METDA Semiconductor

NC11601C-1517P16
GaN MMIC Power Amplifier, 15GHz-17.5GHz

Features

- Frequency：15GHz～17.5GHz
- Power Gain：20dB
- Psat： 42dBm
- P.A.E.：35%
- +28V @ 1.0A（Quiescent）
- Chip Size：3.1mm×1.7mm×0.1mm

Electrical Specification（TA=+25℃, Vd=+28V, Vg=-3.2V）

Parameter	Min.	Typ.	Max.	Unit
Frequency		15～17.5		GHz
Power Gain	20	20.2		dB
Psat	42	42.2		dBm
P.A.E.	30	35		%
VSWRin		2.0	2.5	-
Dynamic Operating Current		1.8		A

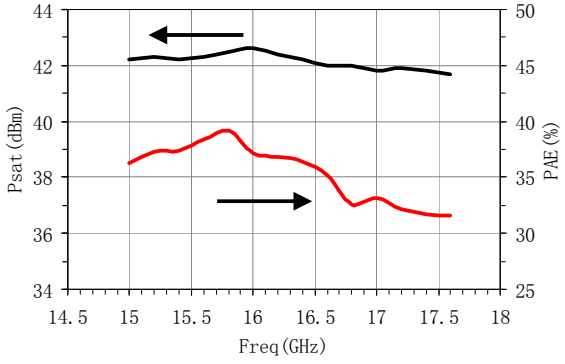
Note：1）All chips have been on-chip 100% DC tested.
2) Test Condition：Vd=+28V，Vg=-3.2V, pulse width 100μs，duty cycle 10%，P_{in}=22dBm.

Limited Rating Values

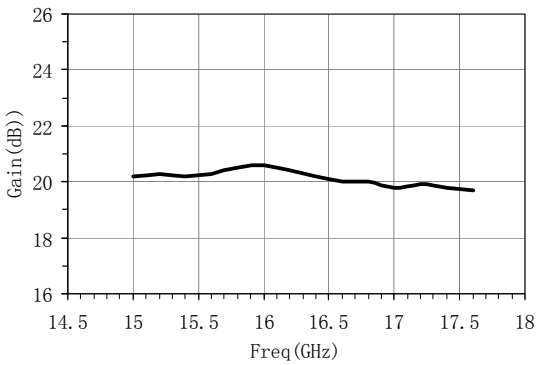
Max. Input Vd	+30V
Max. Input Power	+25dBm
Storage Temperature	-65℃～+150℃
Operating Temperature	-55℃～+125℃

Typical Testing Curves

Output Psat/Efficiency VS Frequency

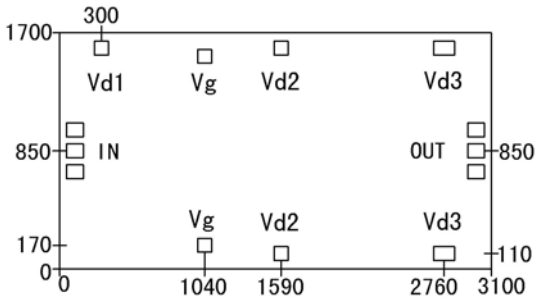


Power Gain VS Frequency



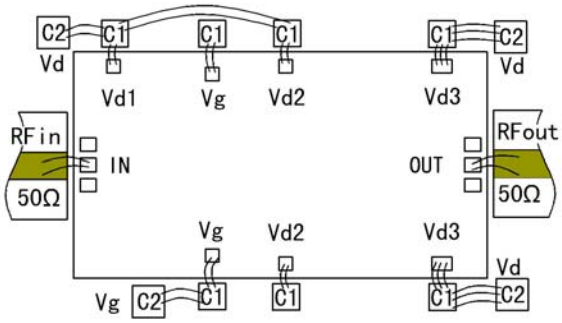
Dimensions and Outline

NC11601C-1517P16 outline



Note：The unit is um.
Dimension of input/output pad: 100×120μm^2 .
Dimension of bias pad: 100×100μm^2.

Assembly Diagram



Note： External capacitor c=100pF,c2=0.01μF； A 0.01μF capacitor should be added to the gate bias. Gold bonding wire diameter:25μm.

Attention

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