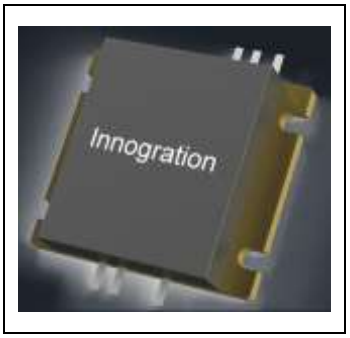
0.95-1.15GHz, 100W, 2 stages GaN Fully matched PA



Description

The G2MAH0912-100H3P is a 100-watt Psat capable，2 stage integrated IMFET, designed for broad band applications, with frequencies from 0.95 to 1.15GHz. 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.

V_{DS}= 28V, V_{gs1}= -2.76V, I_{dq1}=200mA, V_{gs2}= -2.57V, I_{dq2}=20mA， CW							
Freq (MHz)	P1dB (dBm)	P1dB (W)	P1dB Eff(%)	P1dB Gain(dB)	P3dB (dBm)	P3dB (W)	P3dB Eff(%)
900	48.31	67.8	42	30.6	49.88	97.4	49
950	**48.58**	**72.2**	**44.2**	**29.9**	**50.18**	**104.2**	**51.4**
1000	**48.94**	**78.4**	**47.3**	**30.3**	**50.71**	**117.7**	**55.7**
1050	**49.11**	**81.4**	**50**	**29.6**	**51.04**	**126.9**	**59.5**
1100	**49.08**	**81**	**54.1**	**29.7**	**50.63**	**115.7**	**61.1**
1150	**48.8**	**75.9**	**55.5**	**29.1**	**50.4**	**109.7**	**62.8**
1200	48	63	53.8	28.7	49.65	92.3	60.9

Applications

- L/P band power amplifier
- ISM power amplifier

Table 1. Maximum Ratings

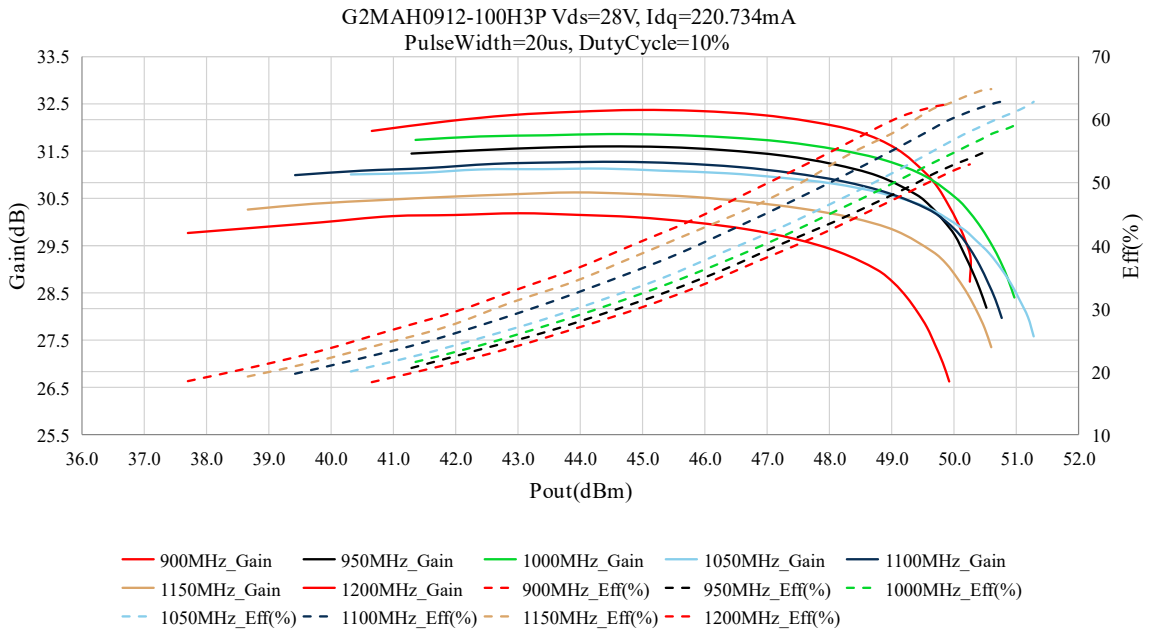
Rating	Symbol	Value	Unit
Drain--Source Voltage	V_{DSS}	150	Vdc
Gate--Source Voltage	V_{GS}	-10 to +2	Vdc
Operating Voltage	V_{DD}	+36	Vdc
Storage Temperature Range	Tstg	-65 to +150	°C
Case Operating Temperature	T_C	+150	°C
Operating Junction Temperature	T_J	+225	°C

TYPICAL CHARACTERISTICS

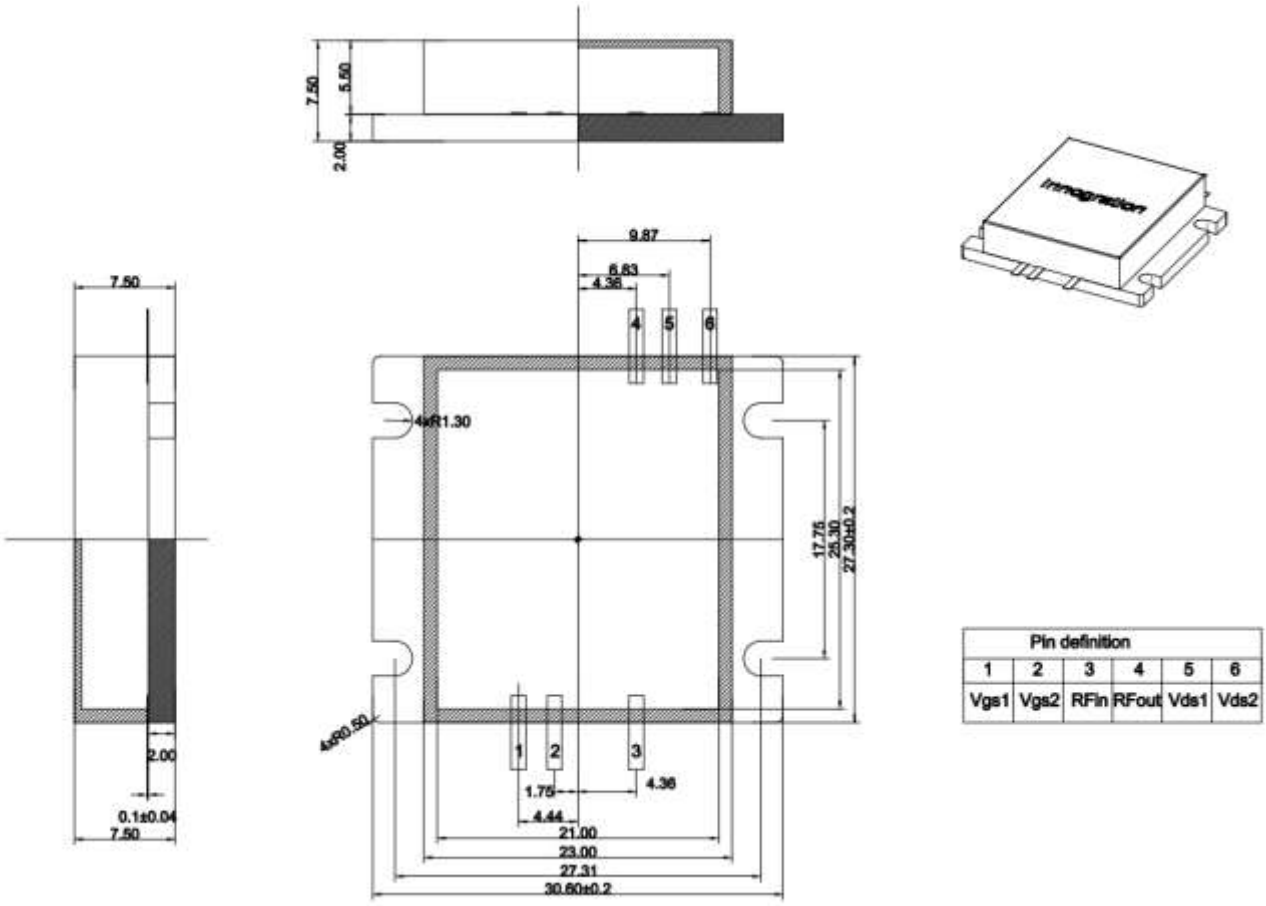
Figure 1. Network analyzer output S11/S21 (Pin=0dBm, Idq=220mA)



Figure 3. Pout, Eff, Gain，drain current Vs Frequency @28V under pulsed CW condition 10%,100us



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
2026/10/27	Rev 1.0	Advanced Datasheet （XTAH80010PD+NU3013HS）

Application data based on LBG-26-43

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