

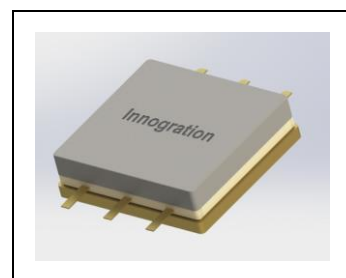


## 1.5-2.1GHz, 60W, GaN Fully matched PA Module

### Description

The GMAH1521-60H2C is a 60-watt, single stage integrated Power Amplifier Module, designed for application with frequencies from 1.5 to 2.1GHz. When used at 32V, it can deliver 70W. The module is 50  $\Omega$  input/output matched and requires minimal external components.

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



$V_{DS} = 28V$ ,  $V_{GS} = -2.43V$ ,  $I_{dq} = 200mA$ , CW

Freq(GHz)	Pin(dBm)	Pout(dBm)	Pout(W)	Ids(A)	Gain(dB)	Eff(%)
1.4	37.9	47.67	58.48	4.68	9.8	44.6
1.5	37.9	48.31	67.76	4.75	10.4	51.0
1.6	38.0	48.46	70.15	4.60	10.5	54.5
1.7	38.0	48.41	69.34	4.61	10.4	53.7
1.8	38.0	48.25	66.83	4.38	10.3	54.5
1.9	38.0	48.31	67.76	4.48	10.3	54.0
2.0	38.1	48.26	66.99	4.47	10.2	53.5
2.1	38.1	47.86	61.09	4.31	9.8	50.6
2.2	38.1	47.53	56.62	4.10	9.5	49.3

### Product Features

- Operating Frequency Range: 1.5-2.1GHz
- Operating Drain Voltage(Recommended): +28V (Up to 32V)
- 50  $\Omega$  Input/Output (External DC block capacitor needed)
- $P_{sat} \geq 60W$  (CW)
- Small signal gain: >13dB, Power gain: >9dB
- Minimum  $P_{sat}$  efficiency: >50%
- 18\*17 mm metal RF package
- Compliant to Restriction of Hazardous Substances (RoHS) Directive 2002/95/EC

### Applications

- Power Amplifiers within L 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

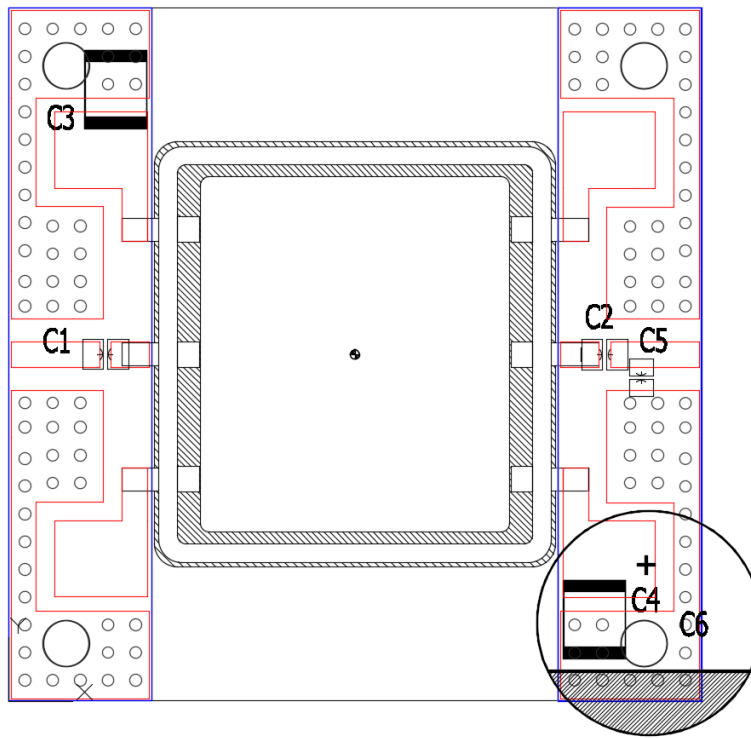


Storage Temperature Range	$T_{stg}$	-65 to +150	°C
Case Operating Temperature	$T_c$	+150	°C
Operating Junction Temperature	$T_j$	+225	°C

**Table 2. Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction to Case $T_c = 25^\circ\text{C}$ , $P_{out} = 60\text{W}$ , FEA	$R_{\theta JC}$	2.4	°C/W

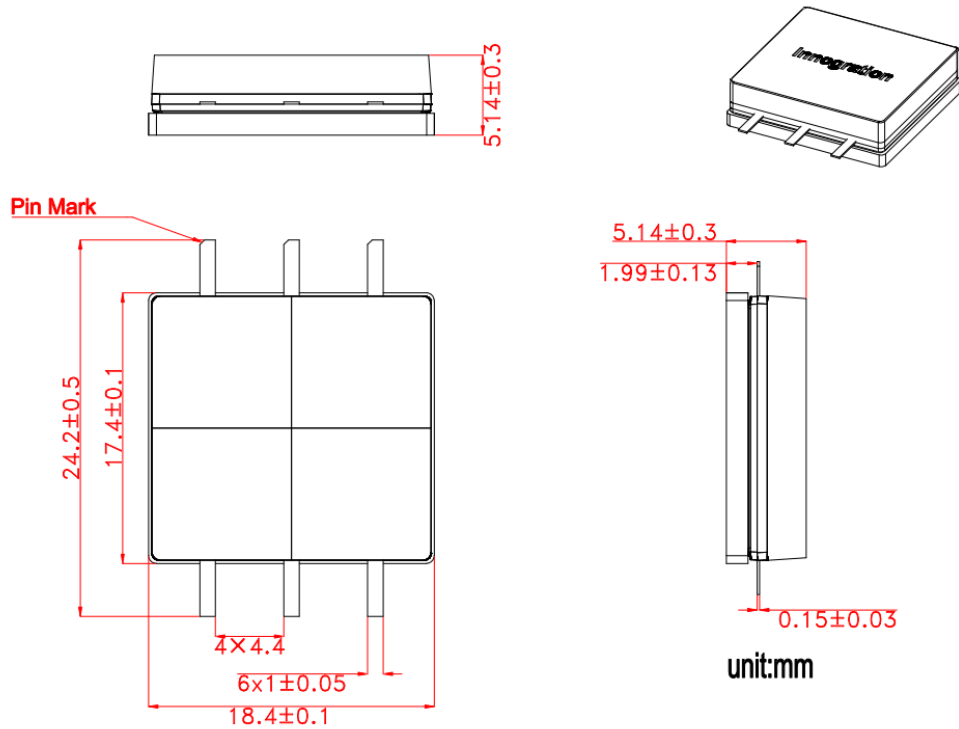
## Typical application circuit



Component	Description	Suggestion
C6	470uF/63V	
C3, C4	10uF	1210
C1, C2	2.7pF	.MQ100805
C5	0.1pF	MQ100603
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
2025/7/5	Rev 1.0	Advanced Datasheet

Application data based on YHG-25-21

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