METDA Semiconductor

NC11602C-1315P30

GaN MMIC Power Amplifier, 13.5GHz-15.5GHz

Features

- Frequency：13.5GHz～15.5GHz
- Power Gain：20dB
- Psat：45dBm
- P.A.E.：30%
- +28V @ 2.5A（Quiescent）
- Chip Size：4.0mm×3.7mm×0.1mm

Electrical Specification（TA=+25℃,Vd=+28V，Vg=-2.5V）

Parameter	Min.	Typ.	Max.	Unit
Frequency	13.5-15.5			GHz
Power Gain	19	20		dB
Psat	44.8	45.2		dBm
P.A.E.	30	33		%
VSWRin			2.5	-
Dynamic Operating Current	3.5			A

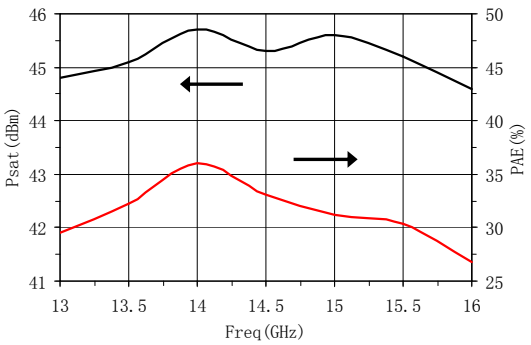
Note：1）All chips have been on-chip 100% DC tested.
2) Test Condition：Vd=+28V，Vg=-2.5V, pulse width 100μs，duty cycle 10%，P_{in}=25dBm.

Limited Rating Values

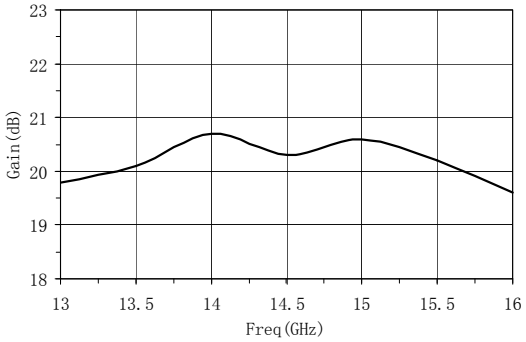
Max. Input Vd	+30V
Max. Input Power	+30dBm
Storage Temperature	-65℃～+150℃
Operating Temperature	-55℃～+85℃

Typical Testing Curves

Output Psat/Efficiency VS Frequency

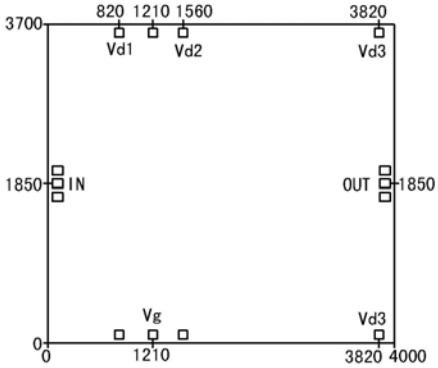


Power Gain VS Frequency



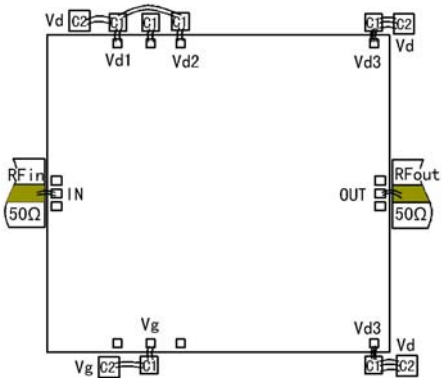
Dimensions and Outline

NC11602C-1315P30 outline



Note： The unit is um. Dimension of input/output pad: 100×120μm². Dimension of bias pad: 100×100μm².

Assembly Diagram



Note： External capacitor c=100pF,c2=0.01μF. A 0.01μF capacitor should be added to gate bias. Diameter of gold wires: 25μm.

Attention

1) 2 bonding wires should be used for input/output. The length should be shorter than 350μm.
2) Bonding with 80/20 Au/Sn. The temperature should be lower than 300℃ and time should be less than 30 seconds.
3) Blocking capacitors in Input/Output are already integrated.
4) Antistatic protection should be taken.