400W-4kW-Pk-L21

**Description:** (Power Amplifier Module, 9.0-9.6GHz, 60dB gain, 230Vac SMA female Connector, 400Watts, 4kW peak Power)

Typical Specs	
Frequency range	9.0- 9.6 KHz
Peak output Power	4 KW
Avg. power	400Watts
Duty	10.0% max
Pulse width	0.1 to 100 $\mu$ sec
PRF	250 Hz to 40 KHz
RF Input power	0 $\pm$ 2 dBm
Small signal (Nominal)	60 dB gain
Output connector	WR 90 with UG 136B / U aluminum
Input/ output VSWR†	1.5:1
Load VSWR	2:1
Near carrier noise	-80dBc/Hz at 100Hz away from the carrier or better
Power Supply Voltage	230V 1Phase or Standard DC line Consumption: 1KW
MTBF	2000 Hrs (min)
Temperature	-10° to +55°C
Humidity (cond)	95 %
Shock & vibration	-30g / 5Grms, 2-200Hz
Altitude	10,000 ft
Cooling system	Forced air cooling
EMI /EMC	MIL STD 461 F

### Full Range of Standard Product follows

RAMP-M-1MHz-18GHz-Split Bands Family-L21

Specifications may be subject to change

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### Product Range

**Class A: Ultra Linear** **Class B: Linear**

*Note: A detailed data sheet will be provided with every quote.*

Frequency Minimum	Frequency Maximum	Power	Gain	Supply VDC	Class	HS option	Part # RAMP-M-F"low"M-F"High"M-gain dB- Vdc-S(f)- "Power" W Class-(HS option)-L21
(MHz)	(MHz)	(Watts)	(dB)			Heat sink Attached to base	
1	525	10	42	24	AB		RAMP-M-1-525M-42d-24V-Sf-10W-AB-L21
1.5	30	100	17	48	A		RAMP-M-1.5-30M-17d-48V-Sf-100W-A-L21
1.5	30	100	40	48	A	HS	RAMP-M-1.5-30M-40d-48V-100W-A-HS-L21
1.5	30	300	17	48	AB		RAMP-M-1.5-30M-17d-48V-300W-AB-L21
1.5	30	300	40	48	AB	HS	RAMP-M-1.5-30M-40d-48V-300W-AB-HS-L21
5	150	40	50	28	AB		RAMP-M-5-150M-50d-28V-Sf-40W-AB-L21
10	1500	0.003	30	15	A		RAMP-M-10-1500M-30d-15V-Sf-5dBm-A-L21
20	100	200	15	28	AB		RAMP-M-20-100M-15d-28V-Nf-200W-AB-L21
20	500	100	40	50	AB		RAMP-M-20-500M-40d-50V-Sf-100W-AB-L21
20	520	40	46	28	AB		RAMP-M-20-520M-46d-28V-Sf-40W-AB-L21
20	1000	2	14	28	A		RAMP-M-20-1000M-14d-28V-2W-A-L21
20	1000	2	50	28	A	HS	RAMP-M-20-1000M-50d-28V-2W-A-HS-L21
20	1000	5	14	28	AB		RAMP-M-20-1000M-14d-28V-5W-AB-L21
20	1000	5	45	28	A		RAMP-M-20-1000M-14d-28V-5W-AB-L21
20	1000	5	50	28	AB	HS	RAMP-M-20-1000M-50d-28V-5W-AB-HS-L21
20	1000	5	45	28	A	HS	RAMP-M-20-1000M-45d-28V-5W-A-HS-L21
20	1000	5	45	28	A		RAMP-M-20-1000M-45d-28V-5W-A-L21
20	1000	5	50	28	AB		RAMP-M-20-1000M-50d-28V-5W-AB-L21
20	1000	10	12	28	A		RAMP-M-20-1000M-12d-28V-10W-A-L21
20	1000	10	14	28	A	HS	RAMP-M-20-1000M-14d-28V-10W-A-HS-L21
20	1000	10	45	28	AB	HS	RAMP-M-20-1000M-45d-28V-10W-AB-HS-L21
20	1000	10	12	28	A		RAMP-M-20-1000M-12d-28V-10W-A-L21
20	1000	20	12	28	AB		RAMP-M-20-1000M-12d-28V-20W-AB-L21
30	512	25	20	48	A	HS	RAMP-M-30-512M-20d-48V-25W-A-HS-L21
30	512	25	30	48	A	HS	RAMP-M-30-512M-30d-48V-25W-A-HS-L21



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30	512	50	16	28	A		RAMP-M-30-512M-16d-28V-50W-A-L21
30	512	50	40	28	A	HS	RAMP-M-30-512M-40d-28V-50W-A-HS-L21
30	512	100	20	48	AB		RAMP-M-30-512M-20d-48V-100W-AB-L21
30	512	100	30	48	AB	HS	RAMP-M-30-512M-30d-48V-100W-AB-HS-L21
30	512	100	40	50	AB		RAMP-M-30-512M-40d-50V-Sf-100W-AB-L21
30	512	150	16	28	AB		RAMP-M-30-512M-16d-28V-150W-AB-L21
50	1000	0.1	30	14	A		RAMP-M-50-1000M-30d-Sf-0.1W-A-L21
50	1000	0.25	20	12	A		RAMP-M-50-1000M-20d-12V-0.25W-A-L21
50	1000	5	50	28	A	HS	RAMP-M-50-1000M-50d-28V-5W-A-HS-L21
50	1000	10	14	28	AB		RAMP-M-50-1000M-14d-28V-10W-AB-L21
50	1000	50	50	28	AB		RAMP-M-50-1000M-50d-Sf-50W-AB-L21
50	2500	0.01	20	15	A		RAMP-M-50-2500M-20d-Sf-10dBm-A-L21
50	6000	0.01	19	5.2	A		RAMP-M-50-6000M-19d-Sf-10dBm-A-L21
50	6000	0.1	20	12	A		RAMP-M-50-6000M-20d-12V-0.1W-A-L21
75	140	10	43	24	AB		RAMP-M-75-140M-43d-24V-Sf-10W-AB-L21
88	108	100	20	48	A		RAMP-M-88-108M-20d-48V-100W-A-L21
88	108	100	30	48	A	HS	RAMP-M-88-108M-30d-48V-100W-A-HS-L21
88	108	300	20	48	AB		RAMP-M-88-108M-20d-48V-300W-AB-L21
88	108	300	30	48	AB	HS	RAMP-M-88-108M-30d-48V-300W-AB-HS-L21
100	1000	50	20	28	A		RAMP-M-100-1000M-20d-28V-50W-A-L21
100	1000	50	30	28	A	HS	RAMP-M-100-1000M-30d-28V-50W-A-HS-L21
100	1000	50	50	28	A	HS	RAMP-M-100-1000M-50d-28V-50W-A-HS-L21
100	1000	80	20	28	AB		RAMP-M-100-1000M-20d-28V-80W-AB-L21
100	1000	80	30	28	A		RAMP-M-100-1000M-30d-28V-80W-A-L21
100	1000	80	30	28	AB	HS	RAMP-M-100-1000M-30d-28V-80W-AB-HS-L21
100	1000	80	50	28	A	HS	RAMP-M-100-1000M-50d-28V-80W-A-HS-L21
100	1000	80	50	28	AB	HS	RAMP-M-100-1000M-50d-28V-80W-AB-HS-L21
100	1000	150	30	28	AB	HS	RAMP-M-100-1000M-30d-28V-150W-AB-HS-L21
100	1000	150	50	28	AB	HS	RAMP-M-100-1000M-50d-28V-150W-AB-HS-L21
100	2500	5	10	28	A	HS	RAMP-M-100-2500M-10d-28V-5W-A-HS-L21
100	2500	5	10	28	AB		RAMP-M-100-2500M-10d-28V-5W-AB-L21
100	2500	5	45	28	A	HS	RAMP-M-100-2500M-45d-28V-5W-A-HS-L21
100	3000	0.031	10	5.5	A		RAMP-M-100-3000M-10d-5.5V-Sf-15dBm-A-L21
100	18000	1	33	15	AB		RAMP-M-100-18000M-33d-15V-Sf-1W-AB-L21
200	2000	5	10	48	A		RAMP-M-200-2000M-10d-48V-5W-A-L21
200	2000	20	10	48	AB		RAMP-M-200-2000M-10d-48V-20W-AB-L21
200	2200	25	15	48	A	HS	RAMP-M-200-2200M-25d-48V-25W-A-HS-L21



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200	2200	25	30	48	A	HS	RAMP-M-200-2200M-30d-48V-25W-A-HS-L21
200	2200	25	50	48	A	HS	RAMP-M-200-2200M-50d-48V-25W-A-HS-L21
200	2200	50	30	48	A	HS	RAMP-M-200-2200M-30d-48V-50W-A-HS-L21
200	2200	50	50	48	A	HS	RAMP-M-200-2200M-50d-48V-50W-A-HS-L21
200	2200	60	15	48	AB		RAMP-M-200-2200M-15d-48V-60W-AB-L21
200	2200	60	30	48	AB	HS	RAMP-M-200-2200M-30d-48V-60W-AB-HS-L21
200	2200	60	50	48	AB	HS	RAMP-M-200-2200M-50d-48V-60W-AB-HS-L21
200	2200	60	15	48	AB		RAMP-M-200-2200M-15d-48V-60W-AB-L21
200	2200	60	30	48	AB		RAMP-M-200-2200M-30d-48V-60W-AB-L21
200	2200	60	50	48	AB		RAMP-M-200-2200M-50d-48V-60W-AB-L21
200	2200	100	30	48	AB	HS	RAMP-M-200-2200M-30d-48V-100W-AB-HS-L21
200	2200	100	50	48	AB	HS	RAMP-M-200-2200M-50d-48V-100W-AB-HS-L21
300	500	1000	20	50	A	HS	RAMP-M-300-500M-20d-50V-1000W-A-HS-L21
470	860	25	15	48	A		RAMP-M-470-860M-20d-48V-25W-A-HS-L21
470	860	25	40	48	A	HS	RAMP-M-470-860M-40d-48V-25W-A-HS-L21
470	860	100	15	48	AB		RAMP-M-470-860M-15d-48V-100W-AB-L21
470	860	100	40	48	AB	HS	RAMP-M-470-860M-40d-48V-100W-AB-HS-L21
500	2000	100	45	46	AB		RAMP-M-500-2000M-45d-46V-100W-AB-L21
700	1000	25	12	48	AB		RAMP-M-700-1000M-12d-48V-25W-AB-L21
850	950	5	28	27	AB		RAMP-M-850-950M-28d-27V-5W-AB-L21
910	920	60	48	24	AB		RAMP-M-910-920M-48d-24V-Sf-60W-AB-FM-L21
960	1300	180	15	28	AB		RAMP-M-960-1300M-15d-28V-Sf-180W-AB-L21
1000	2600	10	12	48	A		RAMP-M-1000-2600M-12d-48V-10W-A-L21
1000	2600	10	40	48	A	HS	RAMP-M-1000-2600M-40d-48V-10W-A-HS-L21
1000	2600	30	12	48	AB		RAMP-M-1000-2600M-12d-48V-30W-AB-L21
1000	2600	30	40	48	AB	HS	RAMP-M-1000-2600M-40d-48V-30W-AB-HS-L21
1000	3000	0.031	50	5//15	A		RAMP-M-1000-3000M-50d-5/15V-Sf-15dBm-A-L21
1000	3000	100	30	50	A	HS	RAMP-M-1000-3000M-30d-50V-Sf-100W-A-HS-L21
1000	6000	75	20	50	A	HS	RAMP-M-1000-6000M-20d-50V-Sf-75W-A-HS-L21
1100	1650	0.016	50	12	A		RAMP-M-1100-1650M-50d-12V-Sf-12dBm-A-L21
1200	3300	10	20	48	AB		RAMP-M-1200-3300M-20d-48V-10W-AB-L21
1300	1700	100	50	28	AB		RAMP-M-1300-1700M-50d-28V-100-200W-AB-L21
1300	1700	200	50	28	AB		RAMP-M-1300-1700M-50d-28V-100-200W-AB-L21
1500	5900	0.01	15.5	5	A		RAMP-M-1500-5900M-15.5d-5V-Sf-10dBm-A-L21
1800	1900	5	28	27	AB		RAMP-M-1800-1900M-28d-27V-5W-AB-L21
1800	2100	25	12	48	AB		RAMP-M-1800-2100M-12d-48V-25W-AB-L21
1800	2100	25	45	48	A	HS	RAMP-M-1800-2100M-45d-28V-10W-A-HS-L21



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1800	4000	10	45	28	AB		RAMP-M-1800-4000M-45d-28V-Sf-10W-AB-L21
1930	2130	5	15	28	A		RAMP-M-1930-2130M-15d-28V-5W-A-L21
2000	2400	0.003	30	15	A		RAMP-M-2000-2400M-30d-15V-Sf-5dBm-A-L21
2000	2600	0.02	45	12	A		RAMP-M-2000-2600M-45d-12V-Sf-13dBm-A-L21
2000	6000	2	12	28	A		RAMP-M-2000-6000M-12d-28V-2W-A-L21
2000	6000	2	40	28	A		RAMP-M-2000-6000M-40d-28V-2W-A-L21
2000	6000	2	40	28	AB		RAMP-M-2000-6000M-40d-28V-2W-AB-L21
2000	6000	2	40	28	A	HS	RAMP-M-2000-6000M-40d-28V-2W-A-HS-L21
2000	6000	6	12	28	AB		RAMP-M-2000-6000M-12d-28V-6W-AB-L21
2000	6000	6	40	28	AB	HS	RAMP-M-2000-6000M-40d-28V-6W-AB-HS-L21
2100	2200	5	28	27	AB		RAMP-M-2100-2200M-28d-27V-Sf-5W-AB-L21
2400	2500	5	28	27	AB		RAMP-M-2400-2500M-28d-27V-Sf-5W-AB-L21
2620	2690	5	28	27	AB		RAMP-M-2620-2690M-28d-27V-Sf-5W-AB-L21
2900	3300	120	50	48	AB		RAMP-M-2900-3300M-50d-48V-120W-1.2KW-Peak-AB-L21
2900	3300	240	50	48	AB		RAMP-M-2900-3300M-50d-48V-240W-1.2KW-Peak-AB-L21
3600	4300	10	15	50	AB		RAMP-M-3600-4300M-15d-50V-Sf-10W-AB-L21
3900	5500	20	10	28	AB		RAMP-M-3900-5500M-10d-28V-Sf-20W-AB-L21
5000	20000	0.1	18	5.5	A		RAMP-M-5000-20000M-18d-Sf-16dBm-A-L21
6000	18000	0.31	27	12	A		RAMP-M-6000-18000-27d-12V-Sf-25dBm-A-L21
6000	18000	1.58	33	15	A		RAMP-M-6000-18000M-33d-15V-Sf-32dBm-A-L21
7950	8550	0.01	30	15	A		RAMP-M-7950-8550M-30d-Sf-10dBm-A-L21
8500	10500	15	30	12	AB		RAMP-M-8500-10500M-30d-15Wi-Sf-AB-L21
12000	18000	10	40	28	AB		RAMP-M-12000-18000M-40d-28V-Sf-10W-AB-L21