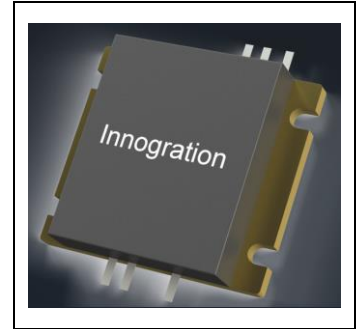




960-1400M, 100W , 2 stages GaN Fully matched PA

Description

The S2MBV0914-100H3P is a 100-watt Psat capable, 2 stage integrated IMFET, designed for L band applications, with frequencies from 960 to 1400MHz. 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=-3.3V, Idq1=205mA, Vgs2=-3.19V, Idq2=25mA							
Freq (MHz)	P1dB (dBm)	P1dB (W)	P1dB Eff (%)	P1dB Gain (dB)	P3dB (dBm)	P3dB (W)	P3dB Eff (%)
900	49.28	84.7	45.4	29.75	50.97	125.1	52.0
960	49.53	89.7	46.7	29.95	51.21	132.0	55.2
1000	50.34	108.1	51.5	30.28	51.88	154.1	57.3
1150	50.56	113.8	58.0	30.73	52.03	159.6	62.8
1200	49.89	97.6	55.9	30.84	51.55	142.7	62.1
1250	49.72	93.8	55.6	31.28	51.24	133.0	61.1
1300	49.45	88.2	53.7	30.33	51.17	130.9	60.1
1350	49.06	80.5	50.9	30.26	51.01	126.1	58.2
1400	48.86	76.9	48.9	29.49	50.84	121.3	56.2

Applications

- Avionics power amplifier
- L band power amplifier

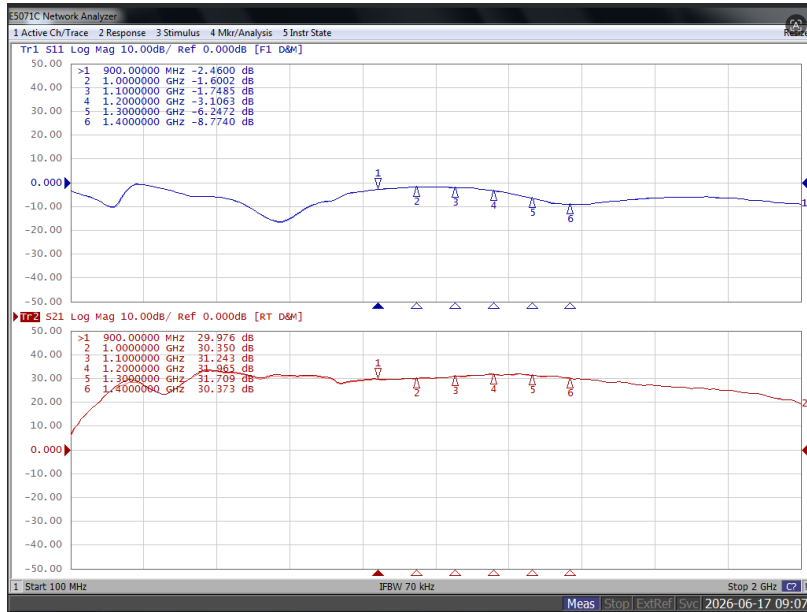
Table 1. Maximum Ratings

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	T _{stg}	-65 to +150	°C
Case Operating Temperature	T _c	+150	°C
Operating Junction Temperature	T _j	+225	°C

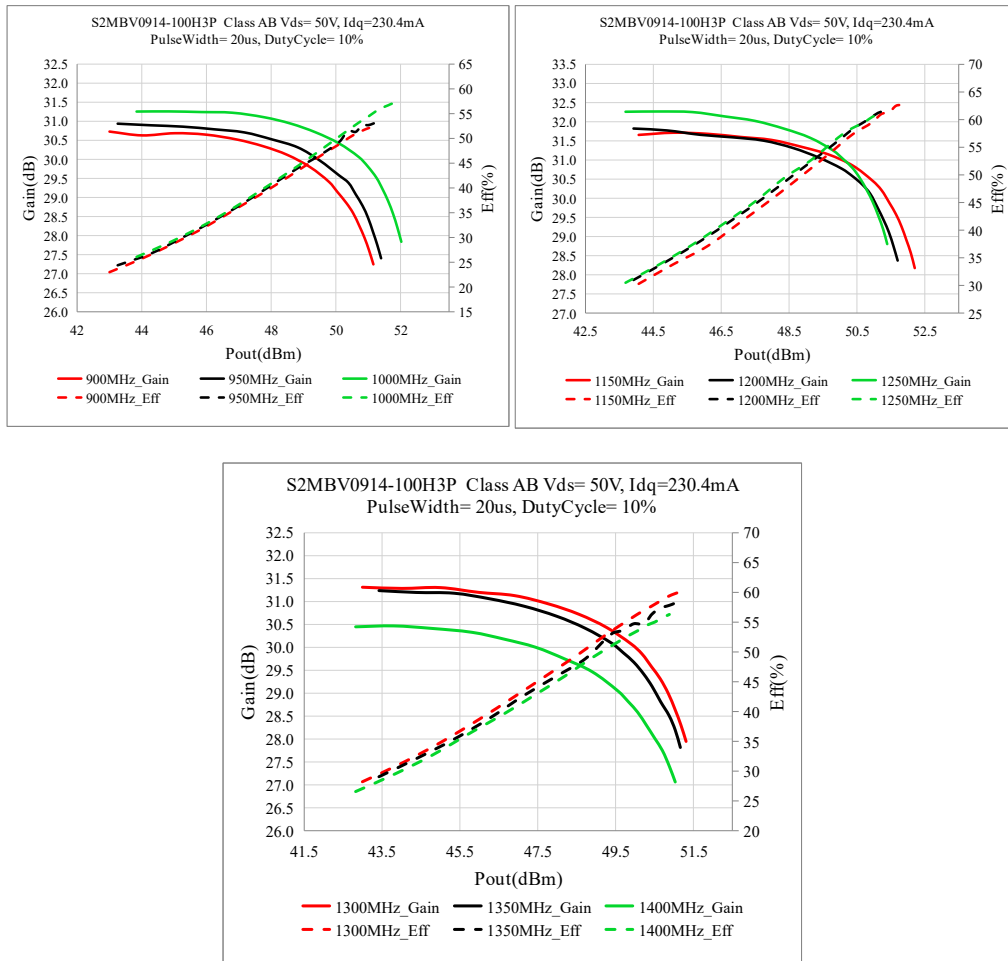


TYPICAL CHARACTERISTICS

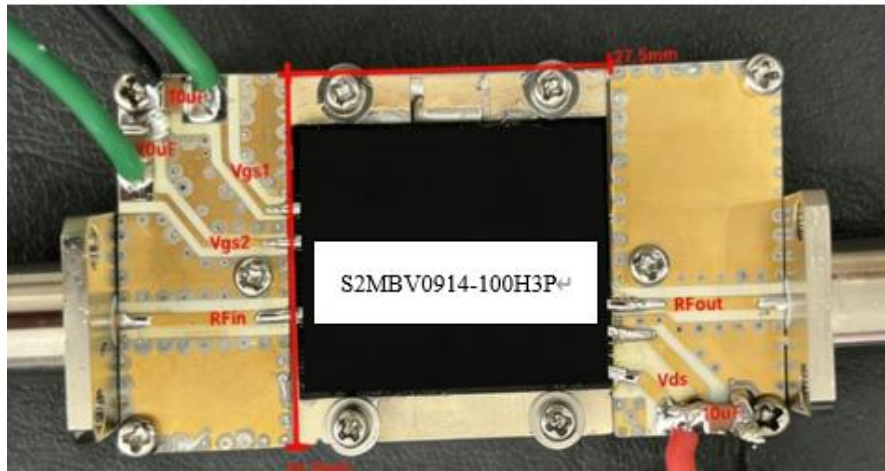
Figure 1. Network analyzer output S11/S21 (Pin=0dBm)



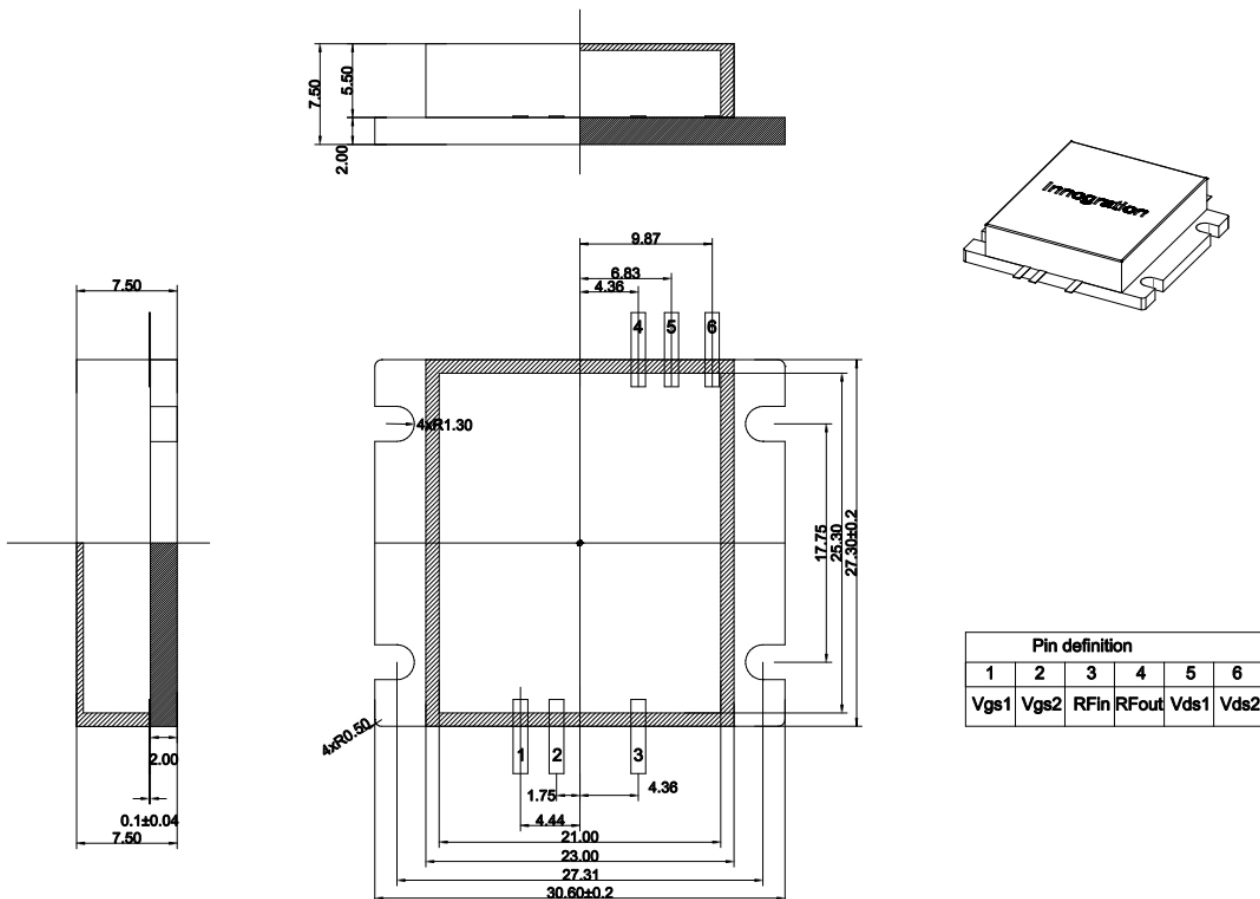
1 Figure 3. Pout, Eff, Gain, drain current Vs Frequency @50V ,Pulsed 20us 20%



Typical application board



Package Dimensions (Unit:mm)





Revision history

Table 6. Document revision history

Date	Revision	Datasheet Status
2026/6/17	Rev 1.0	Advanced Datasheet by SU3014VS and STAV58025P2

Application data based on LBG-26-25

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