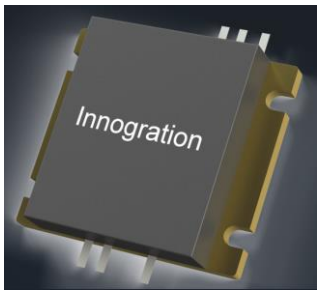
1.2-1.4GHz, 200W , 2 stages GaN Fully matched PA



Description

The S2MBV1214-200H3P is a 200-watt Psat capable，2 stage integrated IMFET, designed for L band applications, with frequencies from 1.2 to 1.4GHz. 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= 50V, Vgs1= -3.32V, Idq1=230mA, Vgs2= -3.2V, Idq2=20mA							
Freq (MHz)	P1dB (dBm)	P1dB (W)	P1dB Eff(%)	P1dB Gain(dB)	P3dB (dBm)	P3dB (W)	P3dB Eff(%)
1200	52.62	182.8	49.9	31.57	53.86	243.1	55.6
1250	52.56	180.5	51.6	32.27	53.89	244.9	57.8
1300	52.76	188.9	55.0	31.84	54.12	258.1	61.4
1350	52.92	196.1	57.7	31.82	54.2	262.8	63.5
1400	52.72	187.2	58.5	31.32	54.06	254.5	64.3

Applications

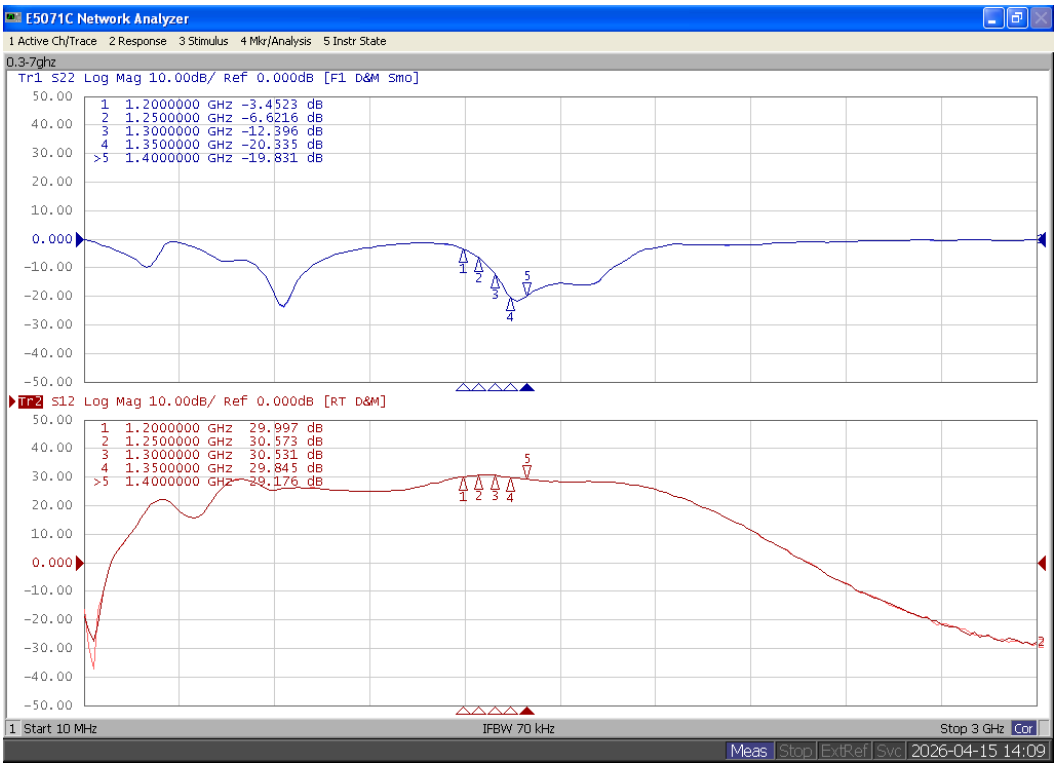
- L band power amplifier

Table 1. Maximum Ratings

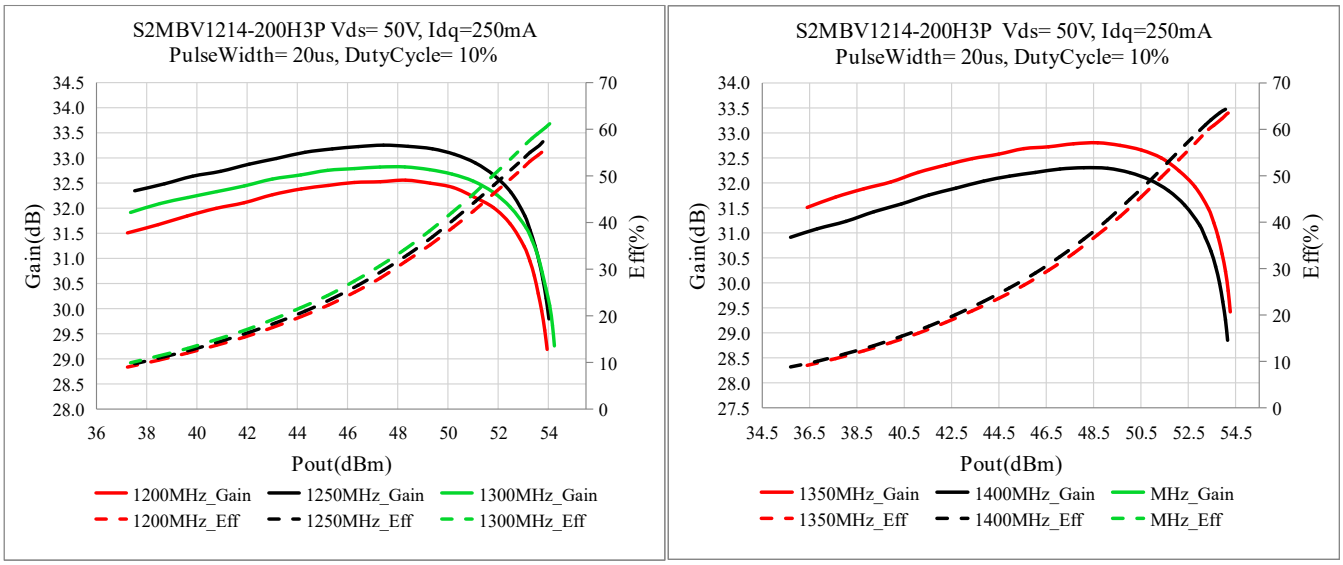
Rating	Symbol	Value	Unit
Drain--Source Voltage	V_{DSS}	200	Vdc
Gate--Source Voltage	V_{GS}	-10 to +2	Vdc
Operating Voltage	V_{DD}	+55	Vdc
Storage Temperature Range	Tstg	-65 to +150	°C
Case Operating Temperature	T_C	+150	°C
Operating Junction Temperature	T_J	+225	°C

TYPICAL CHARACTERISTICS

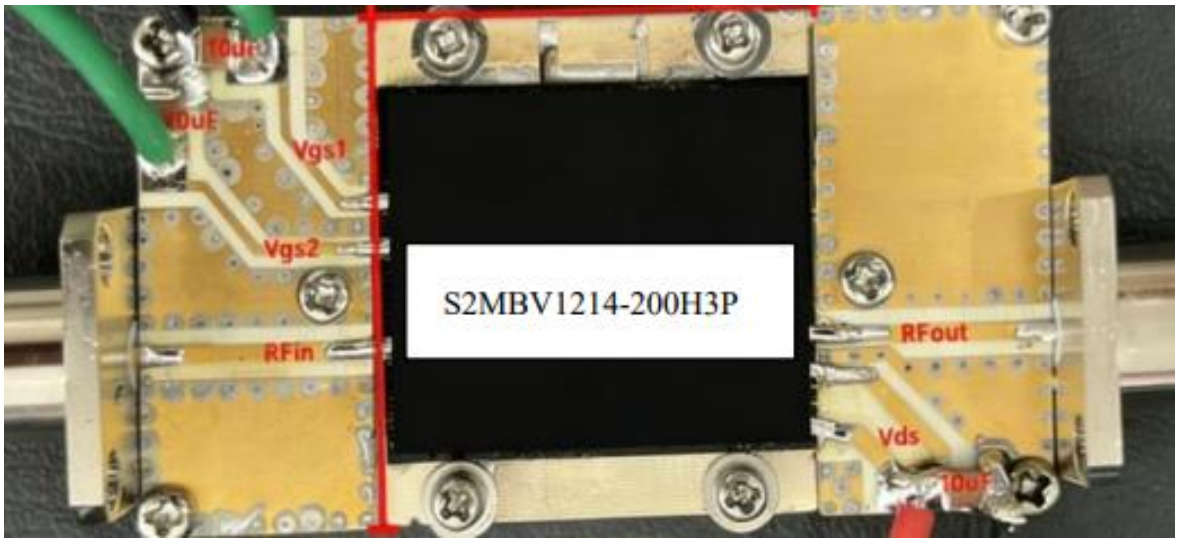
Figure 1. Network analyzer output S11/S21 (Pin=0dBm, Idq=200mA)



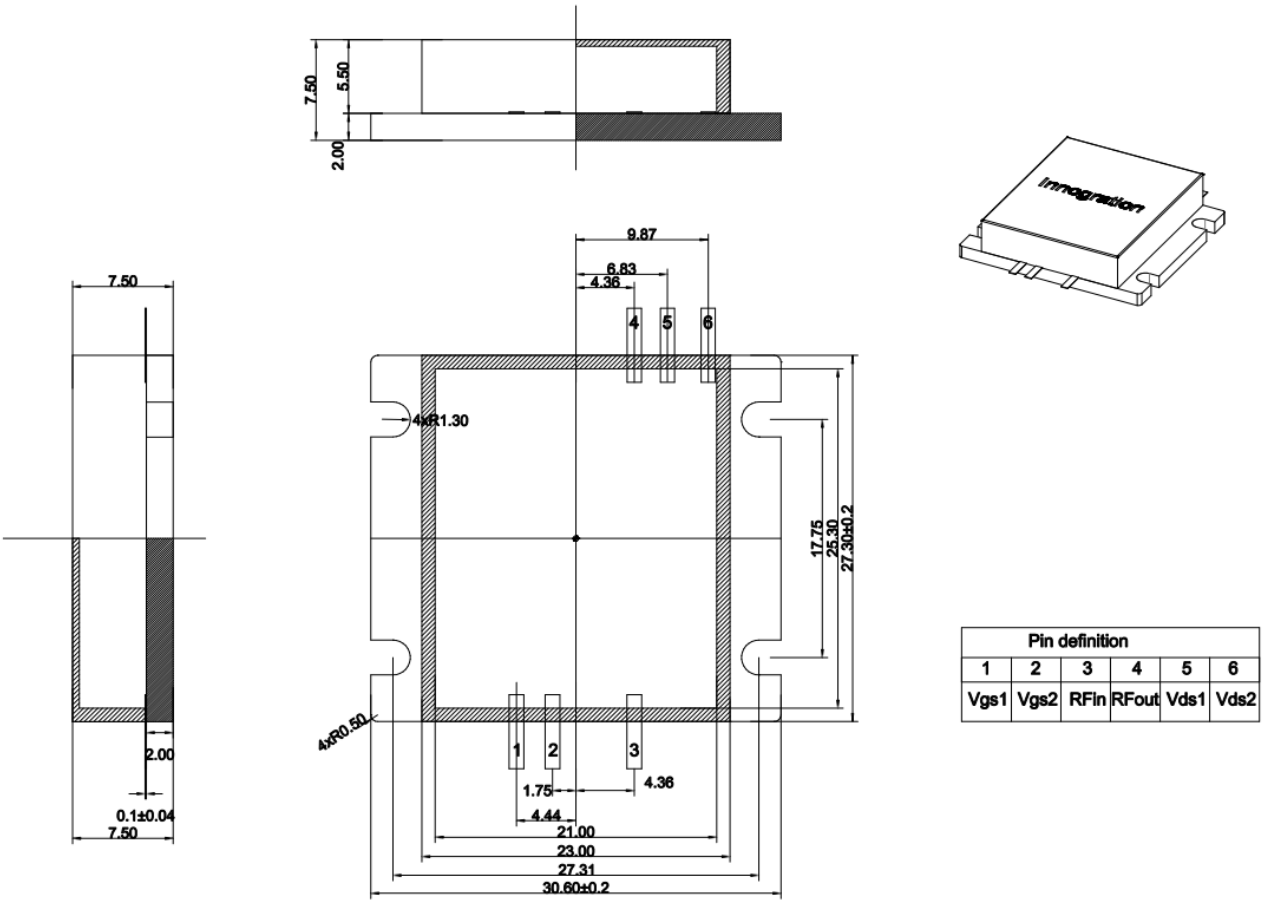
1 Figure 3. Pout, Eff, Gain，drain current Vs Frequency @50V ,Pulsed 20us 20%



Typical application board



Package Dimensions （Unit:mm）



Pin definition					
1	2	3	4	5	6
Vgs1	Vgs2	RFin	RFout	Vds1	Vds2

Revision history

Table 6. Document revision history

Date	Revision	Datasheet Status
2026/4/15	Rev 1.0	Advanced Datasheet

Application data based on LBG-26-18

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