

## FEATURES

### ■ HIGH POWER

P1dB=42.0dBm at 8.5GHz to 9.6GHz

### ■ HIGH GAIN

G1dB=7.0dB at 8.5GHz to 9.6GHz

### ■ BROAD BAND INTERNALLY MATCHED FET

### ■ HERMETICALLY SEALED PACKAGE

## RF PERFORMANCE SPECIFICATIONS ( Ta= 25°C )

| CHARACTERISTICS                            | SYMBOL          | CONDITIONS                  | UNIT | MIN. | TYP. | MAX. |
|--------------------------------------------|-----------------|-----------------------------|------|------|------|------|
| Output Power at 1dB Gain Compression Point | P1dB            | VDS= 9V<br>f= 8.5 to 9.6GHz | dBm  | 41.0 | 42.0 | —    |
| Power Gain at 1dB Gain Compression Point   | G1dB            |                             | dB   | 6.0  | 7.0  | —    |
| Drain Current                              | IDS             |                             | A    | —    | 4.5  | 5.5  |
| Power Added Efficiency                     | $\eta_{add}$    |                             | %    | —    | 31   | —    |
| Channel Temperature Rise                   | $\Delta T_{ch}$ | VDS X IDS X Rth(c-c)        | °C   | —    | —    | 100  |

Recommended gate resistance(Rg) : Rg= 100  $\Omega$ (MAX.)

## ELECTRICAL CHARACTERISTICS ( Ta= 25°C )

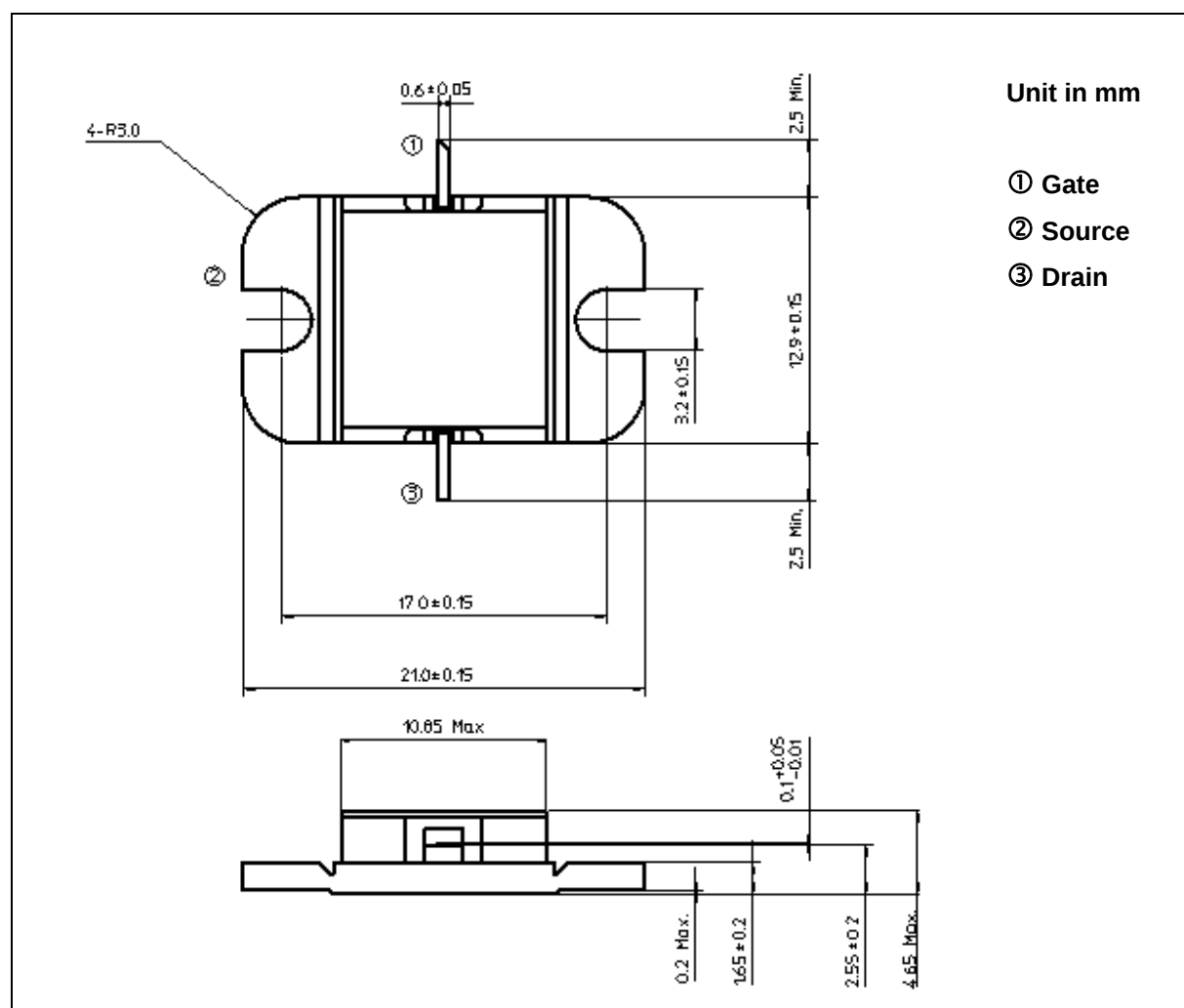
| CHARACTERISTICS               | SYMBOL   | CONDITIONS            | UNIT | MIN. | TYP. | MAX. |
|-------------------------------|----------|-----------------------|------|------|------|------|
| Transconductance              | gm       | VDS= 2V<br>IDS= 4.8A  | mS   | —    | 3000 | —    |
| Pinch-off Voltage             | VGSoff   | VDS= 2V<br>IDS= 145mA | V    | -1.5 | -3.0 | -4.5 |
| Saturated Drain Current       | IDSS     | VDS= 3V<br>VGS= 0V    | A    | —    | 10.0 | —    |
| Gate-Source Breakdown Voltage | VGSO     | IGS= -145 $\mu$ A     | V    | -5   | —    | —    |
| Thermal Resistance            | Rth(c-c) | Channel to Case       | °C/W | —    | 2.0  | 2.5  |

◆ The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA for any infringements of patents or other rights of the third parties which may results from its use, No license is granted by implication or otherwise under any patent or patent rights of TOSHIBA or others.

The information contained herein is subject to change without prior notice. It is therefor advisable to contact TOSHIBA before proceeding with design of equipment incorporating this product.

**ABSOLUTE MAXIMUM RATINGS ( Ta= 25°C )**

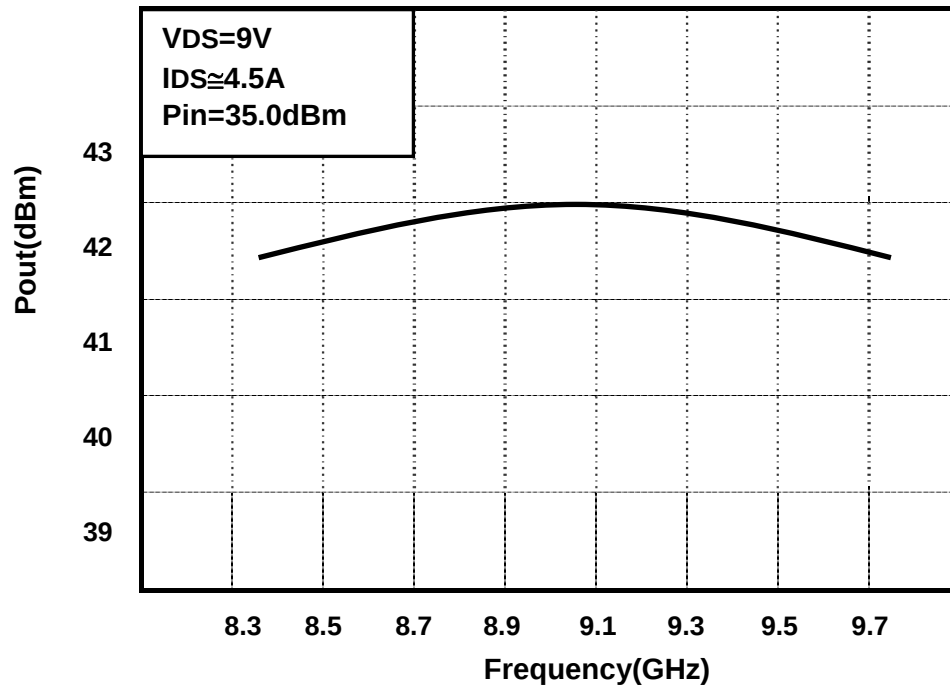
| CHARACTERISTICS                     | SYMBOL | UNIT | RATING      |
|-------------------------------------|--------|------|-------------|
| Drain-Source Voltage                | VDS    | V    | 15          |
| Gate-Source Voltage                 | VGS    | V    | -5          |
| Drain Current                       | IDS    | A    | 11.5        |
| Total Power Dissipation (Tc= 25 °C) | PT     | W    | 60          |
| Channel Temperature                 | Tch    | °C   | 175         |
| Storage Temperature                 | Tstg   | °C   | -65 to +175 |

**PACKAGE OUTLINE (2-11C1B)****HANDLING PRECAUTIONS FOR PACKAGE MODEL**

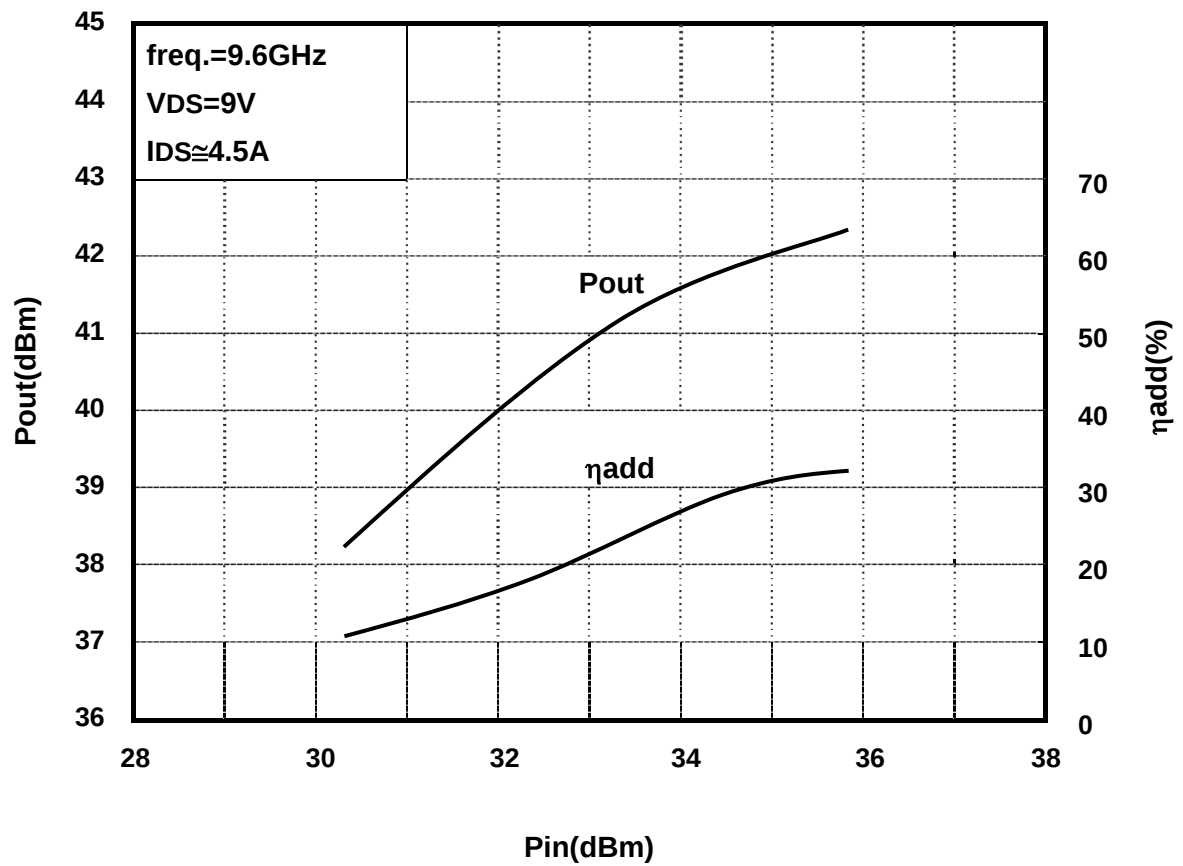
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

## RF PERFORMANCE

Output Power (Pout) vs. Frequency



Output Power(Pout) vs. Input Power(Pin)



**Power Dissipation(PT) vs. Case Temperature(Tc)**