



## 2-6GHz, 30W, GaN Fully matched PA Module

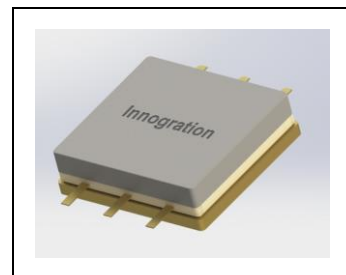
### Description

The GMAH2060-30H2C is a 30-watt, single stage integrated Power Amplifier Module, designed

For application with frequencies from 2 to 6GHz.

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



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

Freq(GHz)	Pin(dBm)	Pout(dBm)	Pout(W)	Ids(A)	Gain(dB)	Eff(%)
2.0	38.1	48.26	66.99	4.47	10.2	53.5
2.2	38.1	47.53	56.62	4.10	9.5	49.3
2.4	38.1	46.32	42.85	4.20	8.2	36.4
2.6	38.2	46.00	39.81	4.10	7.8	34.7
2.8	38.2	46.33	42.95	4.49	8.1	34.2
3.0	38.2	46.58	45.50	4.43	8.3	36.7
3.2	38.4	47.71	59.02	4.59	9.4	45.9
3.4	38.3	48.09	64.42	4.18	9.8	55.0
3.6	38.3	47.79	60.12	3.58	9.5	60.0
3.8	38.3	47.51	56.36	3.47	9.3	58.0
4.0	38.3	47.51	56.36	3.66	9.2	55.0
4.2	38.3	47.26	53.21	3.52	9.0	54.0
4.4	38.3	46.75	47.32	3.17	8.5	53.3
4.6	38.3	46.54	45.08	2.92	8.3	55.1
4.8	38.3	46.06	40.36	2.67	7.8	54.0
5.0	38.3	45.42	34.83	2.56	7.2	48.6
5.2	38.3	45.25	33.50	2.76	7.0	43.3
5.4	38.2	45.23	33.34	2.99	7.0	39.8
5.6	38.3	45.60	36.31	3.21	7.3	40.4
5.8	38.3	45.55	35.89	3.18	7.3	40.3
6.0	38.4	44.97	31.41	2.97	6.6	37.8

Recommended driver: GMAH2060-10C9 with isolator in between stages



## Product Features

- Operating Frequency Range: 2-6GHz
- Operating Drain Voltage(Recommended): +28V (Up to 32V)
- 50  $\Omega$  Input/Output (External DC block capacitor needed)
- $P_{sat} \geq 30W$  (CW)
- Small signal gain: >10dB, Power gain: >6.5dB
- Minimum  $P_{sat}$  efficiency: >30%
- 18\*17 mm metal RF package
- Compliant to Restriction of Hazardous Substances (RoHS) Directive 2002/95/EC

## Applications

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

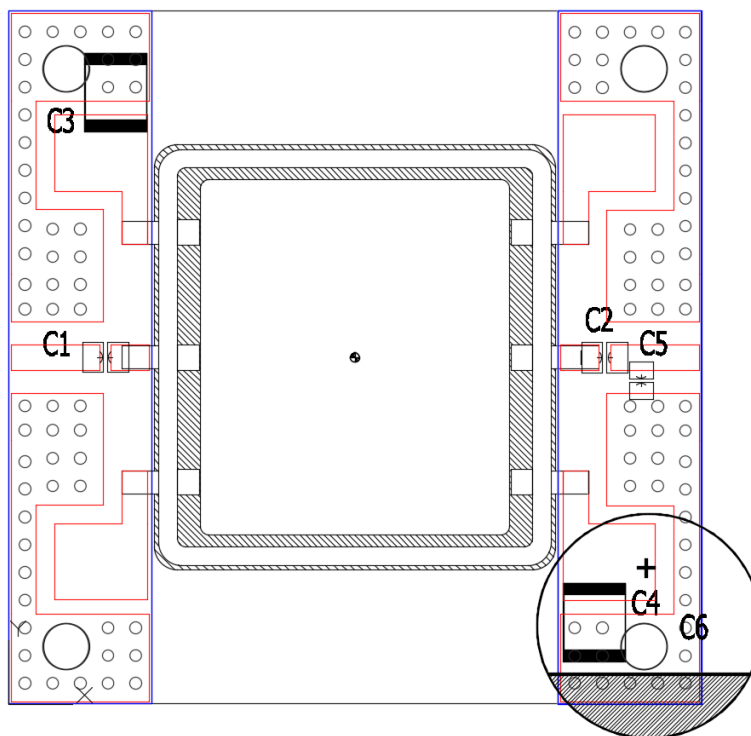
**Table 1. Maximum Ratings**

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 $T_c = 25^\circ C, P_{out} = 60W, FEA$	$R_{\theta JC}$	2.4	°C/W

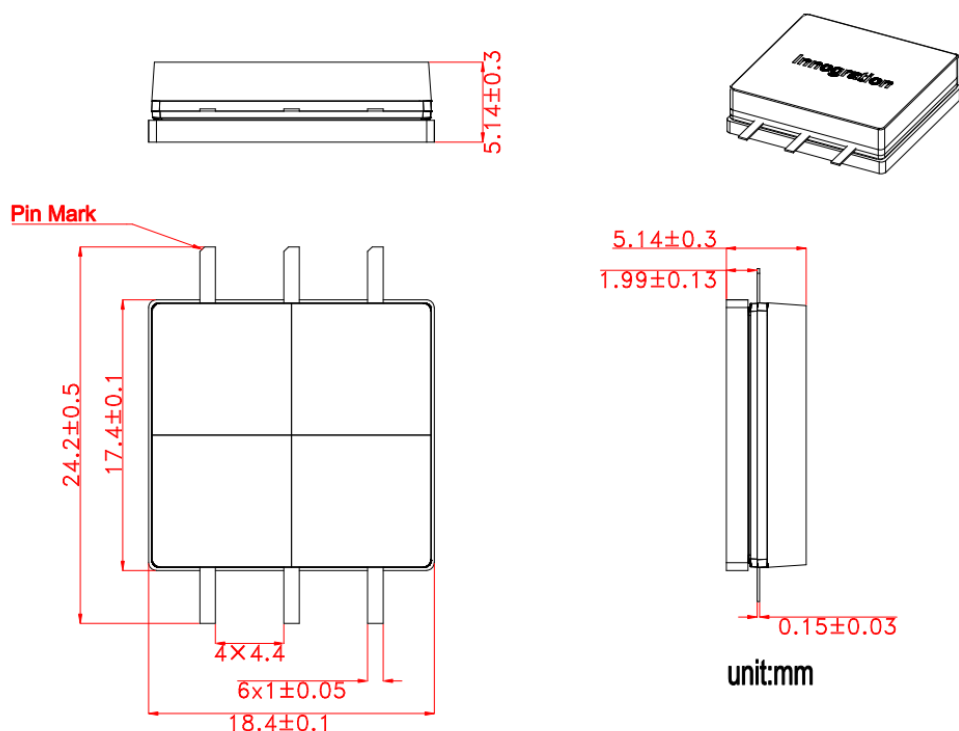
## Typical application circuit



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
2025/7/22	Rev 1.0	Advanced Datasheet

Application data based on YHG-25-20

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