

Features

- Frequency: 8GHz~12GHz
- Power Gain: 23dB
- Psat: 47dBm
- P.A.E: 40%
- +28V@2A(Quiescent)
- Chip Size: 4.8mm×5.3mm×0.1mm

Electrical Specification (TA=+25°C, Vg=-2V, Vd=+28V)

Parameter	Min.	Typ.	Max.	Unit
Frequency	8-12			GHz
Psat	47	47.3	47.5	dBm
Power Gain	23			dB
Gain Flatness	±0.25			dB
P.A.E	40			%
VSWRin	2.0			-
Operating Current	4.5			A

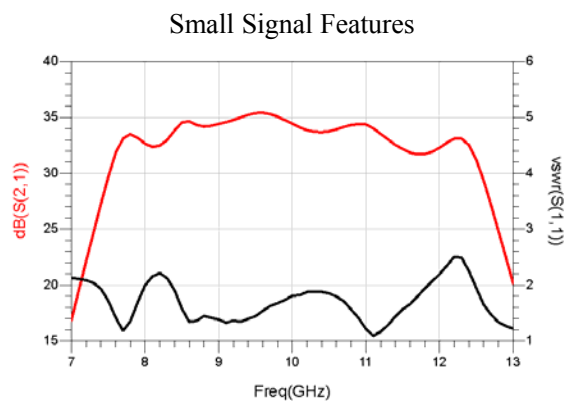
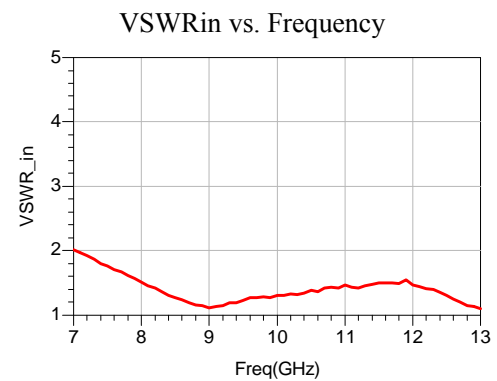
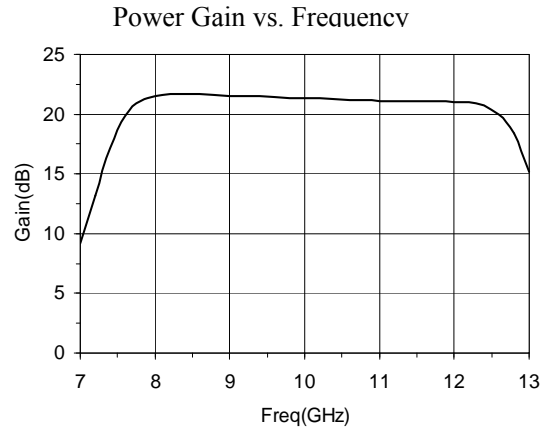
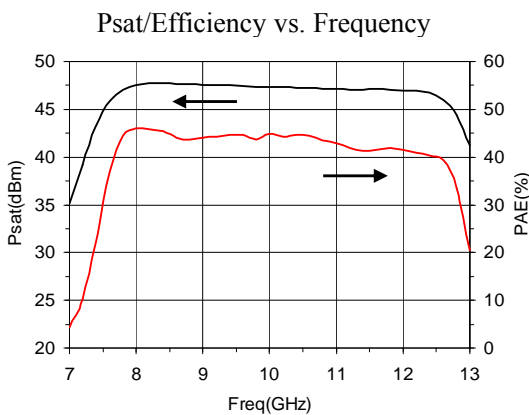
Note: 1) All chips have been 100% DC and RF tested.

2) Test Condition: Vd=+28V, Vg=-2V, Pin=24dBm, pulse width 2ms, duty cycle 30%.

Limited Rating Values

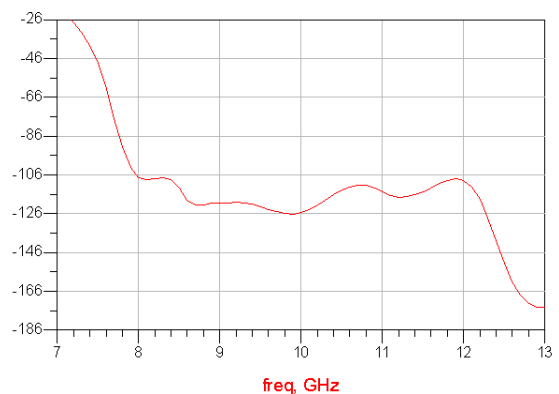
Parameters	Values
VDS	+40V
VGS	-6V
Input CW Power	+35dBm
Channel Temperature	+175°C
Storage Temperature	-65°C ~ +150°C

Typical Testing Curves



Testing Condition: 28V/-2V, Input Pin=-20dBm

Phase Linearity: 8-12GHz In band ±10°



Testing Condition: 28V/-2V, Input Pin=-20dBm

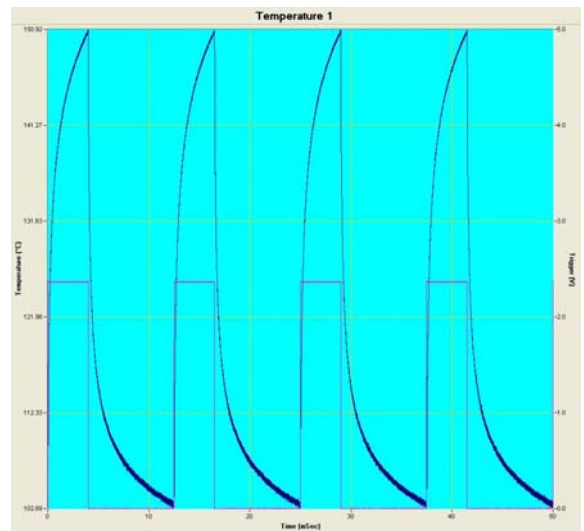
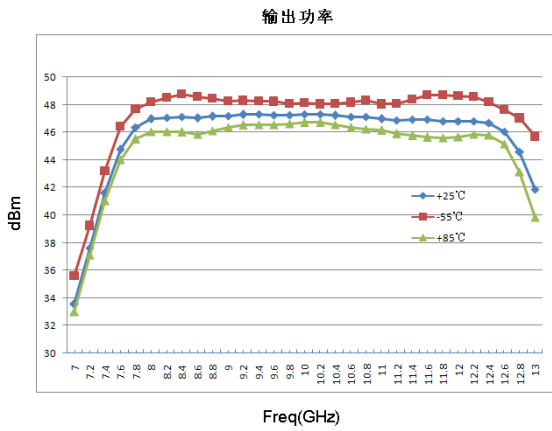
Spectrum in Low and High Temperature/ Power Variation

Operating Temperature: $-55^{\circ}\text{C} \sim +85^{\circ}\text{C}$, spectrum of high and low temperature are all normal without self oscillation

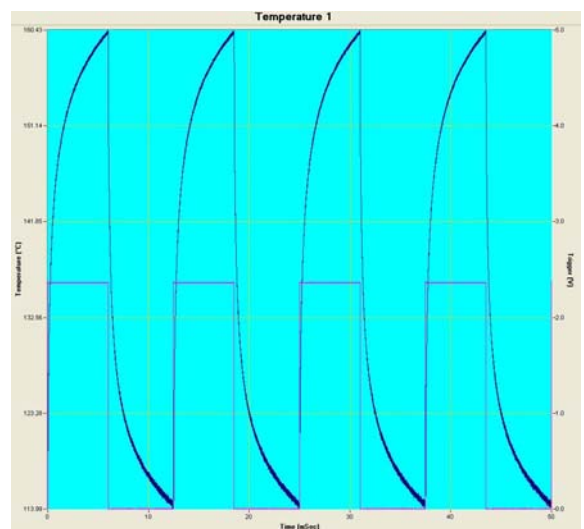
Testing Condition: fixed input power $P_{in}=26\text{dBm}$, Drain Pulse Modulation, set period of 5 ms without change, change the duty cycle

Channel temperature testing result:

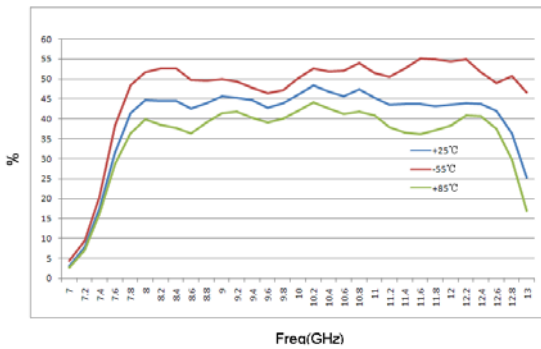
Testing Condition 1: Drain Pulse Modulation Signal, length 12ms, pulse width 4ms, peak voltage and current as $28\text{V}/2.7\text{A}$ (peak thermal dissipation 75W, average thermal dissipation 25W), environmental temperature 70°C , peak channel temperature 150°C



Testing Condition 2: Drain Pulse Modulation Signal, length 12ms, pulse width 6 ms, peak voltage and current as $28\text{V}/2.7\text{A}$ (peak thermal dissipation 75W, average thermal dissipation 37.5 W), environmental temperature 70°C , peak channel temperature 160°C

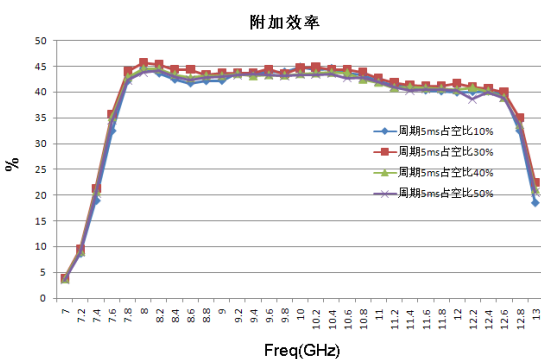
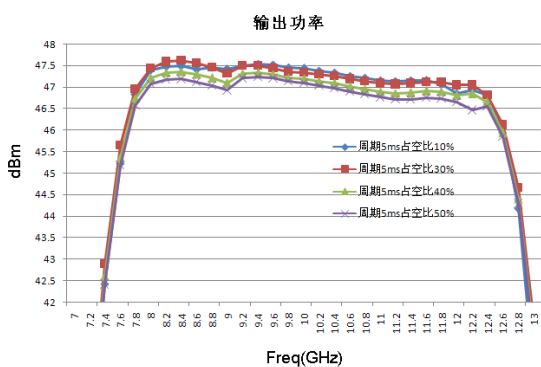


附加效率



Testing Condition: fixed input power $P_{in}=26\text{dBm}$

Power Change upon Duty Cycle

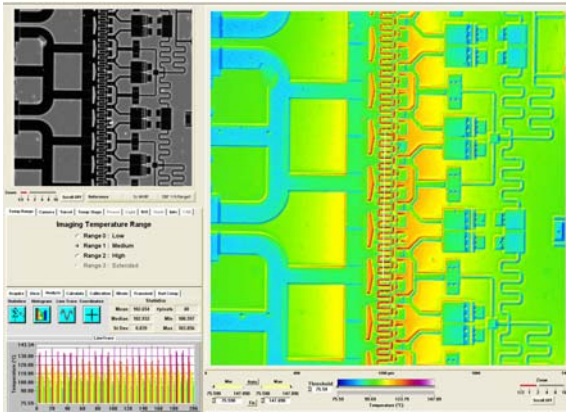


Derate CW Test Result

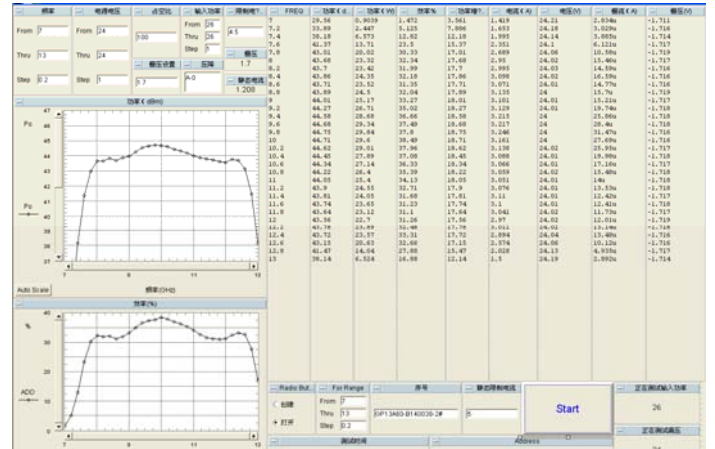
Testing Condition 3: DC 28V/0.81A (thermal dissipation 23W), environmental temperature 70°C, Channel temperature 148°C, Equal DC thermal resistance 3.4°C/W

CW, Operating voltage: 24V, 22V, 20V

Operating voltage: 24V



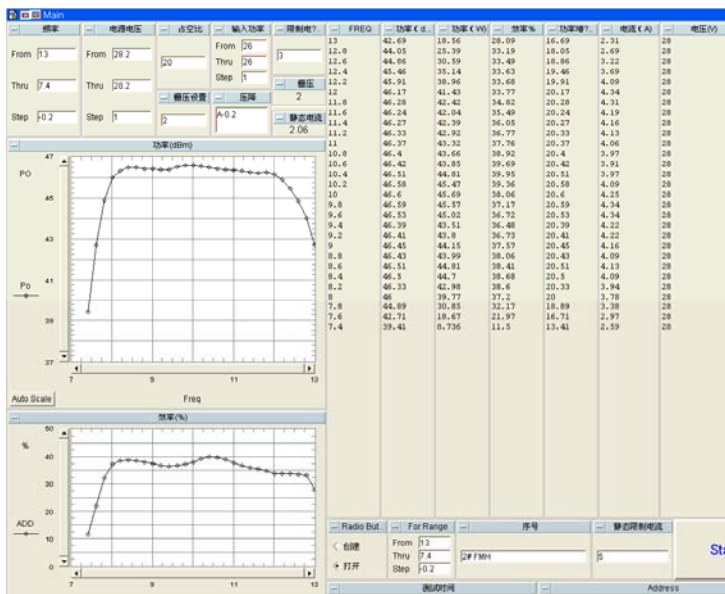
It is the temperature drawing of chip center area



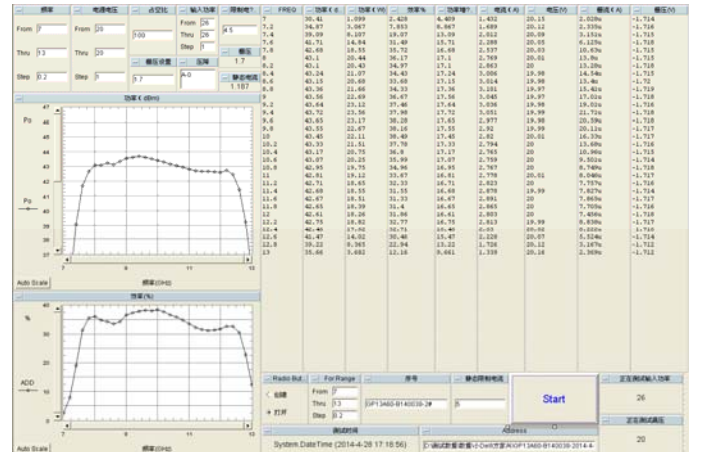
Operating voltage 22V

Packaged Test Result

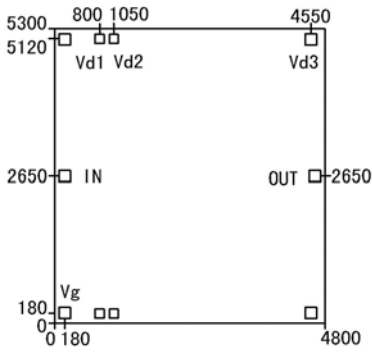
Test result with metal ceramic package(including losses of jigs, etc.). Period: 5ms, duty cycle: 30%



Operating voltage :20V

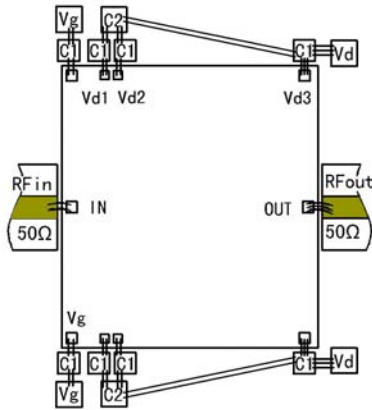


Dimension and Outline



Note: The unit is μm .

Assembly Diagram



Note: External Capacitor C1=100pF, C2=1000pF

Attention :

- 1) Gold wires (diameter: $25\mu\text{m} \sim 30\mu\text{m}$) are suggested for bonding. The temperature of bonding platform shall not exceed 250°C .
- 2) Bonding with 80/20 Au/Sn. Temperature should be lower than 300°C and time should be less than 30 seconds.
- 3) Blocking capacitors in Input/Output are already integrated.