



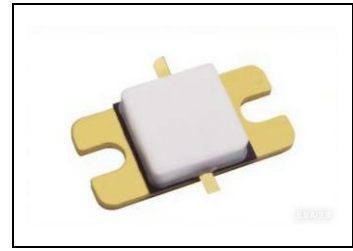
4-8GHz, 30W, GaN Fully matched PA Module

Description

The XMAH4080-31A2T is a 30-watt, single stage integrated Power Amplifier Module, designed Full band application from 4 to 8GHz.

The module is 50 Ω input/output matched and requires minimal external components.

Vgs=-2.45V Idq=100mA, Vds=28V Signal: CW



Freq(MHz)	Pin(dBm)	Pout(dBm)	Pout(W)	IDS(A)	Gain(dB)	Eff(%)	2 nd Harmonic	3 rd Harmonic
4000	38.50	45.83	38.3	3.24	7.33	42.2	-14.1	-27.0
4500	38.00	45.50	35.5	3.35	7.50	37.8	-23.3	-41.6
5000	37.40	45.61	36.4	2.75	8.21	47.3	-37.3	-45.0
5500	37.20	46.15	41.2	2.84	8.95	51.8		
6000	37.50	46.26	42.3	2.91	8.76	51.9		
6500	37.10	45.43	34.9	2.57	8.33	48.5		
7000	36.96	45.24	33.4	2.63	8.28	45.4		
7500	37.79	45.08	32.2	2.61	7.29	44.1		
8000	37.30	45.00	31.6	2.97	7.70	38.0		

Recommended driver: **GMAH2080-10C9**

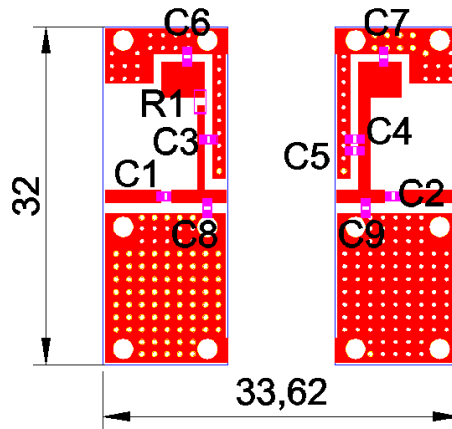
Applications

- Power Amplifiers within S and C band
- Test Instrumentation
- EMC Amplifier Drivers
- 2-way Radios

Table 1. Maximum Ratings

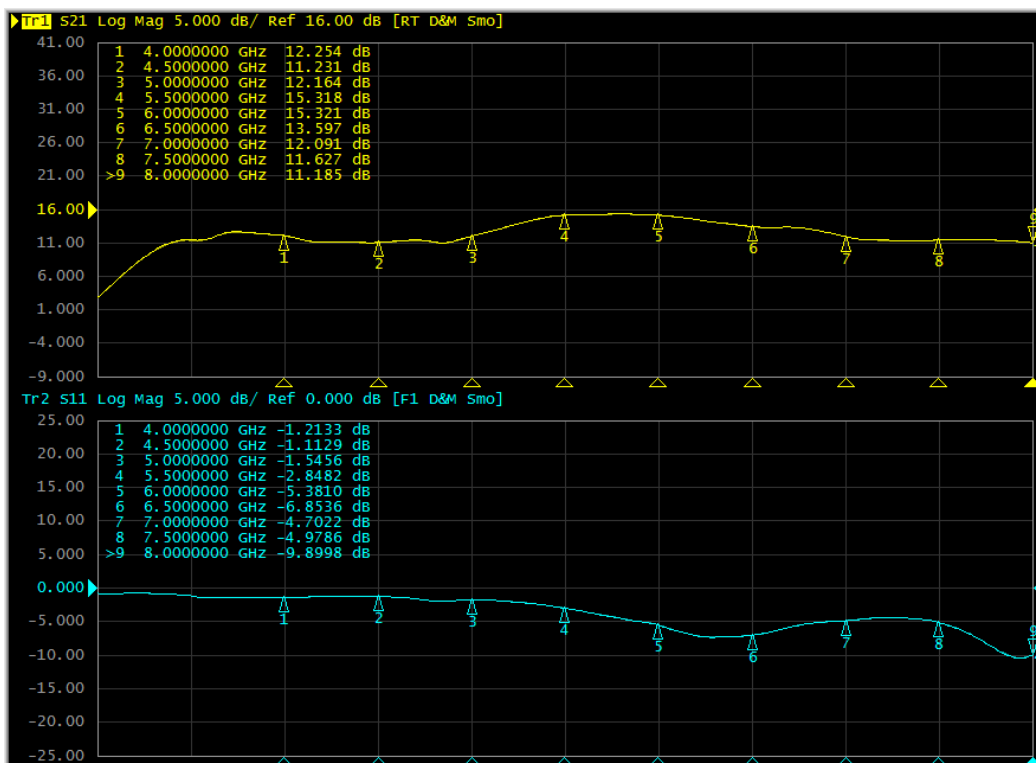
Rating	Symbol	Value	Unit
Drain--Source Voltage	V _{DSS}	150	Vdc
Gate--Source Voltage	V _{GS}	-10 to +2	Vdc
Operating Voltage	V _{DD}	+32	Vdc
Storage Temperature Range	T _{stg}	-65 to +150	°C
Case Operating Temperature	T _c	+150	°C
Operating Junction Temperature	T _j	+225	°C

Typical application circuit



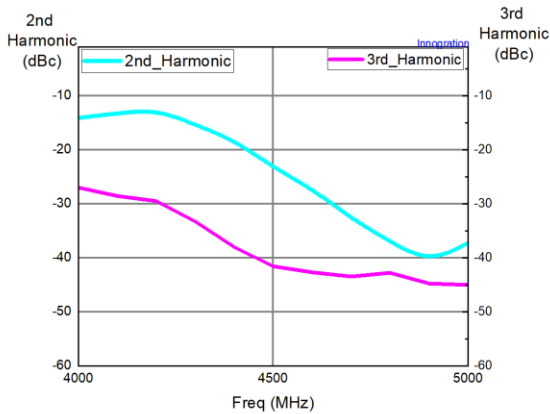
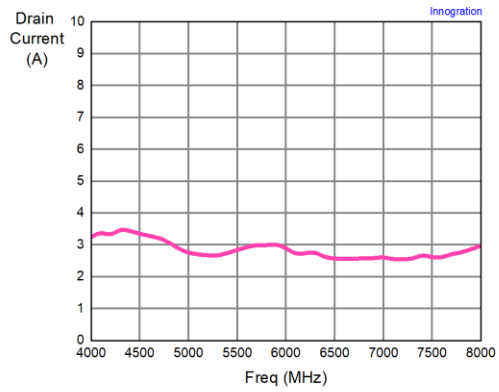
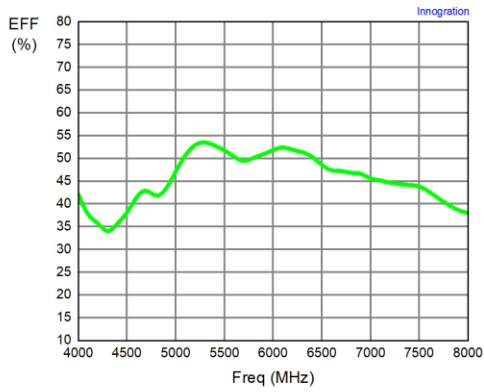
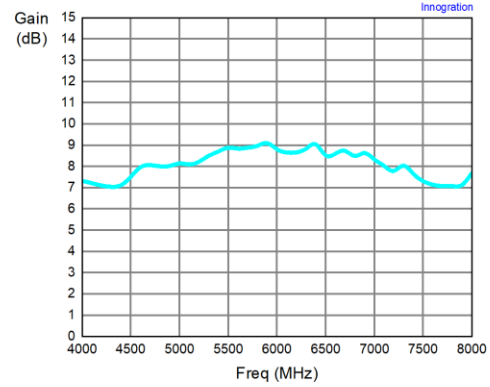
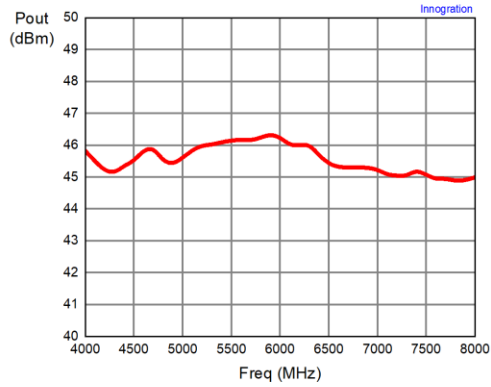
Component	Description	Suggested Manufacturer / Series Number
C6 C7	10 uF	TDK
C3 C5	100 pF	
C1	2.2 pF	
C2	3 pF	
C4	56 pF	
C8	0.2 pF	
C9	0.3 pF	
PCB	20Mil Rogers 4350	Rogers

Typical RF Performance

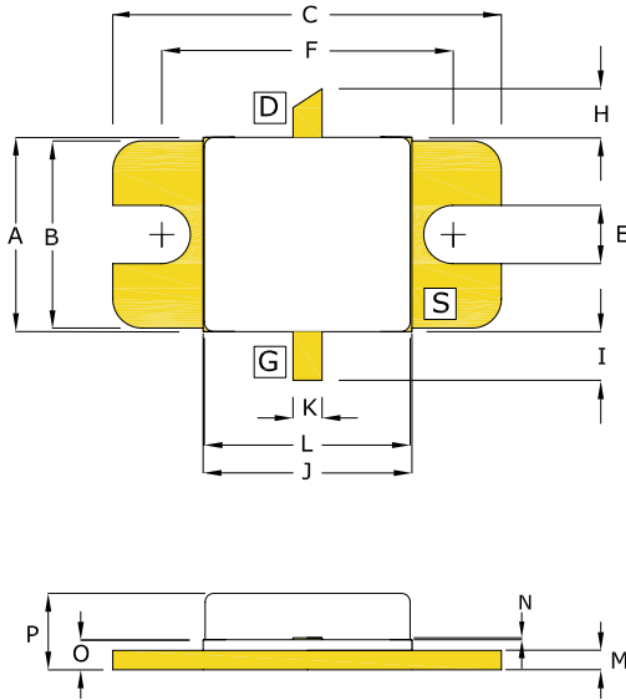




XMAH4080-31A2T_rev5 CW Test
Vgs=-2.40V Vds=28V Idq=200mA



Package Dimensions



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.395	0.405	10.03	10.29
B	0.380	0.390	9.65	9.91
C	0.795	0.805	20.19	20.45
E	0.115	0.125	2.92	3.18
F	0.595	0.605	15.11	15.37
H	0.090	0.110	2.29	2.79
I	0.090	0.110	2.29	2.79
J	0.425	0.435	10.80	11.05
K	0.055	0.065	1.40	1.65
L	0.420	0.428	10.67	10.87
M	0.035	0.045	0.89	1.14
N	0.004	0.007	0.10	0.18
O	0.053	0.067	1.35	1.70
P	0.143	0.179	3.63	4.55

PIN SCHEDULE	
D	DRAIN
S	SOURCE
G	GATE

Revision history

Table 6. Document revision history

Date	Revision	Datasheet Status
2026/1/29	Rev 1.0	Preliminary Datasheet
2026/4/10	Rev 1.0	Product Datasheet with 4-6GHz optimized for power flatness

Application data based on JF-26-07 (Rev5) /JF-26-12

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