

### Performance

- Technology: 0.25um Power GaN HEMT
- Frequency: 8.5~9.6GHz
- Typical Pout : 50dBm
- Typical Gain: 8dB
- Typical PAE: 45%
- Bias: 28V/-2~-3V
- Package: Metal Ceramic

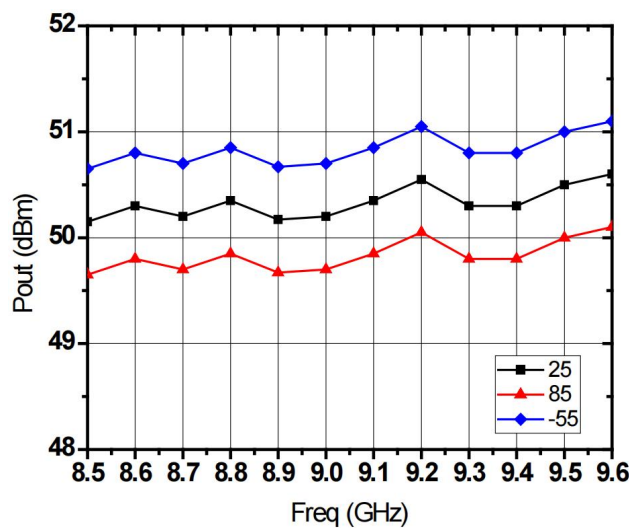


### Electrical Specifications (TA=25°C, Vd=28V, Vg=-2~-3V, Id≈8A, F: 8.5~9.6GHz)

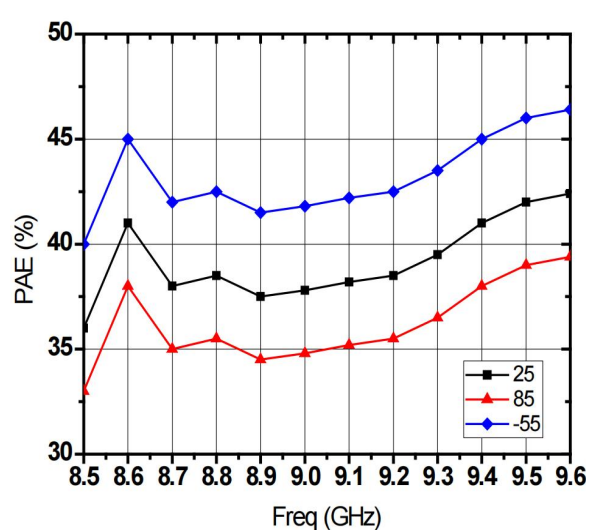
| Symbol       | Parameter              | Min  | Typical | Max  | Unit |
|--------------|------------------------|------|---------|------|------|
| Pout         | Output Power           | -    | 50      | -    | dBm  |
| Gp           | Power Gain             | -    | 8       | -    | dB   |
| $\eta_{add}$ | Power Added Efficiency | -    | 45      | -    | %    |
| Rth          | Thermal Resistance     | -    | -       | -    | °C/W |
| $\Delta Gp$  | Gain Flatness          | -0.8 | -       | +0.8 | dB   |

### Test Curves

Pout&Freq. @ Different Temp.



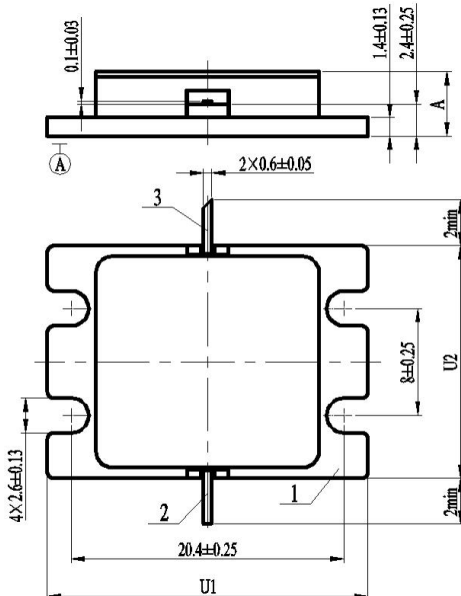
PAE&Freq. @ Different Temp.

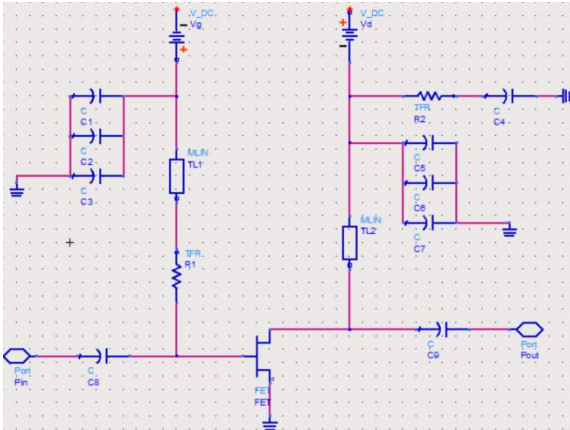


### Absolute Max Ratings (T<sub>A</sub>=25°C)

| Symbol           | Parameter            | Value     | Remark                           |
|------------------|----------------------|-----------|----------------------------------|
| V <sub>d</sub>   | Drain Voltage        | 40V       |                                  |
| V <sub>g</sub>   | Grid Voltage         | -5V       |                                  |
| P <sub>d</sub>   | DC Dissipation       | 250W      | 25°C                             |
| T <sub>ch</sub>  | Channel Temperature  | 225°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 consists of two views: a top view and a side view. The top view shows a square package with a central square pad (1) and four side pads (2). The overall width is U1 and the overall height is U2. The distance between the side pads is 8±0.25. The width of the side pads is 4×2.6±0.13. The distance between the central pad and the side pads is 2×0.6±0.05. The thickness of the package is 2min. The side view shows the package profile with a central pad (1) and side pads (2). The height of the central pad is 1.4±0.13. The height of the side pads is 2.4±0.25. The total height is A. The thickness of the package is 0.1±0.03.</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                                                                 | Pad Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |        |       |      |                  |                 |      |    |                  |       |     |    |                          |       |   |    |                        |    |    |   |            |    |    |   |                 |         |             |   |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------|-------|------|------------------|-----------------|------|----|------------------|-------|-----|----|--------------------------|-------|---|----|------------------------|----|----|---|------------|----|----|---|-----------------|---------|-------------|---|
|  | <table><tr><th>Parameter</th><th>Symbol</th><th>Value</th><th>Unit</th></tr><tr><td>Filter capacitor</td><td>C1,C2,C4, C5,C6</td><td>1000</td><td>pF</td></tr><tr><td>Filter capacitor</td><td>C3,C7</td><td>100</td><td>pF</td></tr><tr><td>DC isolation capacitance</td><td>C8,C9</td><td>1</td><td>pF</td></tr><tr><td>Stabilizing resistance</td><td>R1</td><td>15</td><td>Ω</td></tr><tr><td>Resistance</td><td>R2</td><td>50</td><td>Ω</td></tr><tr><td>Microstrip line</td><td>TL1,TL2</td><td><math>\lambda/4</math></td><td>-</td></tr></table> | Parameter   | Symbol | Value | Unit | Filter capacitor | C1,C2,C4, C5,C6 | 1000 | pF | Filter capacitor | C3,C7 | 100 | pF | DC isolation capacitance | C8,C9 | 1 | pF | Stabilizing resistance | R1 | 15 | Ω | Resistance | R2 | 50 | Ω | Microstrip line | TL1,TL2 | $\lambda/4$ | - |
| Parameter                                                                           | Symbol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Value       | Unit   |       |      |                  |                 |      |    |                  |       |     |    |                          |       |   |    |                        |    |    |   |            |    |    |   |                 |         |             |   |
| Filter capacitor                                                                    | C1,C2,C4, C5,C6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1000        | pF     |       |      |                  |                 |      |    |                  |       |     |    |                          |       |   |    |                        |    |    |   |            |    |    |   |                 |         |             |   |
| Filter capacitor                                                                    | C3,C7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 100         | pF     |       |      |                  |                 |      |    |                  |       |     |    |                          |       |   |    |                        |    |    |   |            |    |    |   |                 |         |             |   |
| DC isolation capacitance                                                            | C8,C9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1           | pF     |       |      |                  |                 |      |    |                  |       |     |    |                          |       |   |    |                        |    |    |   |            |    |    |   |                 |         |             |   |
| Stabilizing resistance                                                              | R1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 15          | Ω      |       |      |                  |                 |      |    |                  |       |     |    |                          |       |   |    |                        |    |    |   |            |    |    |   |                 |         |             |   |
| Resistance                                                                          | R2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 50          | Ω      |       |      |                  |                 |      |    |                  |       |     |    |                          |       |   |    |                        |    |    |   |            |    |    |   |                 |         |             |   |
| Microstrip line                                                                     | TL1,TL2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | $\lambda/4$ | -      |       |      |                  |                 |      |    |                  |       |     |    |                          |       |   |    |                        |    |    |   |            |    |    |   |                 |         |             |   |

**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.