

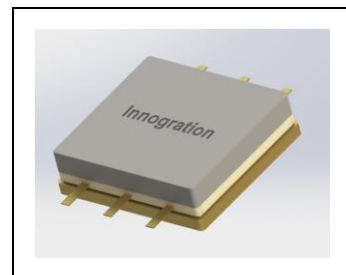


1.3-5.2GHz, 30W, GaN Fully matched PA Module

Description

The GMAH1352-30H2C is a 30-watt, single stage integrated Power Amplifier Module, designed for application with frequencies from 1.3 to 5.2GHz. When used at 32V, it can deliver 40W. The module is 50 Ω input/output matched and requires minimal external components.

Please read carefully the soldering notice for H2C package on last page



$$V_{DS} = 28V, V_{GS} = -2.6V, I_{dq} = 100mA$$

Freq(GHz)	Pin(dBm)	Pout(dBm)	Pout(W)	Ids(A)	Gain(dB)	Eff(%)	2th	3rd
1.3	37.3	46.65	46.24	3.64	9.4	45.4	-10.1	-15.7
1.5	36.4	46.88	48.75	3.78	10.5	46.1	-12.0	-15.5
2.0	36.1	47.16	52.00	3.28	11.1	56.6	-11.8	-21.2
2.5	35.7	45.86	38.55	2.97	10.1	46.4		
3.0	36.0	46.46	44.26	3.07	10.4	51.5		
3.5	34.4	46.30	42.66	2.73	11.9	55.8		
4.0	35.5	46.36	43.25	3.40	10.9	45.4		
4.5	36.4	46.64	46.13	3.20	10.2	51.5		
5.0	36.4	46.20	41.69	2.88	9.9	51.7		
5.2	36.7	45.94	39.26	2.73	9.2	51.4		
5.3	36.6	45.28	33.73	2.38	8.7	50.6		

Product Features

- Operating Frequency Range: 1.3-5.2GHz (No operation <1.2GHz for CW trial, it may result in device failure)
- Operating Drain Voltage(Recommended): +28V (Up to 32V)
- 50 Ω Input/Output (External DC block capacitor needed)
- $P_{sat} \geq 30W$ (CW)
- Small signal gain:>12dB, Power gain:>9dB
- Minimum P_{sat} efficiency:>40%
- 18*17 mm metal RF package
- Compliant to Restriction of Hazardous Substances (RoHS) Directive 2002/95/EC

Applications

- Power Amplifiers within I/S/C band
- Test Instrumentation
- EMC Amplifier Drivers
- 2-way Radios

Table 1. Maximum Ratings

Rating	Symbol	Value	Unit
Drain--Source Voltage	V_{DS}	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

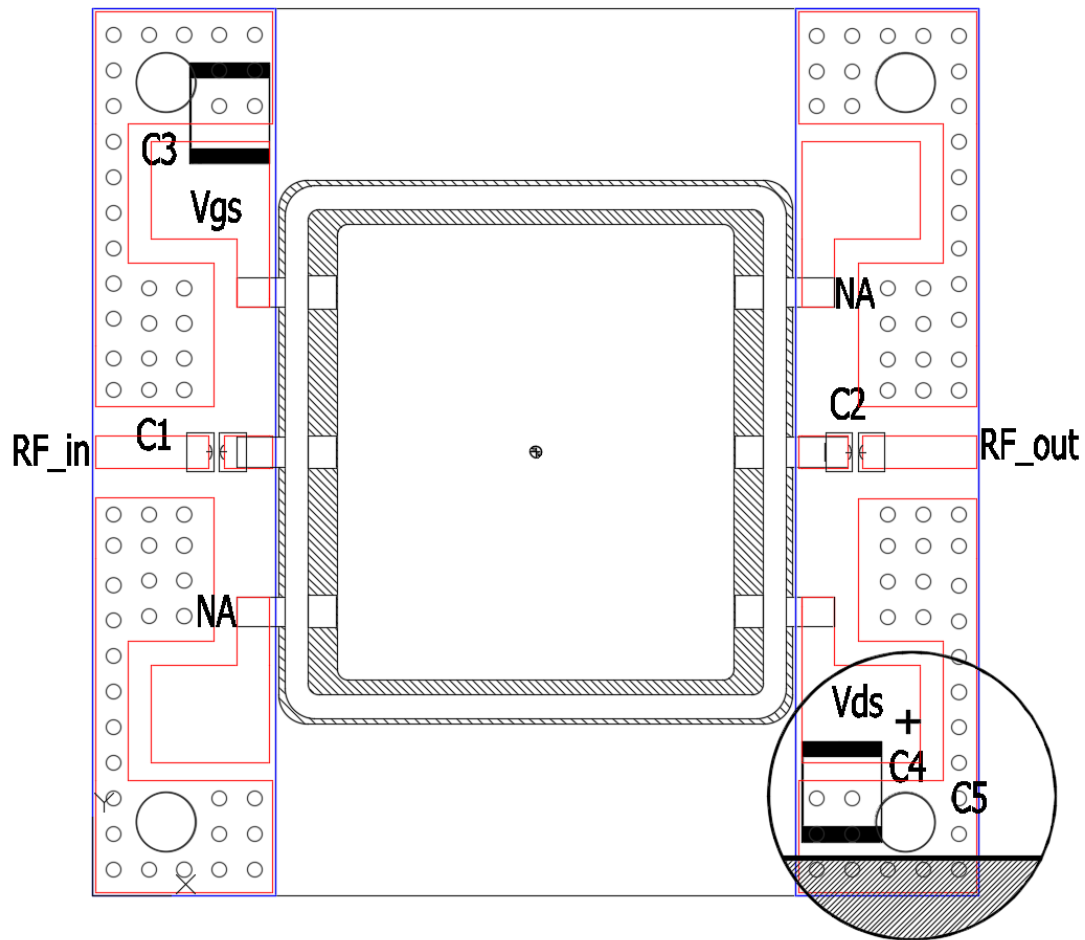


Case Operating Temperature	T_c	+150	°C
Operating Junction Temperature	T_j	+225	°C

Table 2. Thermal Characteristics

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction to Case $T_c = 25^\circ\text{C}$, $P_{out} = 30\text{W}$ at 5GHz, FEA	$R_{\theta JC}$	2.8	°C/W

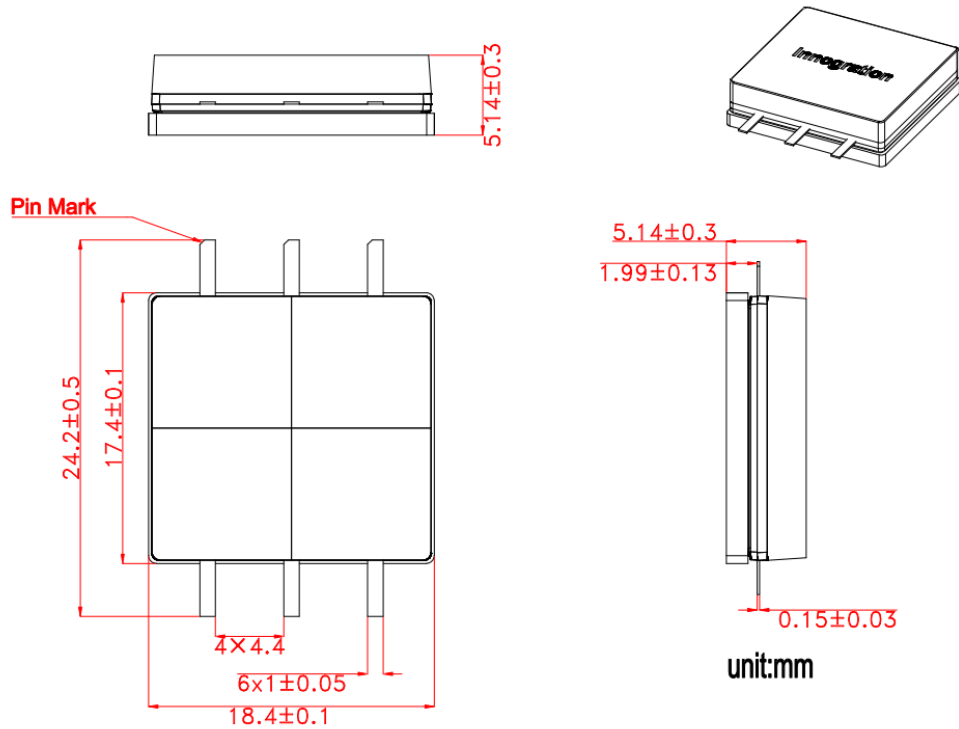
Typical application circuit



Component	Description	Suggestion
C5	470uF/63V	
C3, C4	10uF	1210
C1, C2	2.7pF	.MQ100505
PCB		Rogers 4350B , Er = 3.48, thickness 20 mils



Package Dimensions (Unit:mm)



When soldering, the temperature of the iron tip must be below 220℃. The contact time between the iron tip and the pins should be as short as possible, not exceeding 10 seconds. The number of repeated soldering operations must not exceed 3 times. Otherwise, it may damage the bond between the ACP lead frame and the pins, resulting in failure of the component's sealing performance.

Revision history

Table 6. Document revision history

Date	Revision	Datasheet Status
2025/7/22	Rev 1.0	Advanced Datasheet

Application data based on YHG-25-25

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