

### Performance

- Technology: 0.35um Power GaN HEMT
- Frequency: 2.2~2.3GHz
- Typical Pout : 41dBm(CW)
- Typical Gain: 13dB
- Typical PAE: 57%
- Bias: 28V/-4~-2V
- Impedance: 50Ω
- Package: Metal Ceramic

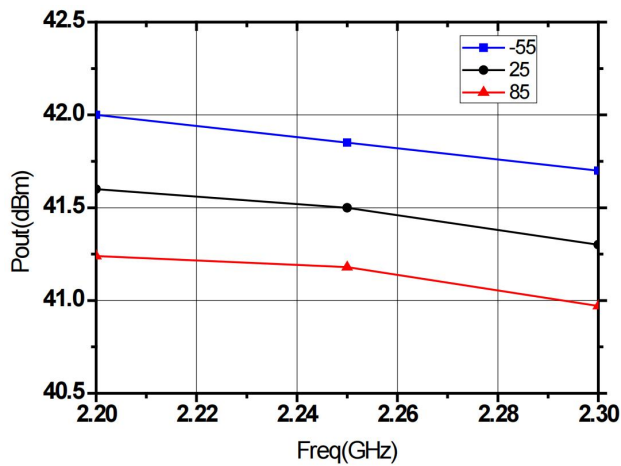


### Electrical Specifications (T<sub>A</sub>=25°C, V<sub>d</sub>=28V, V<sub>g</sub>= -4~-2V, F: 2.2-2.3GHz)

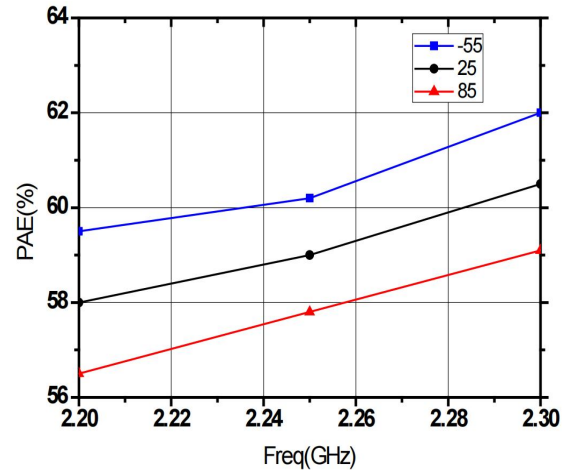
| Symbol           | Parameter              | Min  | Typical | Max  | Unit |
|------------------|------------------------|------|---------|------|------|
| Pout             | Output Power           | -    | 41      | -    | dBm  |
| Gp               | Power Gain             | -    | 13      | -    | dB   |
| η <sub>add</sub> | Power Added Efficiency | -    | 57      | -    | %    |
| ΔGp              | Gain Flatness          | -0.8 | -       | +0.8 | dB   |
| Rth              | Thermal Resistance     | -    | -       | 9.5  | °C/W |

### Test Curves

Pout&Freq. @ Different Temp.



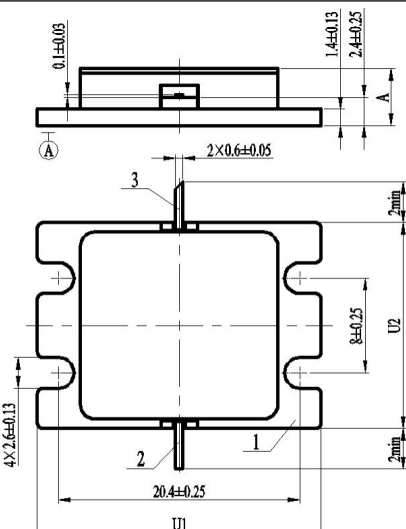
PAE&Freq. @ Different Temp.



### Absolute Max Ratings (T<sub>A</sub>=25°C)

| Symbol           | Parameter            | Value     | Remark                           |
|------------------|----------------------|-----------|----------------------------------|
| V <sub>d</sub>   | Drain Voltage        | 36V       |                                  |
| V <sub>g</sub>   | Grid Voltage         | -5V       |                                  |
| P <sub>d</sub>   | DC Dissipation       | 20W       | 25°C                             |
| T <sub>ch</sub>  | Channel Temperature  | 175°C     | <b>【1】</b>                       |
| T <sub>m</sub>   | Mounting Temperature | 300°C     | 1 min, N <sub>2</sub> Protection |
| T <sub>stg</sub> | Storage Temperature  | -55~175°C |                                  |

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

| Outline Drawing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Dimension Symbol                                                                                                                                                                                                                                                     |        |                  |  |      |      |    |       |       |    |       |       |   |   |     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------------------|--|------|------|----|-------|-------|----|-------|-------|---|---|-----|
|  <p>The drawing shows a GaN Transistor with the following dimensions and features:</p> <ul style="list-style-type: none"><li><b>Top View:</b><ul style="list-style-type: none"><li>Overall width: <math>U1</math></li><li>Overall height: <math>U2</math></li><li>Central square area: <math>20.4 \pm 0.25</math> (width) and <math>8 \pm 0.25</math> (height)</li><li>Four rounded corners on the central area, each with a radius of <math>2 \pm 0.13</math></li><li>Four mounting tabs, each with a width of <math>4 \times 2.6 \pm 0.13</math></li><li>Two small rectangular features on the top and bottom edges, each with a width of <math>2 \times 0.6 \pm 0.05</math></li><li>Two small rectangular features on the left and right edges, each with a height of <math>1.4 \pm 0.13</math></li><li>Two small rectangular features on the top and bottom edges, each with a height of <math>2.4 \pm 0.25</math></li><li>Two small rectangular features on the left and right edges, each with a height of <math>0.1 \pm 0.03</math></li></ul></li><li><b>Side View:</b><ul style="list-style-type: none"><li>Height: <math>A</math></li></ul></li></ul> | <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,C3, C4,C5,C6,C7 | 1000  | pF   |
| DC isolation capacitance | C8,C9                 | 4.7   | 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, and the input and output impedance values are both 50 ohms;
- (2) Please strictly follow the order of adding negative electricity first and then positive electricity in the power-on sequence. When de-energizing, first reduce the drain voltage and then reduce the gate voltage;
- (3) This product is a high-power device. It is necessary to pay attention to heat dissipation during use. The higher the case temperature, the shorter the service life. It is advisable to use the temperature not higher than 80 degrees;
- (4) This product is an electrostatic sensitive device. It is necessary to pay attention to electrostatic protection during storage and use, and it needs to be well grounded when using it.