

Product Features

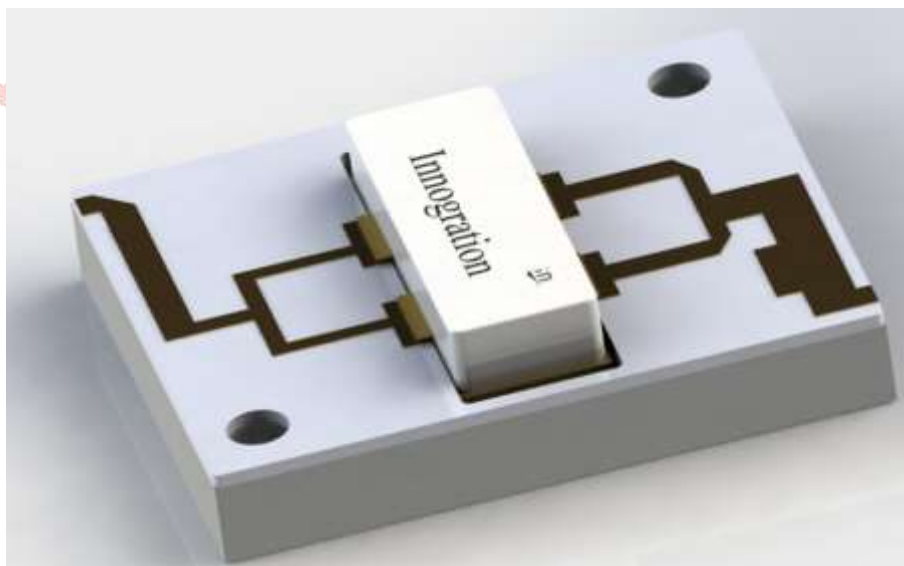
150-3000MHz
70W Pulsed CW @50V,
30% Drain Efficiency@50V
>10dB power gain
50ohm in and out, 60*90mm, screw down
Linear or saturated use
Device used: S3U3008V

Applications

HF/VHF/UHF Power amplifier
L/S band power amplifier
UAV Jammer
ISM
Land Mobile

Description

The SMPA0130-70V is designed for HF to S band comm, test and measurement and other ISM applications at 150-3000MHz. This Amplifier pallet is suitable for use in linear and saturated applications, 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 @V_{ds}=28V, T=25°C, 50Ωsystem

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	MHz	150	-	3000	f _o
Operating Bandwidth	MHz		2800	-	OBW
Pulsed CW Output Power	W		70	-	P _{out}
Power Gain	dB		10	-	G _p
Gain Flatness	dB	-	± 5	-	G _F
Input Return Loss	dB	-	-	-10	S ₁₁
Operating Voltage	V	-	50	55	V _{DS}
Quiescent Current	mA	-	100	-	I _{DQ}
Efficiency@P _{sat}	%		30	-	Eff

Environmental Characteristics

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Case Temperature	°C	-20	-	85	T _a
Storage Temperature	°C	-40		100	T _{stg}
Relative humidity w/o condensation	%	-	-	95	RH

Mechanical Specifications

PARAMETER	UNIT	VALUE
Dimensions(L × W)	mm	90*60
Weight	g	TBD
RF Input Connector	-	N/A
RF Output Connector	-	N/A
Cooling	-	External Heat-sink

Typical performance

- Pulsed CW performance:

V_{ds} = 50V, I_{dq} = 100mA, Signal mode : Pulse Width=100us, Duty Cycle= 10%

Freq(MHz)	Pin(dBm)	Pout(dBm)	Pout(W)	IDS(A)	Gain(dB)	Eff(%)
100	37	47.25	53.1	0.16	10.3	66.4
120	37	48.05	63.8	0.21	11.1	60.8
150	36.74	48.64	73.1	0.27	11.9	54.2
200	36.25	49.45	88.1	0.44	13.2	40.0
300	34.26	49.86	96.8	0.52	15.6	37.2
400	32.66	50.46	111.2	0.44	17.8	50.5
500	31.06	50.8	120.2	0.4	19.7	60.1
600	32.04	50.24	105.7	0.5	18.2	42.3
700	32.23	49.1	81.3	0.46	16.9	35.3
800	38.27	50.47	111.4	0.48	12.2	46.4
900	38.65	50.65	116.1	0.37	12.0	62.8
1000	38.94	50.54	113.2	0.46	11.6	49.2
1100	39.7	49.77	94.8	0.51	10.1	37.2
1200	39.56	49.3	85.1	0.46	9.7	37.0
1300	37.29	49.29	84.9	0.33	12.0	51.5
1400	36.72	48.97	78.9	0.29	12.3	54.4
1500	37.76	49.46	88.3	0.43	11.7	41.1
1600	38.98	49.4	87.1	0.53	10.4	32.9
1700	38.63	50.27	106.4	0.55	11.6	38.7
1800	38.58	50.42	110.2	0.52	11.8	42.4
1900	38.83	50.33	107.9	0.52	11.5	41.5
2000	38.08	49.9	97.7	0.54	11.8	36.2
2100	38.73	50.37	108.9	0.5	11.6	43.6
2200	38.46	50.43	110.4	0.67	12.0	33.0
2300	39.09	50.22	105.2	0.4	11.1	52.6
2400	38.52	50.32	107.6	0.47	11.8	45.8
2500	37.25	50.65	116.1	0.47	13.4	49.4
2600	37.73	50.59	114.6	0.42	12.9	54.5
2700	36.82	49.98	99.5	0.41	13.2	48.6
2800	36.99	49.47	88.5	0.44	12.5	40.2
2900	37.26	50.07	101.6	0.48	12.8	42.3
3000	36.75	49.88	97.3	0.41	13.1	47.5
3100	38.55	49.55	90.2	0.4	11.0	45.1
3200	39.15	48.65	73.3	0.4	9.5	36.6

Revision History

Document revision history

Date	Revision	Datasheet Status
2026/10/10	Rev 1.0	Preliminary Datasheet

Application data based on YHG-26-34



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