

Product Features

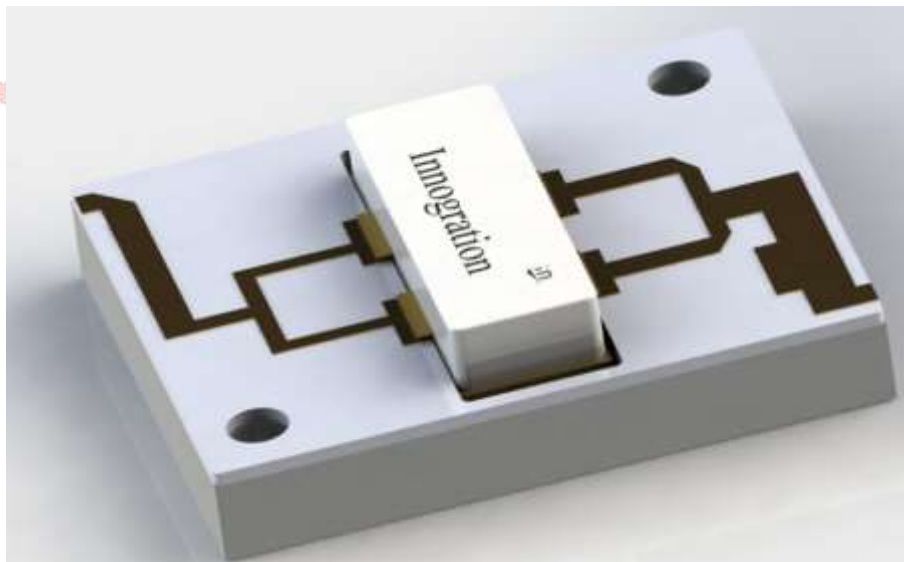
100-2500MHz
50W CW @50V,
30% Drain Efficiency@50V
>9dB power gain
50ohm in and out, 60*90mm, screw down
Linear or saturated use
Device used: S3U6008V

Applications

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

Description

The SMPA0125-50V is designed for HF to S band comm, test and measurement and other ISM applications at 100-2500MHz. 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	100	-	2500	f _o
Operating Bandwidth	MHz		2400	-	OBW
CW Output Power	W		50	-	P _{out}
Power Gain	dB	9		-	G _P
Gain Flatness	dB	-	± 4	-	G _F
Input Return Loss	dB	-	-	-10	S ₁₁
Operating Voltage	V	-	50	55	V _{DS}
Quiescent Current	mA	-	200	-	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

- CW performance: $V_{ds}=+50V$, $IDQ=200mA$, $T=25^{\circ}C$

Freq (MHz)	Pin (dBm)	Pout (dBm)	Pout (W)	IDS (A)	Gain (dB)	Eff (%)	2 nd	3 th
100	32.10	47.56	57	3.24	15.5	36.7	-9.00	-19.00
200	34.10	48.50	71	3.95	14.4	37.3	-9.50	-19.50
300	33.12	50.00	100	3.21	17.2	67.1	-13.80	-17.00
400	34.75	47.95	62	3.74	13.2	34.7	-8.80	-18.50
500	35.12	48.82	76	3.51	13.7	45.2	-8.80	-18.00
600	36.02	48.42	70	3.03	12.4	47.8	-8.30	-20.10
700	36.46	47.96	63	3.40	11.5	38.3	-11.80	-17.70
800	37.10	47.90	62	3.33	10.8	38.6	-9.60	-16.80
900	36.92	48.42	70	3.31	11.5	43.7	-16.20	-19.50
1000	36.86	49.56	90	4.12	12.7	45.7	-16.50	-17.70
1100	36.89	48.89	77	4.31	12.0	37.4	-14.00	-14.10
1200	35.62	49.88	97	3.50	14.3	57.9	-19.70	-22.60
1300	35.45	48.75	75	4.21	13.3	37.1	-19.60	-26.00
1400	35.70	47.30	54	4.02	11.6	27.8	-12.80	-23.20
1500	32.65	48.92	78	2.83	16.3	57.4	-16.60	-23.10
1600	32.99	49.26	84	3.47	16.3	50.6	-20.00	-27.70
1700	34.30	49.50	89	3.71	15.2	50.0	-18.20	-23.30
1800	36.35	49.00	79	3.33	12.7	49.7	-27.70	-34.00
1900	36.36	48.16	65	3.87	11.8	35.2	-17.7	-35.60
2000	36.48	48.38	69	2.60	11.9	55.2	-22.8	-30.00
2100	37.30	48.00	63	3.10	10.7	42.4	-27.5	-45.00
2200	37.23	49.33	86	3.67	12.1	48.7	-26.1	-56.30
2300	39.04	48.24	67	2.85	9.2	48.7	//	//
2400	39.00	48.43	70	3.55	9.4	40.9	//	//
2500	38.79	48.19	66	2.69	9.4	51.1	//	//

Revision History

Document revision history

Date	Revision	Datasheet Status
2026/9/14	Rev 1.0	Preliminary Datasheet

Application data based on SYX-26-43



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