Product Features

6-8.5GHz(C/S band)

50W CW @28V, 60W CW@32V

35% Drain Efficiency@28V

50ohm in and out, 20*40mm, screw down

Linear or saturated use

Device used：XL7505HS

Applications

5G Power amplifier

C band Satcom

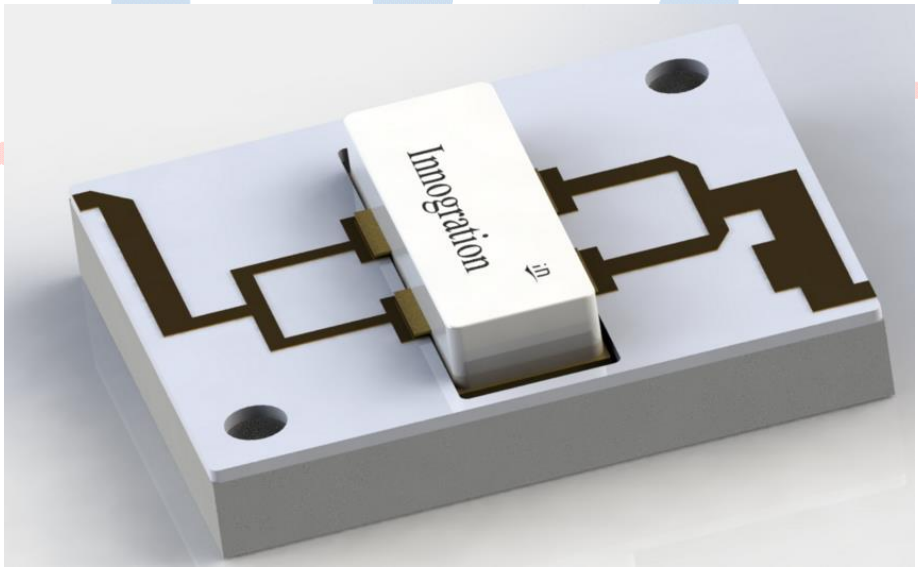
ISM

Point to point

Radio link

Description

The XMPA6085-50H is designed for 5G or satcom, test and measurement and other ISM applications at 6000-8500MHz. This Amplifier pallet is suitable for use in linear and saturated applications. Featured by its tiny size 20*40mm, 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℃, 50Ωsystem

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	MHz	6000	-	8500	fo
Operating Bandwidth	MHz	2500		-	OBW
CW Output Power	W		50	-	Pout
Power Gain	dB		10	-	G_P
Gain Flatness	dB	-	±0.75	-	G_F
Input Return Loss	dB	-	-	-10	S_{11}
Operating Voltage	V	-	28	36	V_{DS}
Quiescent Current	mA	-	200	-	I_{DQ}
Efficiency@Psat	%	35		-	Eff

Environmental Characteristics

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

Mechanical Specifications

PARAMETER	UNIT	VALUE
Dimensions(L × W × H)	mm	20×40×6 （including device soldered）
Weight	g	50
RF Input Connector	-	N/A
RF Output Connector	-	N/A
Cooling	-	External Heat-sink

Typical performance

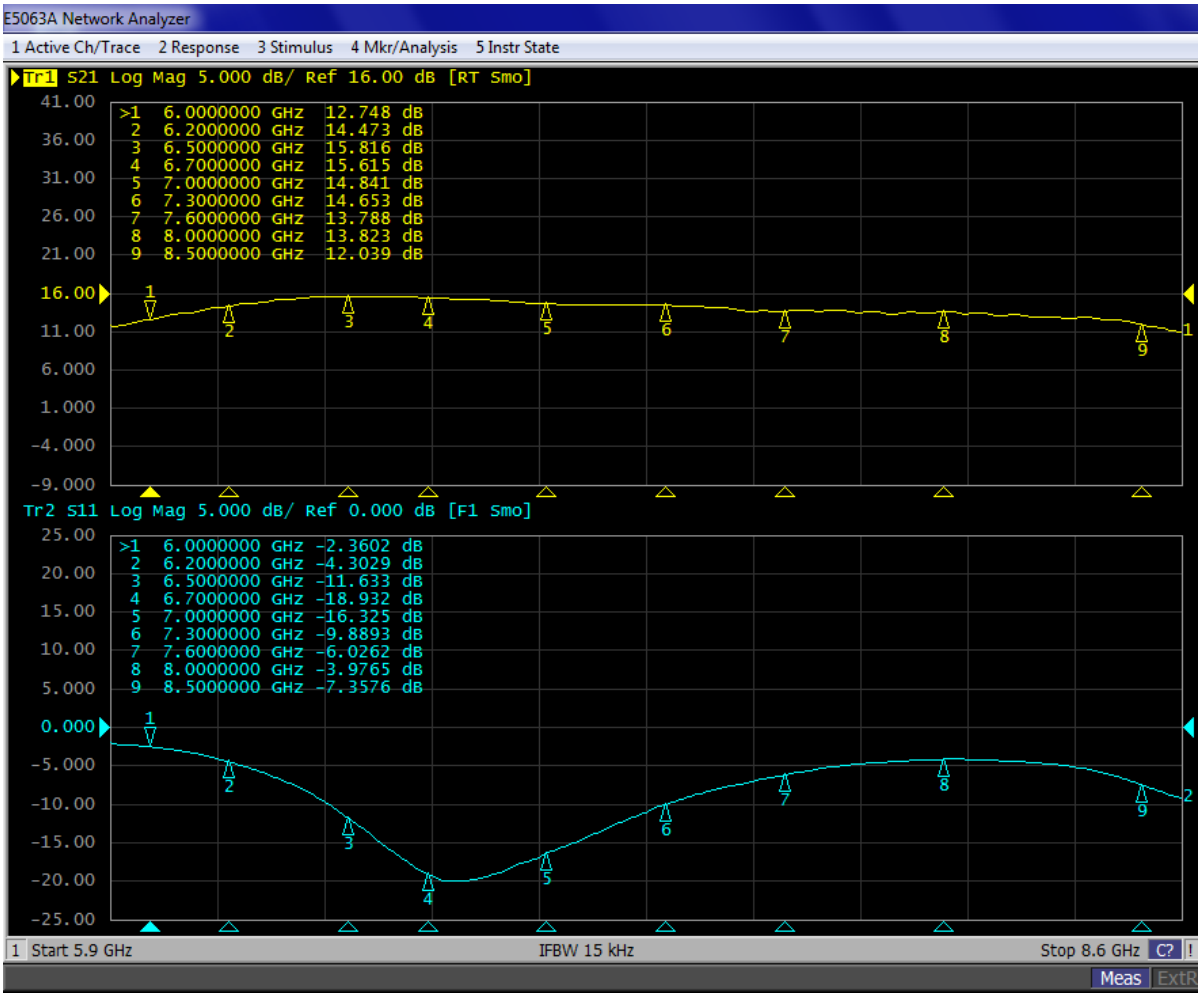
- CW performance: Vds=+28V, IDQ=200mA, T=25℃

Freq(MHz)	Pin(dBm)	Pout(dBm)	Pout(W)	Ids(A)	Gain(dB)	Eff(%)
6000	38.00	47.16	52.0	4.16	9.2	44.6
6100	38.00	47.18	52.2	4.11	9.2	45.4
6200	38.00	47.25	53.1	4.16	9.3	45.6
6300	38.00	47.44	55.5	4.28	9.4	46.3
6400	38.00	47.60	57.5	4.46	9.6	46.1
6500	38.00	47.67	58.5	4.60	9.7	45.4
6600	38.00	47.86	61.1	4.78	9.9	45.6
6700	38.00	48.00	63.1	4.98	10.0	45.2
6800	38.00	48.00	63.1	5.07	10.0	44.4
6900	38.00	47.85	61.0	5.14	9.9	42.4
7000	38.00	47.88	61.4	5.34	9.9	41.0
7100	38.00	48.10	64.6	5.58	10.1	41.3
7200	38.00	48.28	67.3	5.63	10.3	42.7
7300	38.00	48.30	67.6	5.65	10.3	42.7
7400	38.00	48.00	63.1	5.51	10.0	40.9
7500	38.00	47.69	58.7	5.43	9.7	38.6
7600	38.00	47.80	60.3	5.60	9.8	38.4
7700	38.00	48.00	63.1	5.54	10.0	40.7
7800	38.00	47.75	59.6	5.43	9.8	39.2
7900	38.00	47.74	59.4	5.42	9.7	39.2
8000	38.00	47.70	58.9	5.27	9.7	39.9
8100	38.00	47.84	60.8	5.27	9.8	41.2
8200	38.00	47.70	58.9	5.30	9.7	39.7
8300	38.00	47.70	58.9	5.38	9.7	39.1
8400	38.00	47.50	56.2	5.21	9.5	38.5
8500	38.00	46.93	49.3	4.86	8.9	36.2

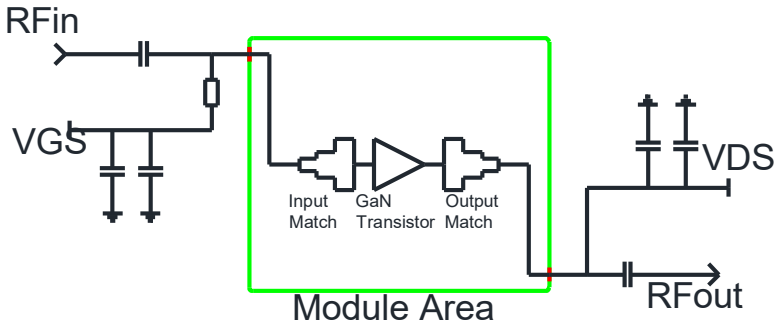
- CW performance: Vds=+32V, IDQ=200mA, T=25℃

Freq(MHz)	Pin(dBm)	Pout(dBm)	Pout(W)	Ids(A)	Gain(dB)	Eff(%)
6000	38.00	47.90	61.7	4.45	9.9	43.3
6100	38.00	47.95	62.4	4.41	10.0	44.2
6200	38.00	48.00	63.1	4.43	10.0	44.5
6300	38.00	48.26	67.0	4.56	10.3	45.9
6400	38.00	48.47	70.3	4.74	10.5	46.4
6500	38.00	48.56	71.8	4.88	10.6	46.0
6600	38.00	48.65	73.3	5.04	10.7	45.4
6700	38.00	48.80	75.9	5.21	10.8	45.5
6800	38.00	48.80	75.9	5.31	10.8	44.6
6900	38.00	48.70	74.1	5.35	10.7	43.3
7000	38.00	48.70	74.1	5.56	10.7	41.7
7100	38.00	48.85	76.7	5.75	10.9	41.7
7200	38.00	49.00	79.4	5.82	11.0	42.7
7300	38.00	49.05	80.4	5.86	11.1	42.9
7400	38.00	48.90	77.6	5.80	10.9	41.8
7500	38.00	48.70	74.1	5.75	10.7	40.3
7600	38.00	48.50	70.8	5.78	10.5	38.3
7700	38.00	48.68	73.8	5.73	10.7	40.2
7800	38.00	48.50	70.8	5.64	10.5	39.2
7900	38.00	48.40	69.2	5.62	10.4	38.5
8000	38.00	48.40	69.2	5.50	10.4	39.3
8100	38.00	48.45	70.0	5.44	10.5	40.2
8200	38.00	48.47	70.3	5.52	10.5	39.8
8300	38.00	48.50	70.8	5.61	10.5	39.4
8400	38.00	48.30	67.6	5.43	10.3	38.9
8500	38.00	47.80	60.3	5.08	9.8	37.1

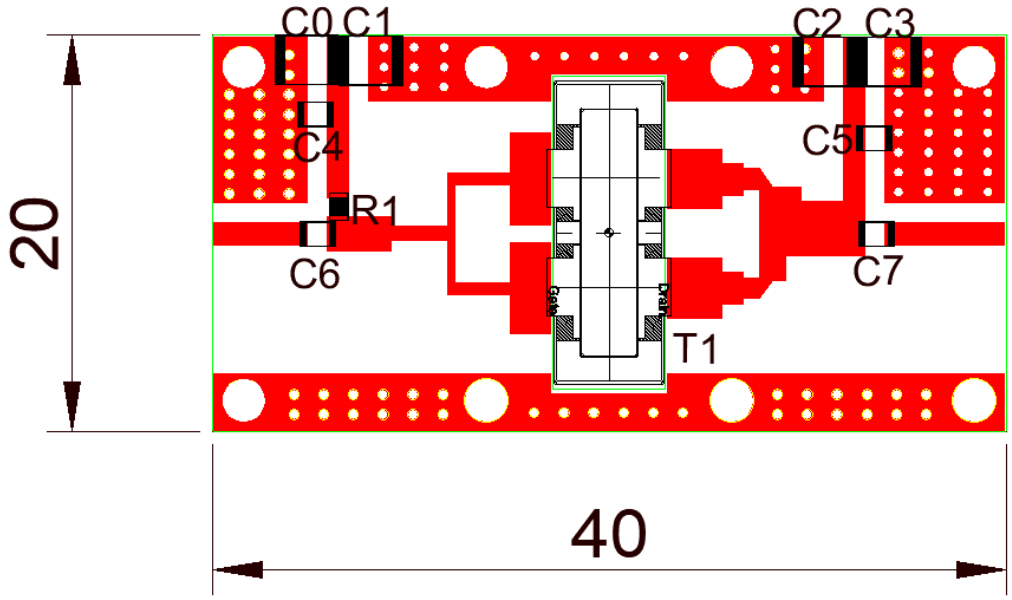
- **S21/S11 from network analyzer VDS=28V VGS=-3.23V IDQ=400mA**



Evaluation board Block Diagram

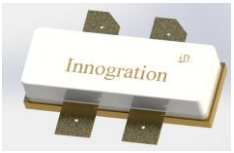


Evaluation board outline

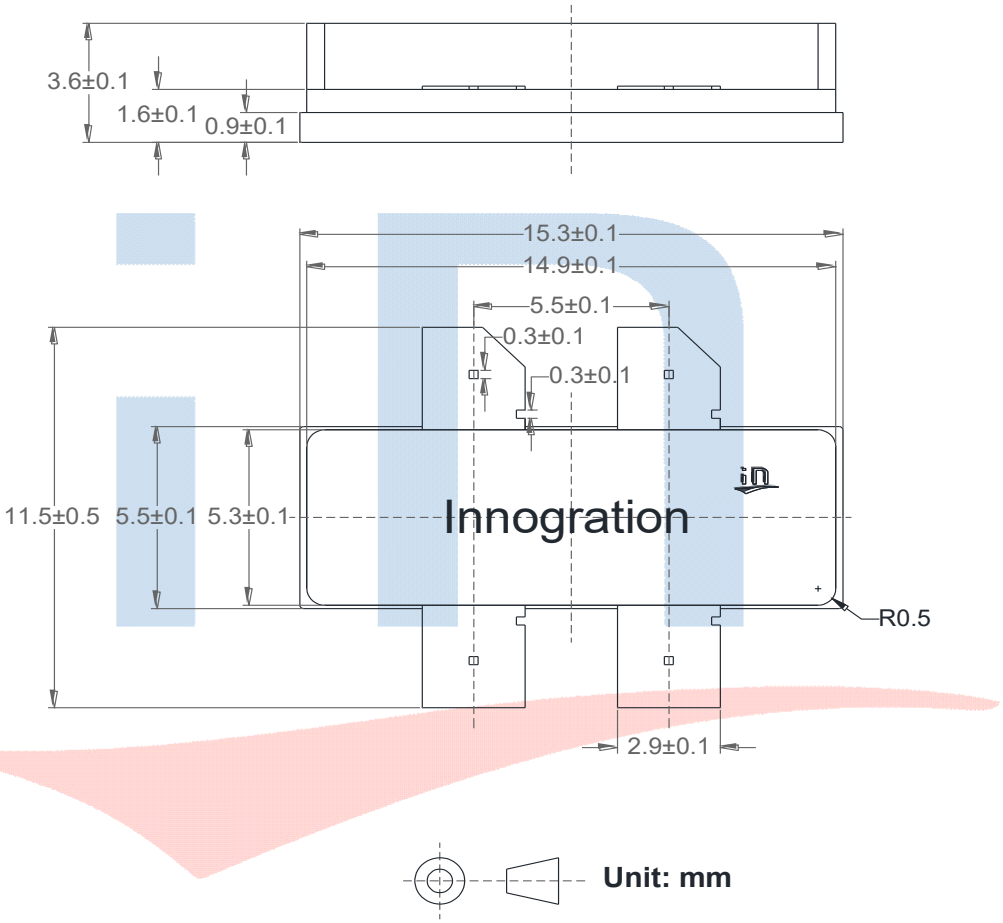


Reference Designator	Description	Quantity	Suggestion
C0, C1, C2, C3	10uF/200V, 1210	4	
C4, C5, C6, C7	2.4 pF, 0603/0805	4	
R1	10 Ω, 0603/0805	1	Murata
T1	NL7505HS	1	Innogration
PCB	Rogers TC350, 20mil		-

Transistor information：XL7505HS



Earless Flanged Ceramic Package; 4 leads



Revision History

Document revision history

Date	Revision	Datasheet Status
2026/4/10	Rev 1.0	Preliminary Datasheet

Application data based on RXT-26-09

Disclaimers

Specifications are subject to change without notice. Innogration believes the information contained within this data sheet to be accurate and reliable. However, no responsibility is assumed by Innogration for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Innogration . Innogration makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose.“Typical” parameters are the average values expected by Innogration in large quantities and are provided for information purposes only. These values can and do vary in different applications and actual performance can vary over time. All operating parameters should be validated by customer’s technical experts for each application. Innogration products are not designed, intended or authorized for use as components in applications intended for surgical implant into the body or to support or sustain life, in applications in which the failure of the Innogration product could result in personal injury or death or in applications for planning, construction, maintenance or direct operation of a nuclear facility. For any concerns or questions related to terms or conditions, pls check with Innogration and authorized distributors