

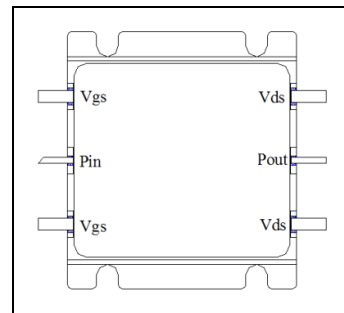


4.0-5.5GHz, 150W, GaN Fully matched PA Module

Description

The GMAH4055-150H3 is a 32V 150-watt Psat capable, single stage integrated IMFET, designed For broad band applications, with frequencies from 4.0 to 5.5GHz. The module is 50 Ω input/output matched and requires minimal external components. **It can be high power and easy to use solution for typical sub-band like 3.8-4.2GHz ,4.4-5GHz, or 5.1-5.5GHz within C band**

The module implements multiple GaN active dice and its matching network within highly compact 30.8*27.4mm metal RF package with excellent capability for heat dissipation.



CW Test Idq=300mA Vds=32V

Freq(MHz)	Pin(dBm)	Psat(dBm)	Pout(W)	IDS(A)	Gain(dB)	Eff(%)	2 nd Harmonic	3 rd Harmonic
3800	45.30	52.43	175.0	12.17	7.13	44.9	-31.6	-38.4
4000	45.40	52.90	195.0	11.95	7.50	51.0	-37.3	-27.9
4200	45.30	52.55	179.9	11.90	7.25	47.2	-52.0	-41.7
4400	44.90	52.39	173.4	11.89	7.49	45.6	-53.6	-54.8
4600	44.40	52.30	169.8	11.94	7.90	44.4	-45.2	-45.4
4800	43.20	52.27	168.7	11.95	9.07	44.1	-47.3	-41.1
5000	42.80	52.27	168.7	11.72	9.47	45.0	-49.3	-30.3
5200	41.50	52.21	166.3	11.35	10.71	45.8	-53.1	-45.9
5400	40.30	52.13	163.3	10.97	11.83	46.5	-49.4	-51.3
5500	39.90	52.12	162.9	10.74	12.22	47.4	-46.2	-51.7
5700	40.00	51.77	150.3	9.37	11.77	50.1	-39.5	-56.1

Applications

- Sub-band Amplifiers within C band
- Test Instrumentation
- EMC Amplifier Drivers
- 2-way Radios

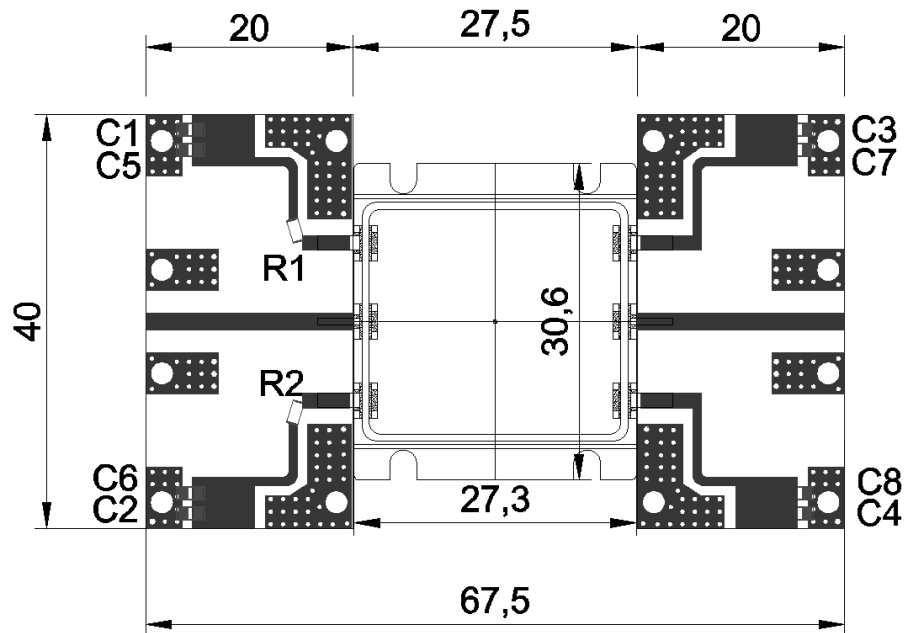
Table 1. Maximum Ratings

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

Table 2. Thermal Characteristics

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction to Case T _c = 25°C, Pout=150W, FEA	R _{θJC}	0.75	°C/W

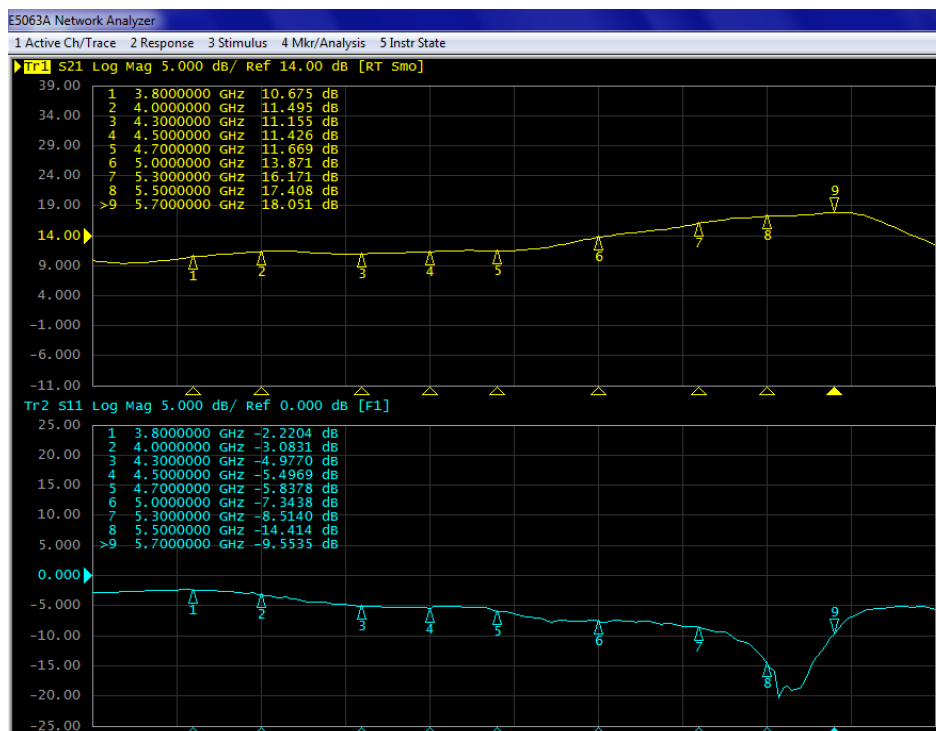
Typical application circuit



Component	Description	Suggestion
C1 C2 C3 C4	10 uF	1210
C5 C6 C7 C8	100 pF	MQ301111
R1 R2	10 Ohm	1206
PCB	30Mil Rogers 4350	

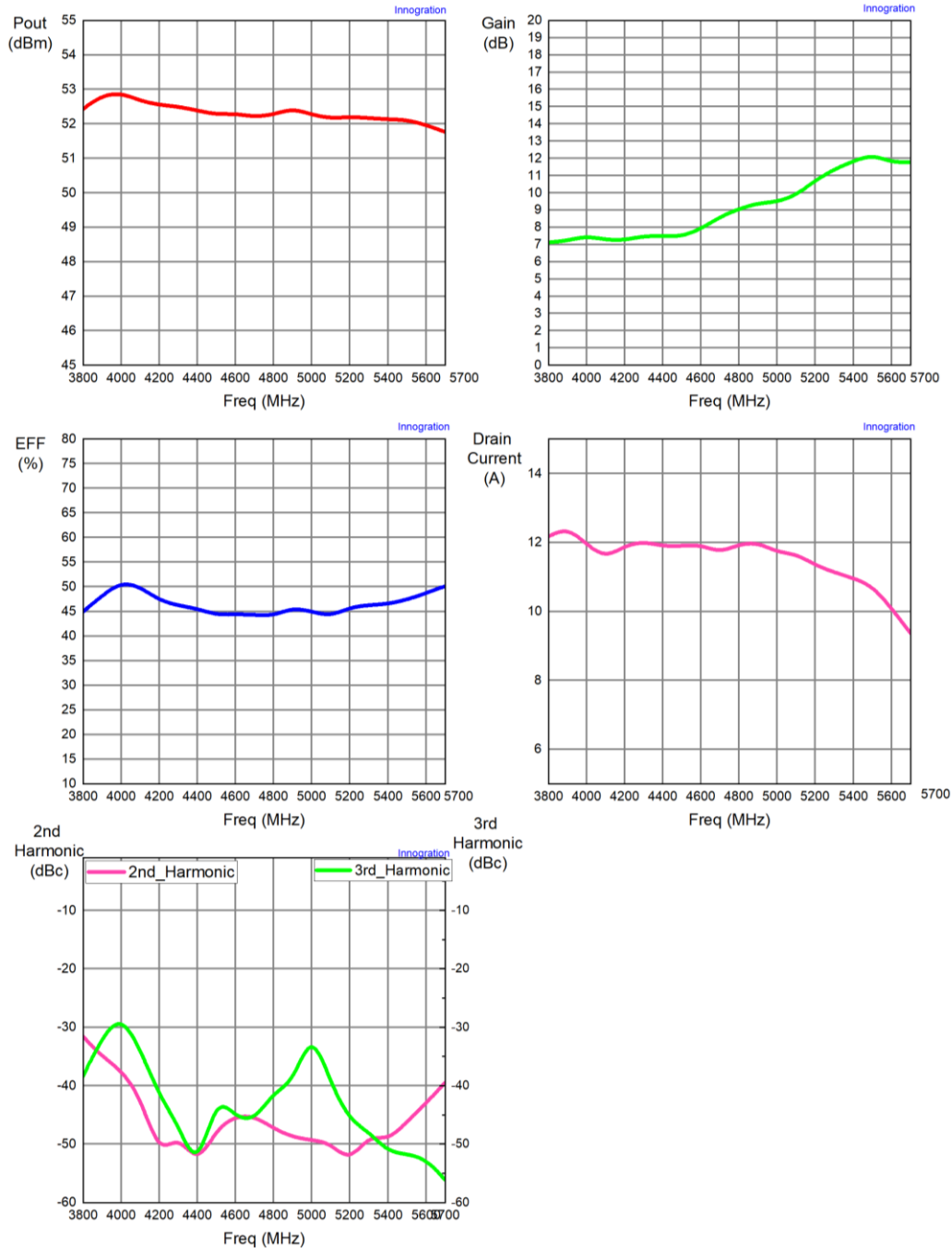
TYPICAL CHARACTERISTICS

Figure 1. Network analyzer output S11/S21 (Pin=0dBm, Idq=300mA)

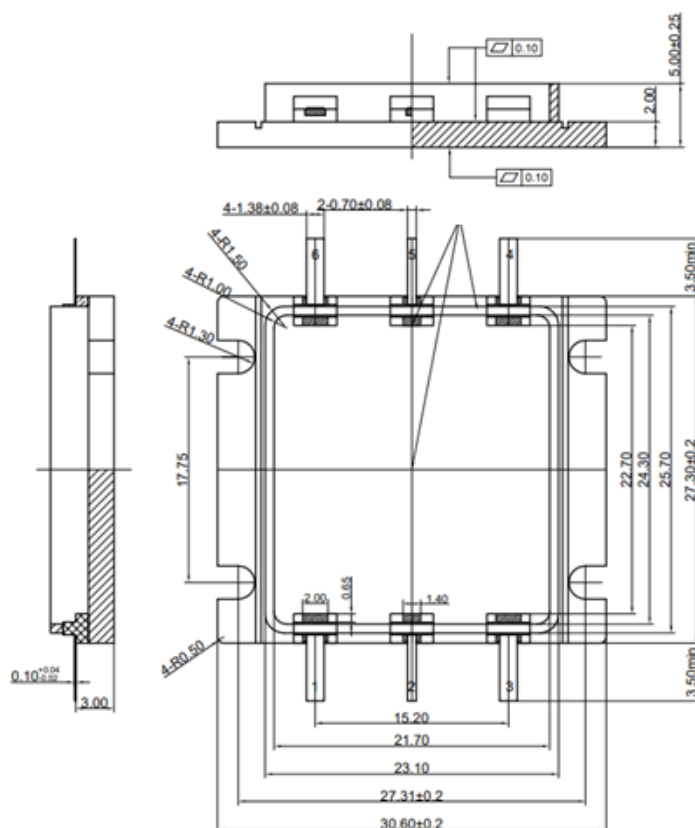




GMAH4055-150H3 CW Test Vgs=-2.55V Vds=32V Idq=300mA



Package Dimensions (Unit:mm)



Revision history

Table 6. Document revision history

Date	Revision	Datasheet Status
2026/9/2	Rev 1.0	Preliminary Datasheet

Application data based on JF-26-19

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