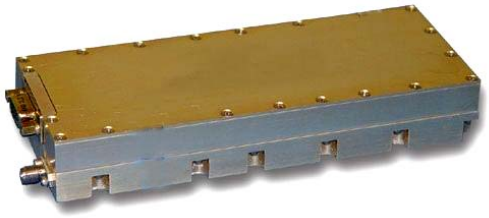
ZHM 1000-2500/20
MIL GRADE HIGH POWER AMPLIFIER 1.0 GHz TO 2.5 GHz



This a high power, broadband, silicon carbide (SiC) RF amplifier that operates from 1.0 to 2.5 GHz. It is ideal for broadband military platforms as well as commercial applications. This RF module employs temperature compensation to keep the gain constant over the temperature extremes. It is packaged in a modular, robust housing that is approximately 2.5" (W) by 6.4" (L) by 1.0 (H)". This amplifier has a typical P1dB of 15 watts at room temperature. Saturated output power across the band is typically 15-20 watts. Noise figure at room temperature is 8.0dB typical. This amplifier offers a typical gain of 49 dB with a typical gain flatness of ± 1.0dB. Typical OIP3 is 52dBm. Input and Output VSWR is 2.0:1 maximum. Class A current is 4.0 amps typical employing a +28Vdc supply. This PA operates from a 28Vdc input voltage. This amplifier operates from -40C to +85 base plate.

- **Silicon Carbide Broadband Power Amplifier**
- **Operation from 1.0 GHz to 2.5 GHz min.**
- **Small Signal Gain 49 dB typ.**
- **52 dBm OIP3 typ.**
- **20 Watts PSat typ.**

Typical Performance @ 25ºC

Freq (MHz)	Pout @ P1dB	Pin @ P1dB	Gain @ P1dB	28.0 Volt Current @ P1dB	2nd Harm @ P1dB	3rd Harm @ P1dB	Pout @ Psat	28.0 Volt Current @ Psat
1000	41.5	-5.8	47.3	4.55	-25.0	-32.0	42.5	4.87
1150	41.1	-7.9	49.0	4.58	-18.0	-32.0	42.6	4.54
1300	40.5	-8.2	48.7	4.56	-19.0	-33.0	42.5	4.58
1450	40.3	-8.8	49.1	4.67	-22.0	-31.0	42.0	4.81
1600	41.0	-7.2	48.2	4.64	-21.0	-32.0	42.3	4.79
1750	41.0	-7.2	48.2	4.61	-25.0	-37.0	42.2	4.86
1900	41.6	-8.2	49.8	4.66	-27.0	-43.0	42.8	4.65
2050	41.4	-8.3	49.7	4.67	-39.0	-47.0	42.8	4.92
2200	41.9	-7.3	49.2	4.56	-40.5	-50.0	43.2	4.83
2350	41.0	-7.3	48.3	4.45	-43.0	-42.0	42.7	4.78
2500	41.0	-7.3	48.3	4.50	-42.0	-42.0	41.9	4.65

Small Signal Gain Pin = .16 dBm	OIP3@ Pout=30 dBm Avg. 500 kHz spacing	Noise Figure (dB)	Spurious Emissions IB OOB (200 MHz-18 GHz)	Turn On Time	Turn Off Time
49.0	53.0	8.0	N/A	N/A	N/A
49.8	53.0	8.0	N/A	N/A	N/A
50.2	52.5	8.2	N/A	N/A	N/A
49.3	52.5	8.3	N/A	N/A	N/A
49.0	52.0	8.8	N/A	N/A	N/A
48.8	51.5	9.5	<-60	6.00	10.00
50.5	51.5	9.2	N/A	N/A	N/A
50.5	51.5	9.2	N/A	N/A	N/A
50.3	51.0	9.0	N/A	N/A	N/A
49.2	51.0	8.5	N/A	N/A	N/A
49.1	51.0	8.7	N/A	N/A	N/A

Typical Performance @ 85ºC Base Plate

Freq (MHz)	Pout @ P1dB	Pin @ P1dB	Gain @ P1dB	28.0 Volt Current @ P1dB	2nd Harm @ P1dB	3rd Harm @ P1dB	Pout @ Psat	28.0 Volt Current @ Psat
1000	41.6	-6.5	48.1	4.25	-24.0	-41.3	41.3	4.45
1150	39.8	-9.1	48.9	4.41	-18.0	-41.4	41.4	4.53
1300	39.7	-9.1	48.8	4.38	-22.0	-41.5	41.5	4.48
1450	39.5	-9.8	49.3	4.42	-25.0	-41.0	41.0	4.51
1600	39.9	-7.7	47.6	4.48	-23.0	-41.1	41.1	4.47
1750	39.8	-8.5	48.3	4.42	-28.0	-41.5	41.5	4.56
1900	40.5	-9.7	50.2	4.51	-30.0	-42.0	42.0	4.52
2050	40.3	-9.7	50.0	4.38	-39.0	-41.8	41.8	4.51
2200	40.9	-8.4	49.3	4.32	-41.0	-42.2	42.2	4.50
2350	40.5	-7.2	47.7	4.31	-41.0	-42.0	42.0	4.48
2500	40.2	-7.5	47.7	4.32	-40.0	-41.0	41.0	4.49

Small Signal Gain Pin = .16 dBm	OIP3@ Pout=30 dBm Avg. 500 kHz spacing	Noise Figure (dB)	Spurious Emissions IB OOB (200 MHz-18 GHz)	Turn On Time	Turn Off Time
48.9	53.0	7.9	N/A	N/A	N/A
49.9	53.0	8.2	N/A	N/A	N/A
49.3	53.0	8.5	N/A	N/A	N/A
49.9	52.5	8.5	N/A	N/A	N/A
48.3	51.0	8.7	N/A	N/A	N/A
48.5	51.0	8.8	<-60	7.00	11.00
50.9	51.0	9.0	N/A	N/A	N/A
50.7	51.5	8.7	N/A	N/A	N/A
50.0	51.0	8.5	N/A	N/A	N/A
48.6	51.0	8.5	N/A	N/A	N/A
48.5	51.0	9.1	N/A	N/A	N/A