Features
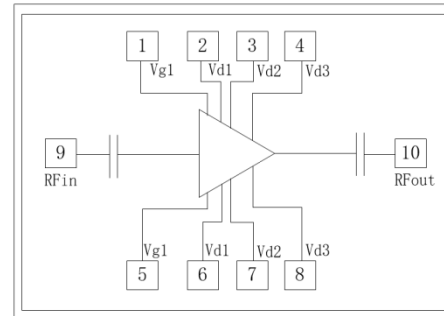
- Frequency: 8-18GHz
- Small Signal Gain: 31dB Typical
- Power Gain: 18dB Typical
- Gain Flatness: ±2.0dB Typical
- Psat: 46dBm Typical
- Pulse: 10% Duty Cycle 500us width
- PRF (Pulse Repetition Frequency) 10KHz
- PAE:25%
- Supply Voltage:
  VD=+28V@0.16A(Pulse), VG=-1.75V
- Input/Output: 50Ω
- Die Size: 3.6 x 5.0 x 0.1mm

Typical Applications

- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

TA = +25°C, VD=+28V, IDD =0.16A Typical, 10% Duty Cycle, 1KHz PRF 500us Pulse Width

Parameters	Min.	Typ.	Max.	Units
Frequency	8		18	GHz
Small Signal Gain		31		dB
Power Gain		18		dB
Gain Flatness		±2.0		dB
P1dB - Output 1dB Compression		/		dBm
Psat - Saturated Output Power 10KHz PRF 500us Pulse Width		46		dBm
PAE-Power Added Efficiency		25		%
Input VSWR		1.2		:1
Output VSWR		1.2		:1

MILLER MMIC

MMGP528

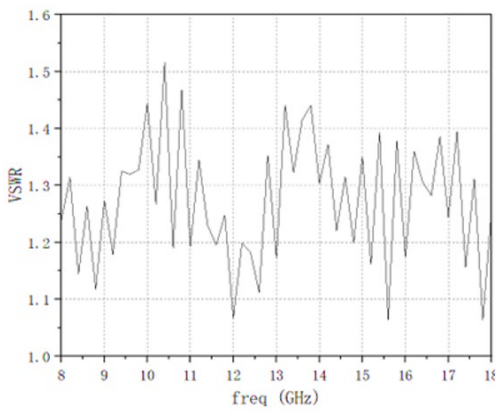**GaN Pulse Power Amplifier MMIC 8-18GHz**

Pout vs. Frequency(Pin=28dBm)
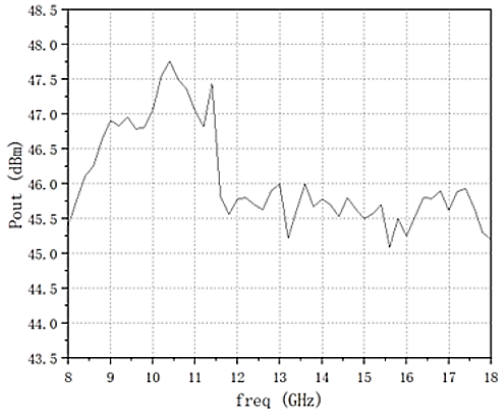
Gain vs. Frequency
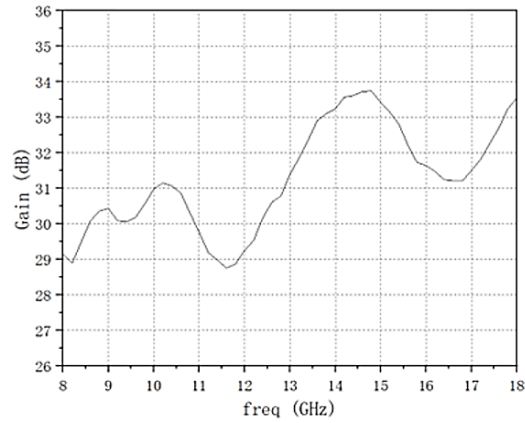
VSWR vs. Frequency

PAE vs. Frequency
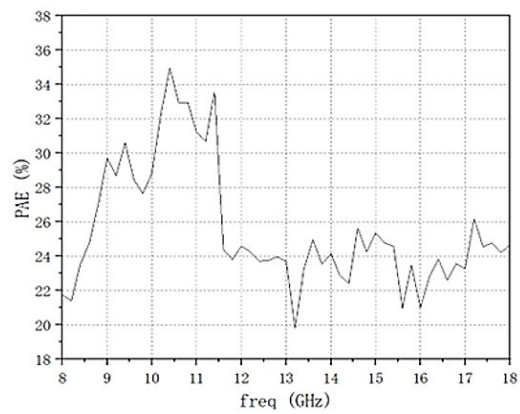
Current vs. Frequency
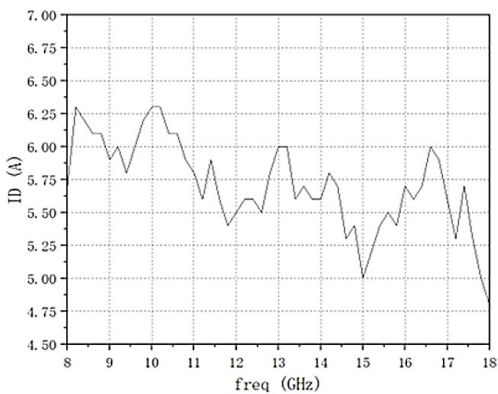
Absolute Maximum Ratings

|	
Drain Bias Voltage (VD)	+30V
Gate Bias Voltages(VG)	–5V
Drain Current (IDD)	5.5A
RF Input Power (RFIN)@(+28V)	+30dBm
Channel Temperature	225 °C
Junction Temperature	310 °C
Operating Temperature	-55°C to +85 °C
Storage Temperature	-55°C to +175 °C

Typical Supply Current vs. VD,VG

VD (V)	VG (V)	IDD (mA)
+28	-1.75	160

ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

MMGP528

GaN Pulse Power Amplifier MMIC 8-18GHz

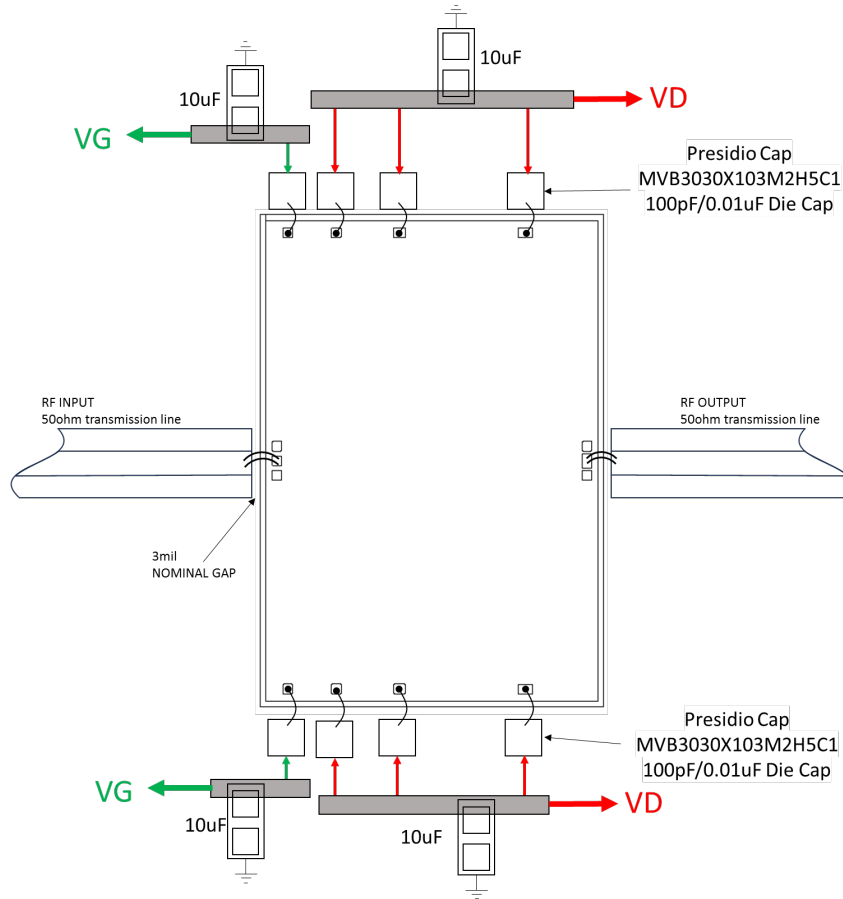## Outline Drawing:

All Dimensions in μm
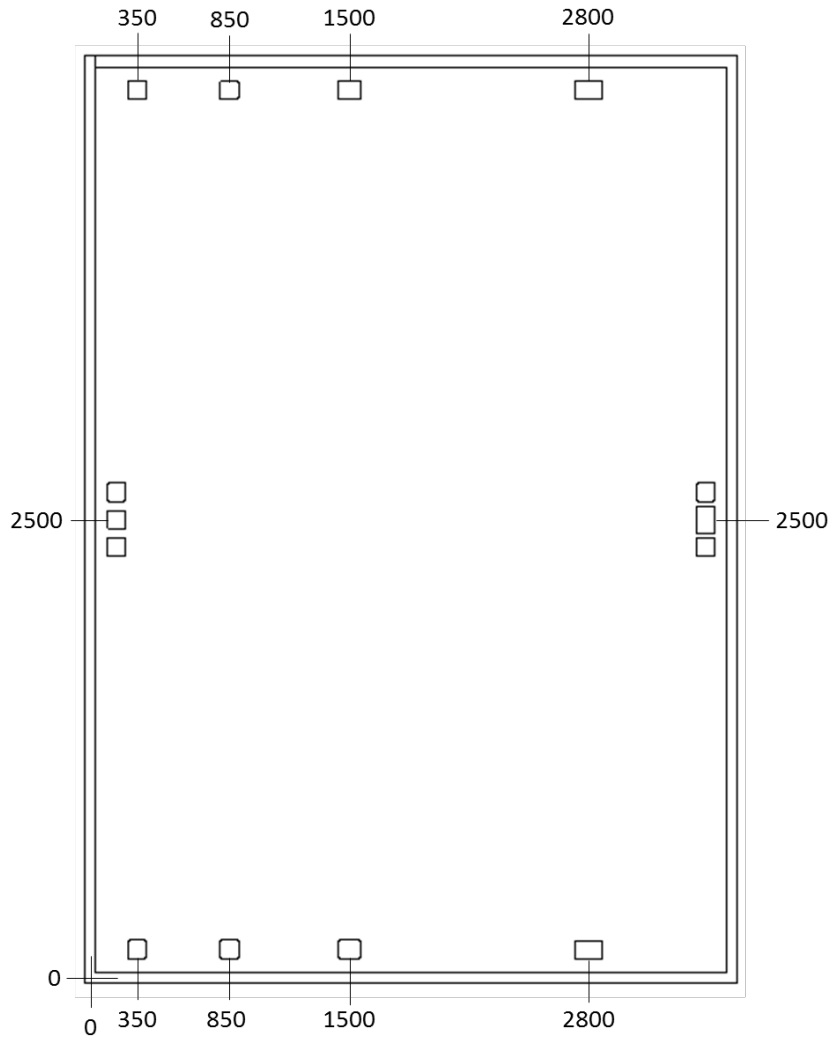
Notes:
1. **Die size：3600*5000 μm**
2. **Input RF Pad size：100*100 μm**
3. **Output RF Pad size：100*150 μm**
4. **VG1 pad size：100*100 μm**
5. **VD1 pad size：100*100 μm**
6. **VD2 pad size：120*100 μm**
7. **VD3 pad size：100*150 μm**
8. **GSG：150 μm**
9. **Bond pad metalization: Gold**
10. **Backside metalization: Gold**

MMGP528

V1.0.0

GaN MMIC Pulse Power Amplifier
8-18GHz

MMGP528

GaN Pulse Power Amplifier MMIC 8-18GHz

Assembly Drawing

No.	Mnemonic	Description
1	RF IN	Signal input terminal, connected to 50Ω circuit.
2	RF OUT	Signal output terminal, connected to 50Ω circuit.
3	VD	Drain voltage, bias network is required; see Application Circuit on.
4	VG	Gate voltage, bias network is required; see Application Circuit on.
5	Die Bottom	Die bottom must be connected to RF and dc ground.

MMGP528

V1.0.0

**GaN MMIC Pulse Power Amplifier
8-18GHz**

MMGP528

GaN Pulse Power Amplifier MMIC 8-18GHz