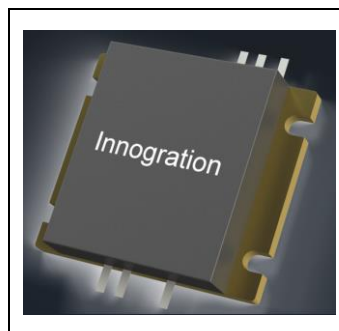




1.0-2.7GHz, 30W, 2 stages GaN Fully matched PA

Description

The S2MAH1027-30H3P is a 30-watt Psat capable, 2 stage integrated IMFET, designed for broad band applications, with frequencies from 1.0 to 2.7GHz. The module is 50 Ω input/output matched and requires minimal external components, with DC block capacitor integrated inside. 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, Vgs1= -3.26V, Idq1=120mA, Vgs2= -2.52V, Idq2=20Ma, CW					
Freq (MHz)	P1(dBm)	P1 Gain (dB)	P3dB(dBm)	P3dB(W)	Eff (%)
1000	43.91	25.3	45.08	32.2	46.0
1200	44.34	25.5	45.54	35.8	48.7
1400	45.33	24.2	47.18	52.2	52.9
1600	42.58	23.6	45.68	37.0	46.3
1800	43.97	24.7	45.47	35.3	48.7
2000	43.81	25.5	45.09	32.3	44.9
2200	44.37	25.9	45.57	36.0	46.2
2400	44.67	24.7	45.82	38.2	46.3
2600	44.23	25.8	45.93	39.2	52.6
2700	41.74	24.1	44.70	30.5	43.4

Applications

- L/S band power amplifier
- GPS/Beidou power amplifier

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}	+36	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 CHARACTERISTICS

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

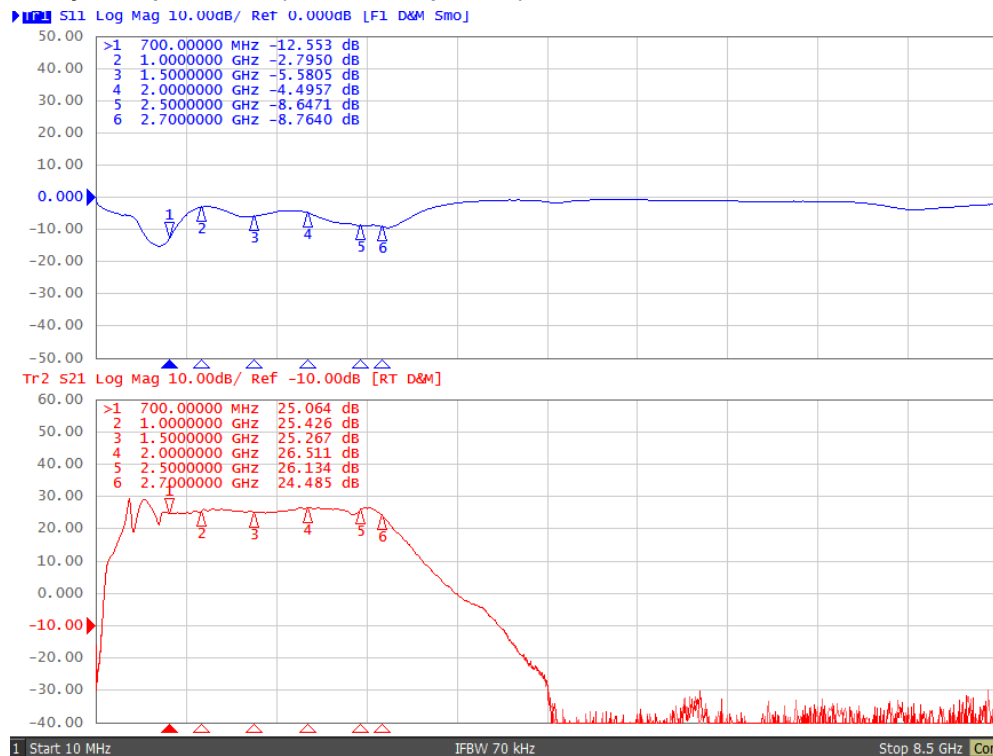
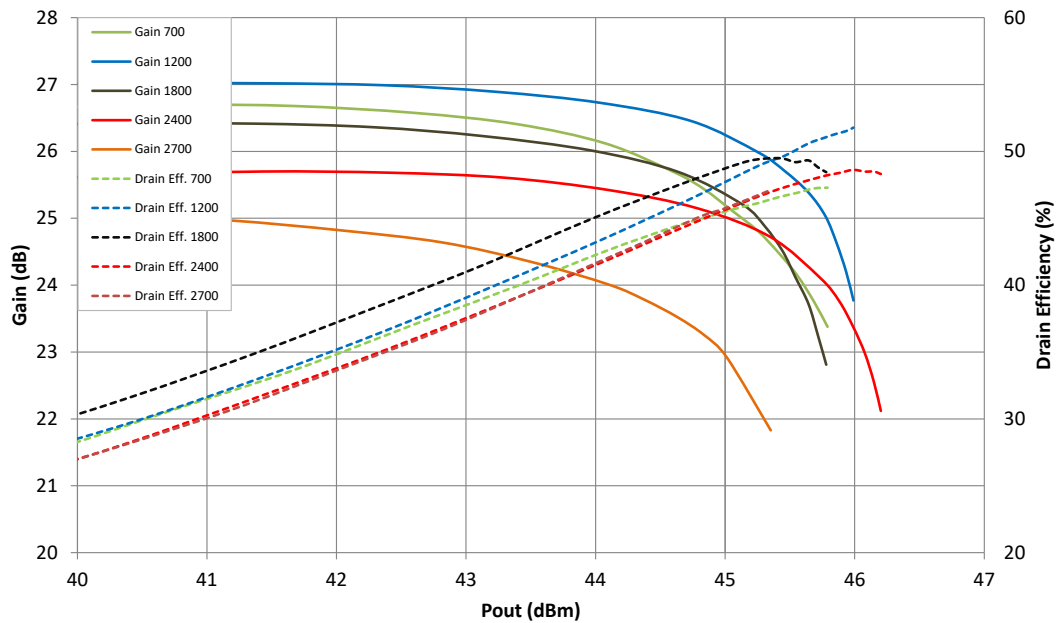
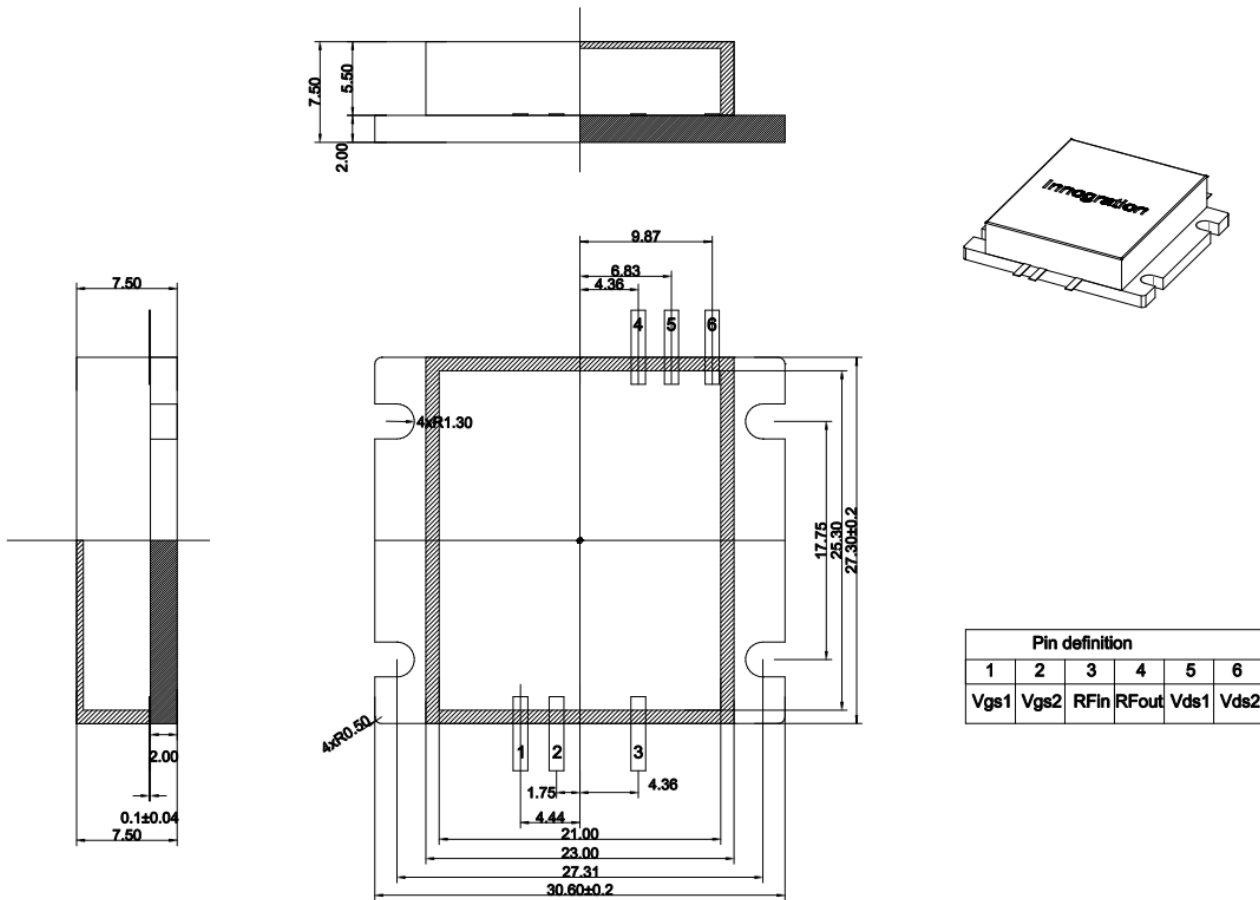


Figure 3. Pout, Eff, Gain, drain current Vs Frequency @28V ,Pulsed 20us 20%





Package Dimensions (Unit:mm)



Revision history

Table 6. Document revision history

Date	Revision	Datasheet Status
2025/7/31	Rev 1.0	Advanced Datasheet

Application data based on HJ-25-09

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