

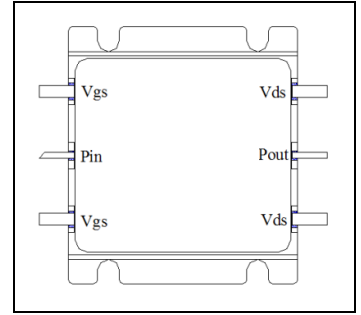


0.8-5.7GHz, 80W, GaN Fully matched PA Module

Description

The GMAH0857-80H3 is a 80-watt Psat capable, single stage integrated IMFET, designed for broad band applications, with frequencies from 0.8 to 5.7GHz. The module is 50 Ω input/output matched and requires minimal external components.

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.



Vds=28V Idq=200mA

Freq (MHz)	Pin (dBm)	Pout (dBm)	Pout (W)	IDS (A)	Gain (dB)	Eff (%)
800	39.79	49.16	82.3	5.93	9.37	49.6
1000	40.96	49.86	96.8	6.50	8.90	53.2
1500	41.19	49.69	93.2	8.90	8.50	37.4
2000	40.14	49.84	96.4	9.20	9.70	37.4
2500	39.06	49.86	96.8	8.92	10.80	39.06
3000	41.30	49.50	89.2	9.15	8.20	34.8
3500	40.36	50.56	113.6	9.70	10.20	41.8
4000	40.85	50.35	108.4	9.50	9.50	40.7
4500	41.84	49.54	89.8	7.10	7.70	45.2
5000	42.41	49.41	87.3	8.90	7.00	35.0
5500	40.02	49.62	91.5	7.70	9.60	42.5
5700	40.72	49.32	85.4	7.20	8.60	42.4

32V data upon request

Applications

- Ultra Broadband Amplifiers within UHF to C band
- Test Instrumentation
- EMC Amplifier Drivers
- 2-way Radios

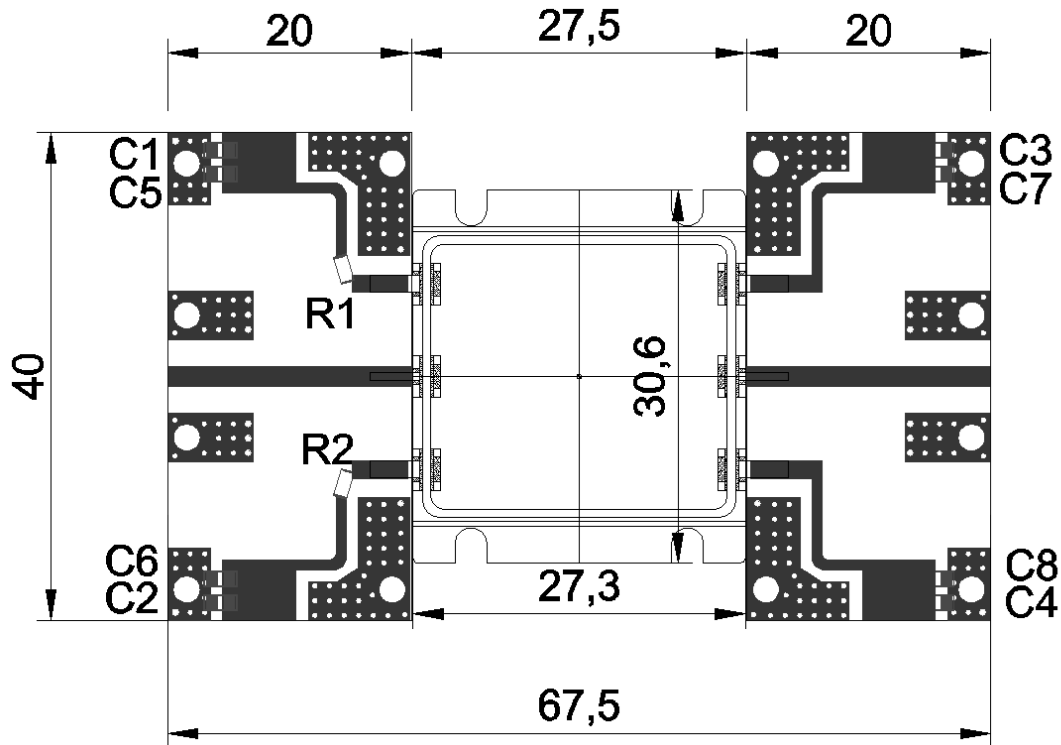
Table 1. Maximum Ratings

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, P _{out} =80W, FEA	R _{θJC}	0.9	°C/W

Typical application circuit

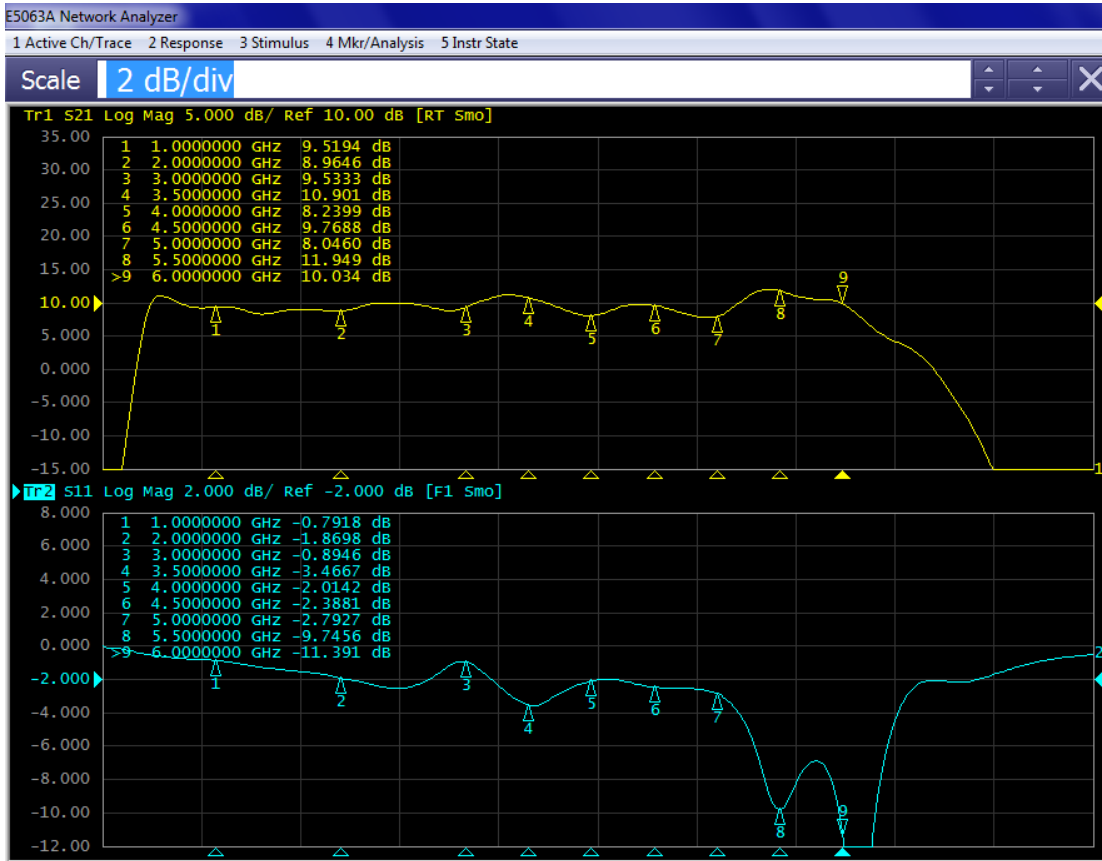


Component	Description	Suggestion
C1 C2 C3 C4	10 uF	1210
C5 C6 C7 C8	100 pF	MQ301111
R1 R2	10 Ohm	1206
PCB	30Mil Rogers 4350	



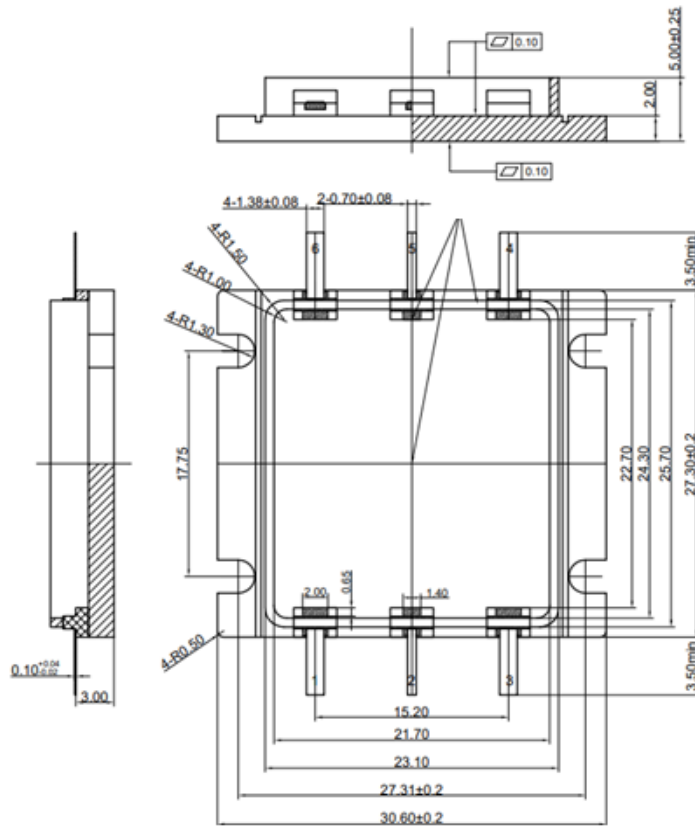
TYPICAL CHARACTERISTICS

Figure 1. Network analyzer output S11/S21 (Pin=0dBm, Idq=200mA)





Package Dimensions (Unit:mm)



Revision history

Table 6. Document revision history

Date	Revision	Datasheet Status
2024/11/25	Rev 1.0	Advanced Datasheet

Application data based on JF-24-13

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