

Product Features

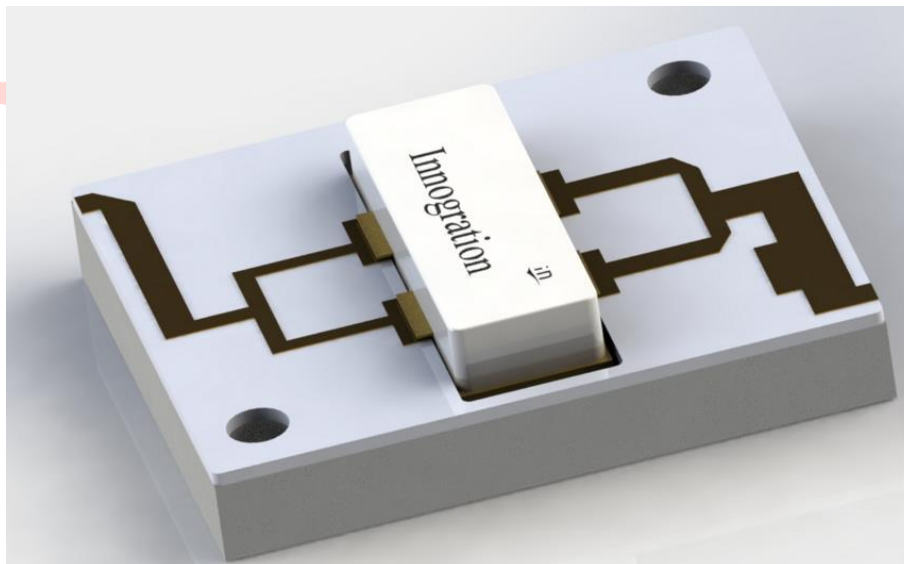
100-500MHz(VHF and UHF)
60W CW @28V, 65W CW@32V
50% Drain Efficiency@28V
>30dB power gain
50ohm in and out, 45*60mm, screw down
Linear or saturated use
Device used: ITGV10020P3/ITGV10055C6*2

Applications

VHF/UHF Power amplifier
UAV Jammer
ISM
Land Mobile

Description

The I2MPA0105-60H is designed for VHF/UHF comm, test and measurement and other ISM applications at 100-500MHz. This Amplifier pallet is suitable for use in linear and saturated applications. Featured by its tiny size 45*60mm, 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	100	-	500	fo
Operating Bandwidth	MHz		400	-	OBW
CW Output Power	W	50	60	-	Pout
Power Gain	dB		30	-	Gp
Gain Flatness	dB	-	±1	-	Gf
Input Return Loss	dB	-	-	-10	S11
Operating Voltage	V	-	28	36	VDS
Quiescent Current	mA	-	200/400	-	IbQ
Efficiency@Psat	%		50	-	Eff

Environmental Characteristics

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Case Temperature	°C	-20	-	85	Ta
Storage Temperature	°C	-40		100	Tstg
Relative humidity w/o condensation	%	-	-	95	RH

Mechanical Specifications

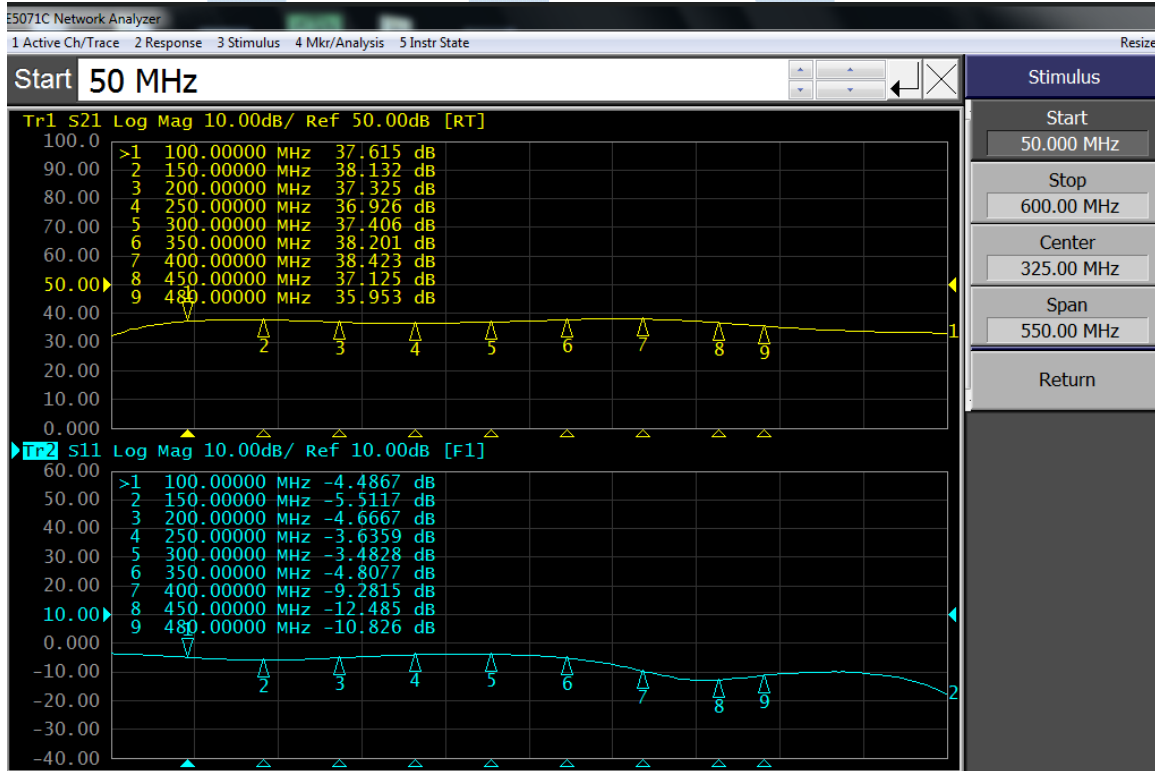
PARAMETER	UNIT	VALUE
Dimensions(L × W)	mm	45×60
Weight	g	250
RF Input Connector	-	N/A
RF Output Connector	-	N/A
Cooling	-	External Heat-sink

Typical performance

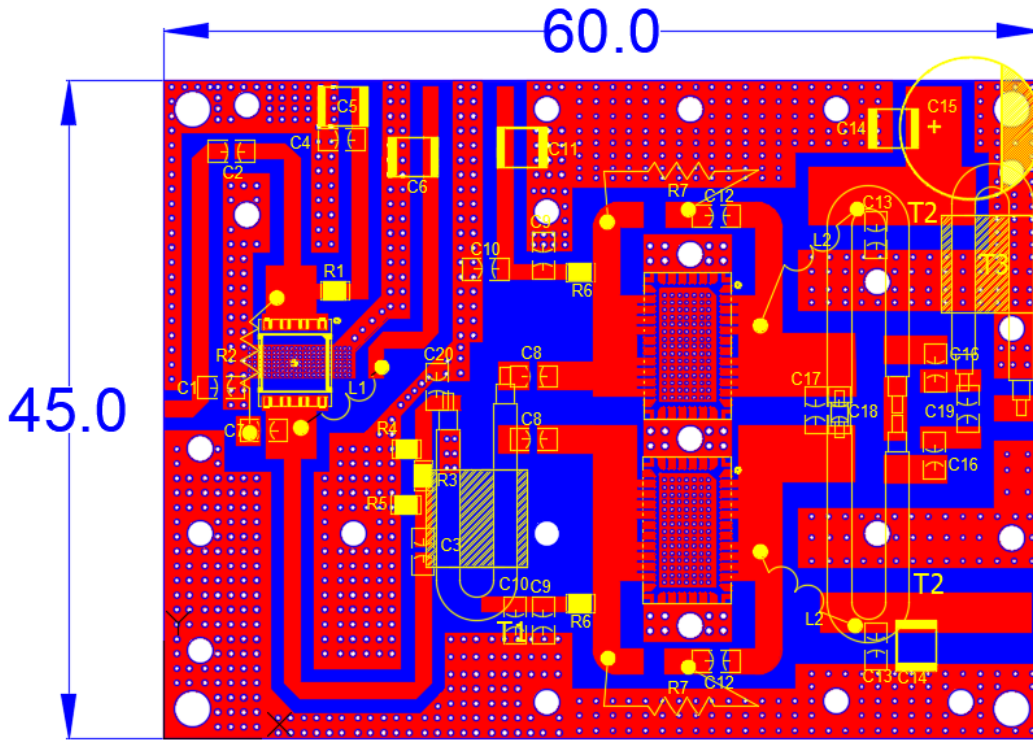
- CW performance: $V_{ds}=+28V$, $IDQ=200+200*2mA$, $T=25^{\circ}C$

Freq(MHz)	Pin(dBm)	Pout(dBm)	Pout(W)	IDS(A)	Gain(dB)	Eff(%)
100	16.3	47.8	60	4.3	31.5	50.05
150	15.2	48.44	69	4.65	33.24	53.63
200	15.3	48.32	68	4.74	33.02	51.18
250	14.4	48.44	70	4.59	34.04	54.33
300	15.2	48.1	64	4.11	32.9	56.10
350	15	47.73	59	3.76	32.73	56.32
400	14.4	47.7	59	3.86	33.3	54.48
450	15	47.78	60	4.03	32.78	53.15
500	16.6	47.32	54	3.95	30.72	50.01

- S21/S11 from network analyzer $V_{DS}=28V$ $IDQ=200mA+200mA*2$



Evaluation board outline



Component	Description	Suggestion
C5,C6,C11,C14	10uF (1210)	/
R1,	100 Ω (0805)	/
R2,R7	470 Ω	
R3	18 Ω (0805)	
R4, R5	300 Ω (0805)	
R6,	82 Ω (0805)	
C10,C12,C13	10nF 0805	
C1	10pF MQ300805	
C2,C3,C4,C8,C16	240pF MQ300805	

C9	150pF	MQ300805	
C20	3.9pF	MQ300805	
C15	470uF		
C7	820pF	MQ301111	
C17	2.0pF	MQ301111	
C18	6.8pF	MQ301111	
C19	2.2pF	MQ301111	
T1	RFSFBU-47-50 60mm BN-43-1502		/.
T2,	RFSFBU-47-50 60mm		/.
T3	RFSFBU-47-50 60mm BN-43-1502		/.
L1,L2	0.8mm wire, 5Turns , 4.2mm inner diameter,		/

Revision History

Document revision history

Date	Revision	Datasheet Status
2025/8/4	Rev 1.0	Preliminary Datasheet

Application data based on YHG-25-30

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