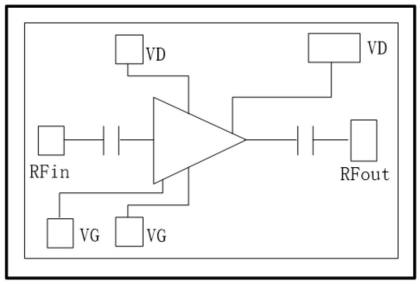
Performance

- Frequency: 2~18GHz
- Typical Small Signal Gain: 25dB
- Typical Pout: 40dBm @ 28V
- Technology: 0.20um HEMT
- Typical Idq: 1.1A
- Bias: Vd=28V, Vg=-1.8V(Typ)
- Size: 3.5*4.8mm*0. 08mm

Function Diagram

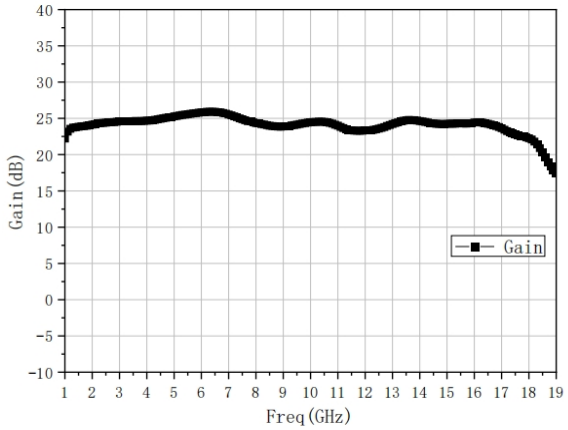


Electrical Specifications (V_d=28V, I_{dq}=1.1A, F: 2~18GHz, CW)

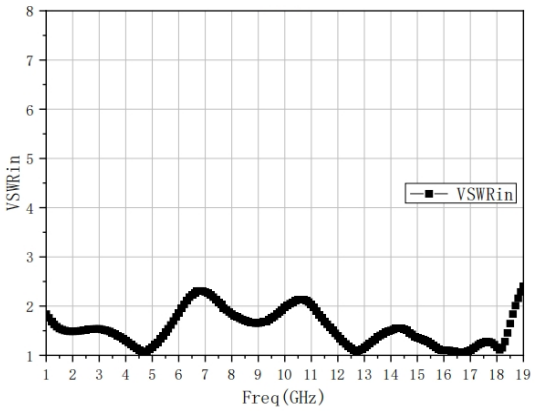
Symbol	Parameter	Min	Typical	Max	Unit
G	Small Signal Gain	-	25	-	dB
Gp	Large Signal Gain	-	16	-	dB
Pout	Saturated Power	-	40	-	dBm
PAE	Power Added Efficiency	-	25	-	%

Test Curves

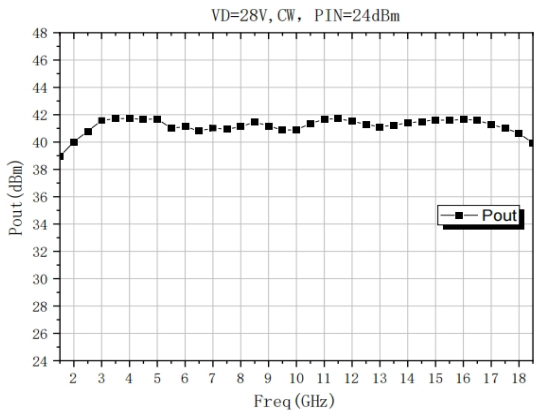
Small Signal Gain vs. Freq (Vd=28V)



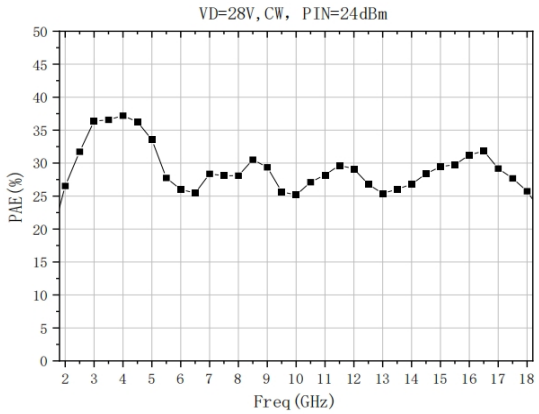
Input VSWR vs. Freq (Vd=28V)



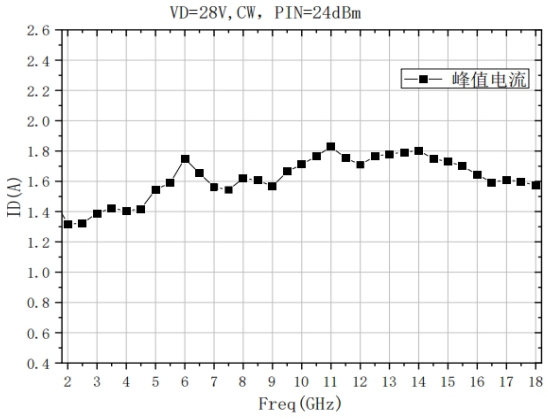
Output Power vs. Freq (Vd=28V, Pin=24dBm)



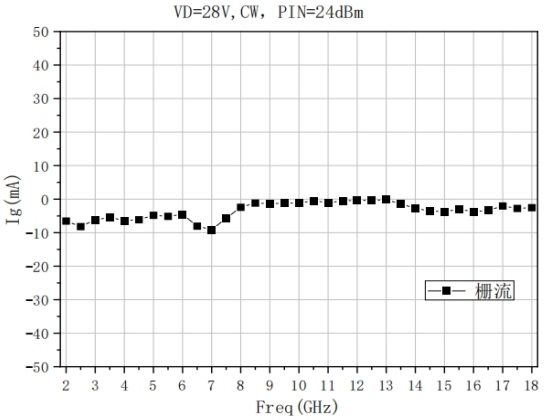
PAE vs. Freq (Vd=28V, Pin=24dBm)



Drain Current vs. Freq (Vd=28V, Pin=24dBm)



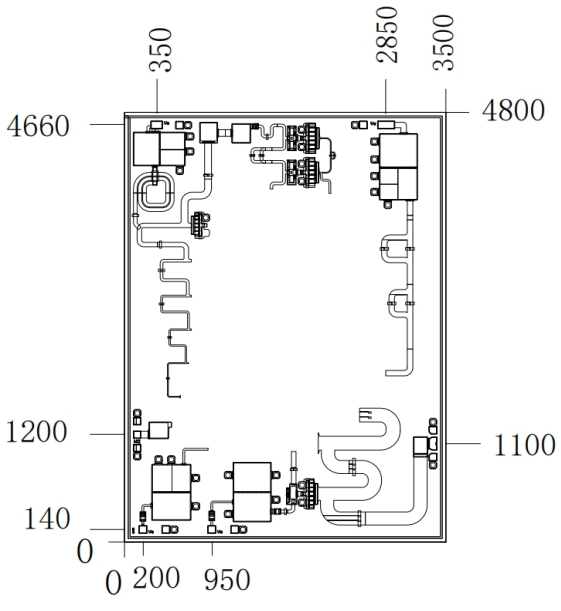
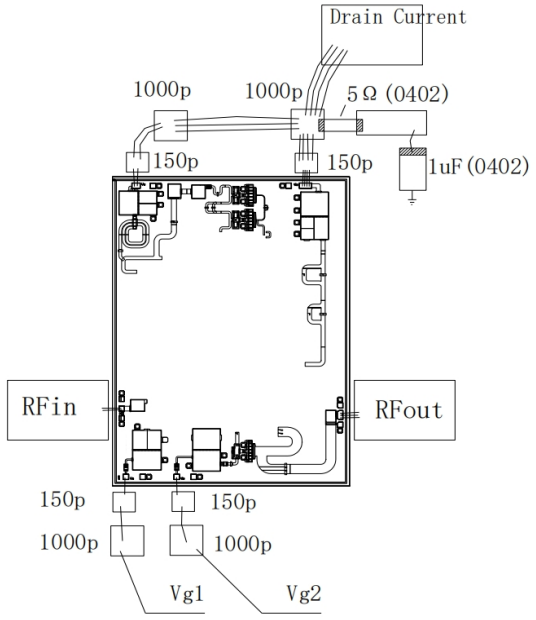
Gate Current vs. Freq (Vd=28V, Pin=24dBm)



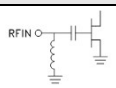
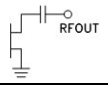
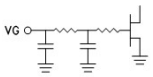
Absolute Max Ratings (T_A=25℃)

Symbol	Parameter	Value	Remark
Vd	Drain Voltage	32V	
Id	Drain Current	2.8A	
Pd	DC Power	60W	
Pin	Input Power	30dBm	
Tch	Channel Temperature	225℃	
Tm	Mounting Temperature	310℃	1min, N_2 Protection
Tstg	Storage Temperature	-55~+175℃	
Vd	Drain Voltage	32V	
Id	Drain Current	2.6A	

Exceeding any one or combination of these limits may cause permanent damage.

Outline Size (um)	Assembly Application
	

Pads Definition

No	Description	Equivalent Circuits
RFin	RF signal Input port, connect to 50 ohm system, external block capacitor is needed.	
RFout	RF signal Output port, connect to 50 ohm system, no block capacitor is needed.	
VG	Amplifier gate bias, external 100pF, 1000pF capacitor is needed.	
VD1, VD2, VD3	Amplifier drain bias, external 100pF, 1000pF capacitor is needed.	
GND	Bottom has to be well connected to RF and DC.	

Note

a) The chip works with dual power supplies, so the negative power should be applied first and then the positive power; when power is off, the positive power should be cut off first and then the negative power;
b) Good grounding and heat dissipation are required during use, the heat sink sintering void rate should be controlled, there should be no voids under the tube core, and conductive adhesive should be avoided for bonding;
c) The chip is an electrostatic sensitive device. During use, transportation and operation, attention should be paid to anti-static, and violent collisions and drops should be avoided to avoid damage to the product;
d) It is recommended to install decoupling capacitors according to the recommended assembly diagram when using;
e) The chip ’ s power feed and input and output interconnections should be made of gold wire with a diameter of 25 μm;
f) This product is a hydrogen-sensitive device with a hydrogen resistance of 20,000 ppm. It is recommended to pay attention to the hydrogen concentration in the sealed cavity when using it;