

### Performance

- Technology: 0.5um Power GaN HEMT
- Frequency: 1.8~2.1GHz
- Typical Pout : 52dBm
- Typical Gain: 11dB
- Typical PAE: 55%
- Bias: 28V/-3V
- Package: Metal Ceramic

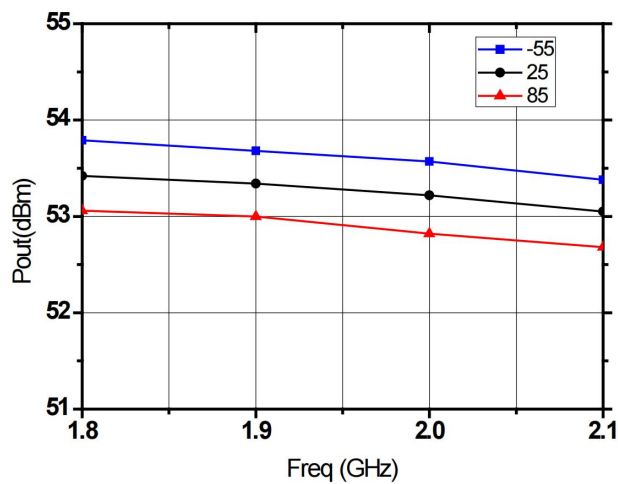


### Electrical Specifications ( $T_A=25^{\circ}\text{C}$ , $V_d=28\text{V}$ , $PL=300\mu\text{s}$ , $D.C=10\%$ , $V_g=-3\text{V}$ , $F: 1.8-2.1\text{GHz}$ )

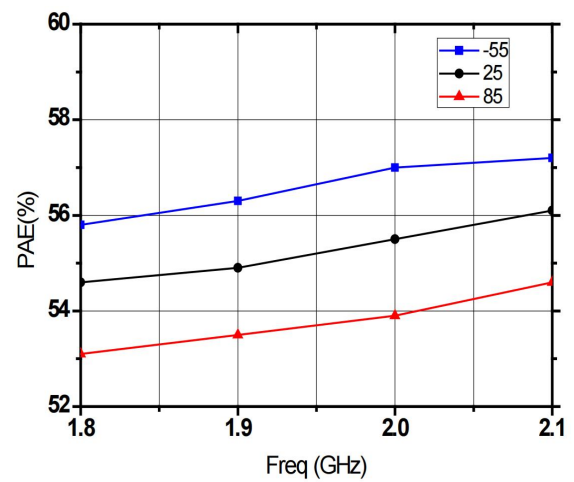
| Symbol       | Parameter              | Min  | Typical | Max  | Unit                        |
|--------------|------------------------|------|---------|------|-----------------------------|
| Pout         | Output Power           | 51.5 | 52      | -    | dBm                         |
| G            | Small Signal Gain      |      | 14      |      |                             |
| Gp           | Power Gain             | -    | 11      | -    | dB                          |
| $\eta_{add}$ | Power Added Efficiency | 52   | 55      | -    | %                           |
| Rth          | Thermal Resistance     | -    | -       | 0.25 | $^{\circ}\text{C}/\text{W}$ |

### Test Curves

Pout&Freq. @ Different Temp.



PAE&Freq. @ Different Temp.



**Absolute Max Ratings (TA=25°C)**

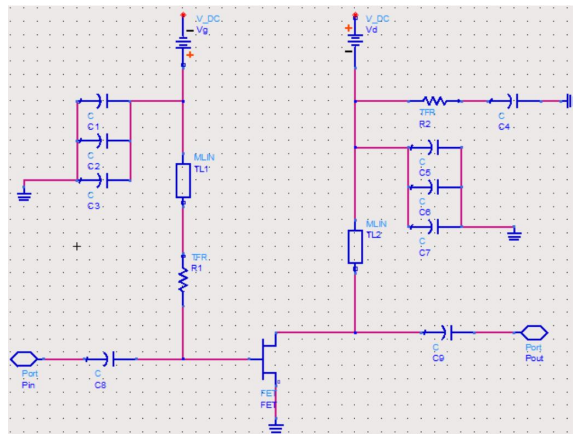
| Symbol | Parameter             | Value     | Remark               |
|--------|-----------------------|-----------|----------------------|
| Vd     | Drain Voltage         | 36V       |                      |
| Vg     | Grid Voltage          | -5V       |                      |
| Tch    | Channel Temperature   | 225°C     | <b>【1】</b>           |
| Tm     | Mounting Temperature  | 300°C     | 1 min, N2 Protection |
| Tstg   | Storage Temperature   | -55~175°C |                      |
| Tc     | Operating Temperature | -55~85°C  |                      |

**【1】** Exceeding any one or combination of these limits may cause permanent damage.

| Outline Drawing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Dimension Symbol                                                                                                                                                                                                                                                     |        |                  |  |      |      |    |       |       |    |       |       |   |   |     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------------------|--|------|------|----|-------|-------|----|-------|-------|---|---|-----|
| <p>The drawing shows the physical dimensions of the GaN Transistor. The top view includes dimensions for the mounting pad (<math>20.4 \pm 0.25</math>), the device body (<math>U1</math>, <math>U2</math>), and the grid area (<math>2 \times 0.6 \pm 0.05</math>). The side view shows the height (<math>0.1 \pm 0.03</math>) and the mounting pad thickness (<math>2.4 \pm 0.25</math>). The bottom view shows the grid area (<math>2 \times 0.6 \pm 0.05</math>) and the mounting pad (<math>20.4 \pm 0.25</math>).</p> | <table><tr><th rowspan="2">Symbol</th><th colspan="2">Value (unit: mm)</th></tr><tr><th>Min.</th><th>Max.</th></tr><tr><td>U1</td><td>23.80</td><td>24.20</td></tr><tr><td>U2</td><td>17.20</td><td>17.60</td></tr><tr><td>A</td><td>-</td><td>5.2</td></tr></table> | Symbol | Value (unit: mm) |  | Min. | Max. | U1 | 23.80 | 24.20 | U2 | 17.20 | 17.60 | A | - | 5.2 |
| Symbol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Value (unit: mm)                                                                                                                                                                                                                                                     |        |                  |  |      |      |    |       |       |    |       |       |   |   |     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Min.                                                                                                                                                                                                                                                                 | Max.   |                  |  |      |      |    |       |       |    |       |       |   |   |     |
| U1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 23.80                                                                                                                                                                                                                                                                | 24.20  |                  |  |      |      |    |       |       |    |       |       |   |   |     |
| U2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 17.20                                                                                                                                                                                                                                                                | 17.60  |                  |  |      |      |    |       |       |    |       |       |   |   |     |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | -                                                                                                                                                                                                                                                                    | 5.2    |                  |  |      |      |    |       |       |    |       |       |   |   |     |

**Application Circuit**

| Parameter                | Symbol          | Value | Unit |
|--------------------------|-----------------|-------|------|
| Filter capacitor         | C1,C2,C4, C5,C6 | 1000  | pF   |
| Filter capacitor         | C3,C7           | 100   | pF   |
| DC isolation capacitance | C8,C9           | 20    | pF   |
| Stabilizing resistance   | R1              | 15    | Ω    |
| Resistance               | R2              | 50    | Ω    |
| Microstrip line          | TL1,TL2         | λ/4   | -    |



**Note:**

- (1) This product is an internal matching tube, with input and output impedance values of 50 ohms;
- (2) The power-on sequence shall be in strict accordance with the sequence of applying negative power first and then positive power. When power-off, the leakage voltage shall be reduced first and then the grid voltage shall be reduced;
- (3) This product is a high-power device. Pay attention to heat dissipation during use. The higher the shell temperature is, the shorter the service life is. The service temperature should not be higher than 80 °C;
- (4) This product is an electrostatic sensitive device. It needs to pay attention to electrostatic protection during storage and use, and it needs to be grounded well during use.