

Product Features

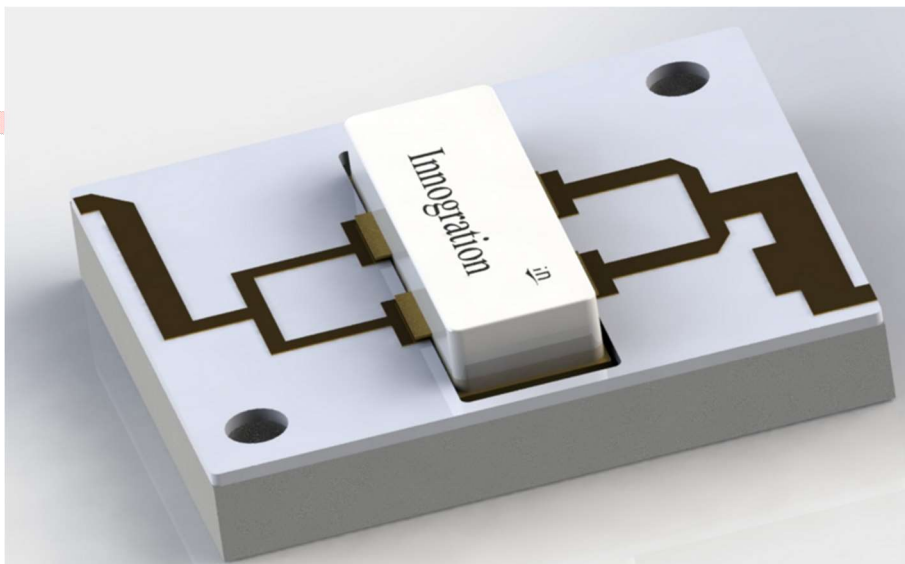
- 6.9-7.4GHz(C band)
- 20W(min) pulse CW
- 45% Drain Efficiency@28V
- 50ohm in and out, 20*24mm, screw down
- Linear or saturated use

Applications

- 5G Power amplifier
- C band Satcom
- ISM
- Point to point

Description

The GMPA6974-20H is designed for 5G or satcom, test and measurement and other ISM applications at 6900-7400MHz. This Amplifier pallet is suitable for use in linear and saturated applications. Featured by its tiny size 20*24mm, and 50ohm fully matched at input and output, drop-in placement by screwing it down and 100% RF test, it enables easier power combination to reach higher power with high production yield as part of customer’s power amplifier system.





Electrical Specifications @VCC=28V, T=25°C, 50Ωsystem

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	MHz	6900	-	7400	fo
Operating Bandwidth	MHz	500		-	OBW
Pulse CW Output Power	W	20	25	-	Pout
Power Gain	dB		11	-	Gp
Gain Flatness	dB	-	-	±0.75	Gf
Input Return Loss	dB	-	-	-10	S11
Operating Voltage	V	-	28	36	VDS
Quiescent Current	mA	-	50	-	IdQ
Efficiency@Psat	%		45	-	Eff

Environmental Characteristics

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Case Temperature	°C	0	-	60	Ta
Storage Temperature	°C	-40		100	Tstg
Relative humidity w/o condensation	%	-	-	95	RH

Mechanical Specifications

PARAMETER	UNIT	VALUE
Dimensions(L × W × H)	mm	20×24×4
Weight	g	50
RF Input Connector	-	N/A
RF Output Connector	-	N/A
Cooling	-	External Heat-sink



Typical performance

● Pulsed CW performance

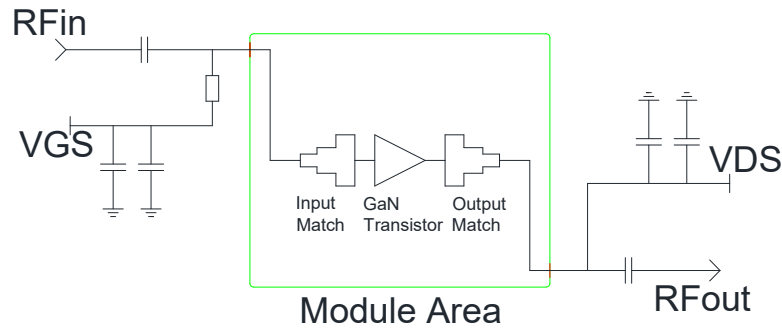
Test Condition: Vds=+28V, IDQ=50mA, T=25°C, pulse width 100us, duty cycle 10%,

Freq(MHz)	Pin(dBm)	PoutdBm)	Pout(W)	IDS(A)	Gain(dB)	Eff(%)
6900	31.8	44.18	26.18	0.219	12.38	42.70
7000	31.6	44.07	25.53	0.217	12.47	42.01
7100	32.58	43.89	24.49	0.2	11.31	43.73
7200	32.9	43.46	22.18	0.173	10.56	45.79
7300	32.69	43.28	21.28	0.17	10.59	44.71
7400	32.4	43.54	22.59	0.18	11.14	44.83

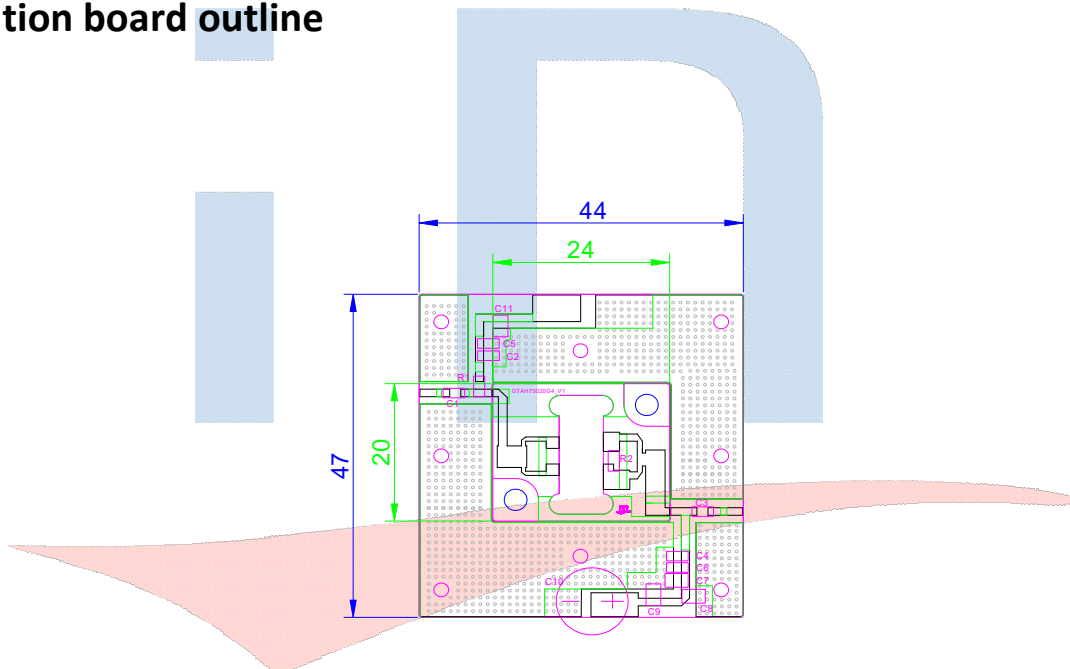
● S21/S11 from network analyzer VDS=28V VGS=-3.23V IDQ=200mA



Evaluation board Block Diagram



Evaluation board outline



Component	Description	Suggested Manufacturer
C1、 C2、 C3、 C4	2.2pF	DLC75D
C5、 C6	100PF	DLC75D
C7、 C8、 C9、 C11、	Ceramic multilayer capacitor, 10uF, 100V	10uF/100V
C10	470UF	63V/470UF
R1、 R2、	Chip Resistor,9.1 Ω ,1206	
PCB	3.508mm 1/0oz TACONIC RF-35TC-0200-A-CL1/C3mm	



Revision History

Document revision history

Date	Revision	Datasheet Status
2021/3/30	Rev 1.0	Preliminary Datasheet

Application data based on YHG-21-06 (GTAH75020G4)



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