

### FEATURES

#### n HIGH POWER

P1dB=42.5dBm at 5.3GHz to 5.9GHz

#### n HIGH GAIN

G1dB=10.0dB at 5.3GHz to 5.9GHz

#### n BROAD BAND INTERNALLY MATCHED FET

#### n 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= 10V<br>f = 5.3 to 5.9GHz       | dBm  | 41.5 | 42.5 | —    |
| Power Gain at 1dB Gain Compression Point   | G1dB   |                                     | dB   | 9.0  | 10.0 | —    |
| Drain Current                              | IDS1   |                                     | A    | —    | 4.4  | 5.0  |
| Gain Flatness                              | ΔG     |                                     | dB   | —    | —    | ±0.6 |
| Power Added Efficiency                     | ηadd   |                                     | %    | —    | 36   | —    |
| 3rd Order Intermodulation Distortion       | IM3    | Two-Tone Test<br>Po= 31.5dBm        | dBc  | -44  | -47  | —    |
| Drain Current                              | IDS2   | (Single Carrier Level)              | A    | —    | 4.4  | 5.0  |
| Channel Temperature Rise                   | ΔTch   | (VDS X IDS +Pin-P1dB)<br>X Rth(c-c) | °C   | —    | —    | 80   |

Recommended gate resistance(Rg) : Rg= 100 W (MAX.)

### ELECTRICAL CHARACTERISTICS (Ta= 25°C)

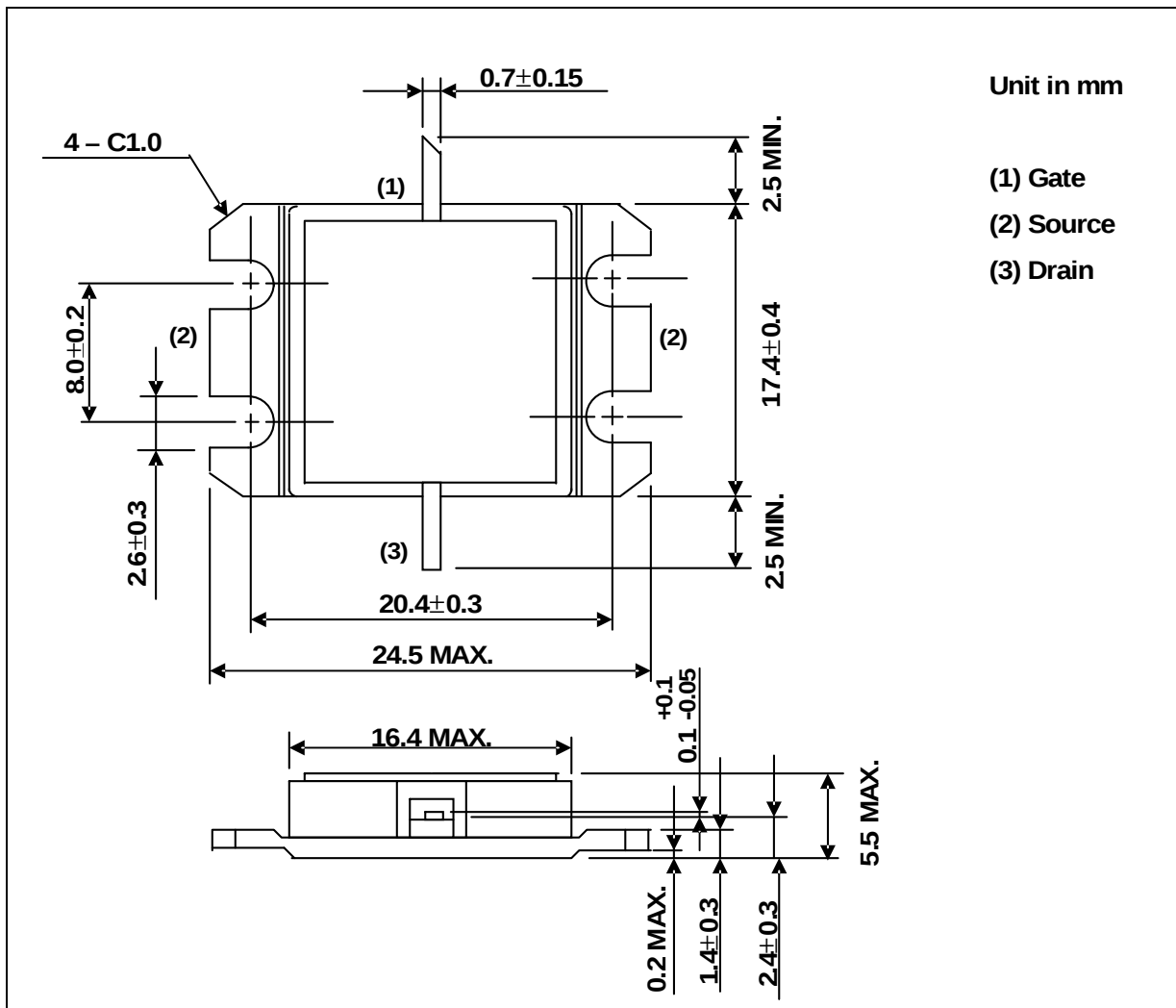
| CHARACTERISTICS               | SYMBOL   | CONDITIONS           | UNIT | MIN. | TYP. | MAX. |
|-------------------------------|----------|----------------------|------|------|------|------|
| Transconductance              | gm       | VDS= 3V<br>IDS= 6.0A | mS   | —    | 3600 | —    |
| Pinch-off Voltage             | VGSoff   | VDS= 3V<br>IDS= 60mA | V    | -1.0 | -2.5 | -4.0 |
| Saturated Drain Current       | IDSS     | VDS= 3V<br>VGS= 0V   | A    | —    | 10.5 | —    |
| Gate-Source Breakdown Voltage | VGSO     | IGS= -200μA          | V    | -5   | —    | —    |
| Thermal Resistance            | Rth(c-c) | Channel to Case      | °C/W | —    | 1.5  | 1.8  |

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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 )**

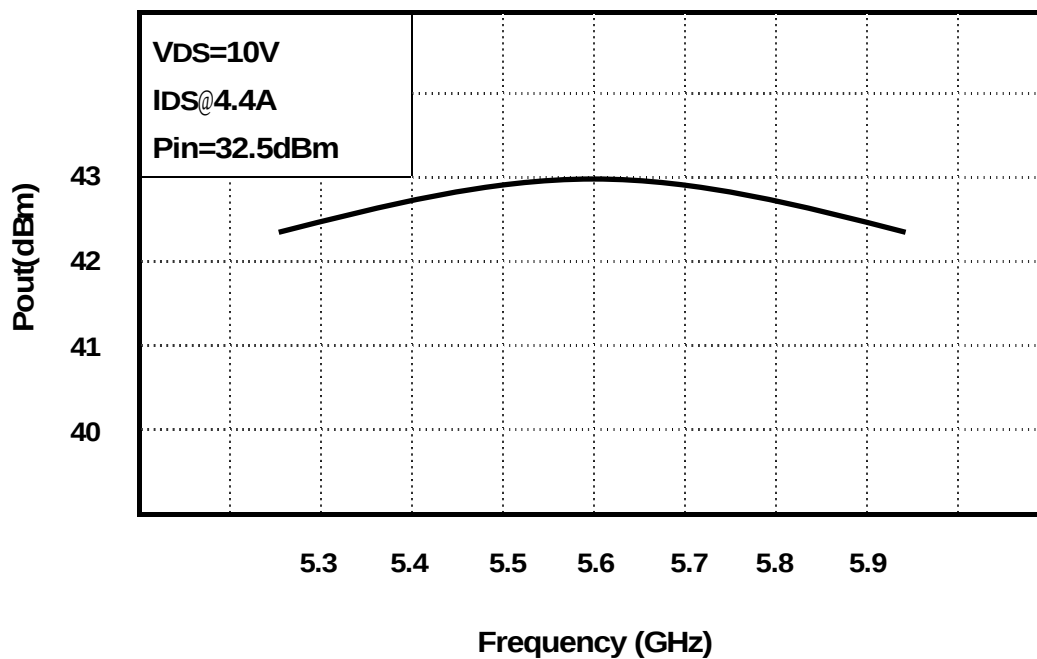
| CHARACTERISTICS                                  | SYMBOL           | UNIT | RATING      |
|--------------------------------------------------|------------------|------|-------------|
| Drain-Source Voltage                             | V <sub>DS</sub>  | V    | 15          |
| Gate-Source Voltage                              | V <sub>GS</sub>  | V    | -5          |
| Drain Current                                    | I <sub>DS</sub>  | A    | 14          |
| Total Power Dissipation (T <sub>c</sub> = 25 °C) | P <sub>T</sub>   | W    | 83.3        |
| Channel Temperature                              | T <sub>ch</sub>  | °C   | 175         |
| Storage                                          | T <sub>stg</sub> | °C   | -65 to +175 |

**PACKAGE OUTLINE (2-16G1B)****HANDLING PRECAUTIONS FOR PACKAGE MODEL**

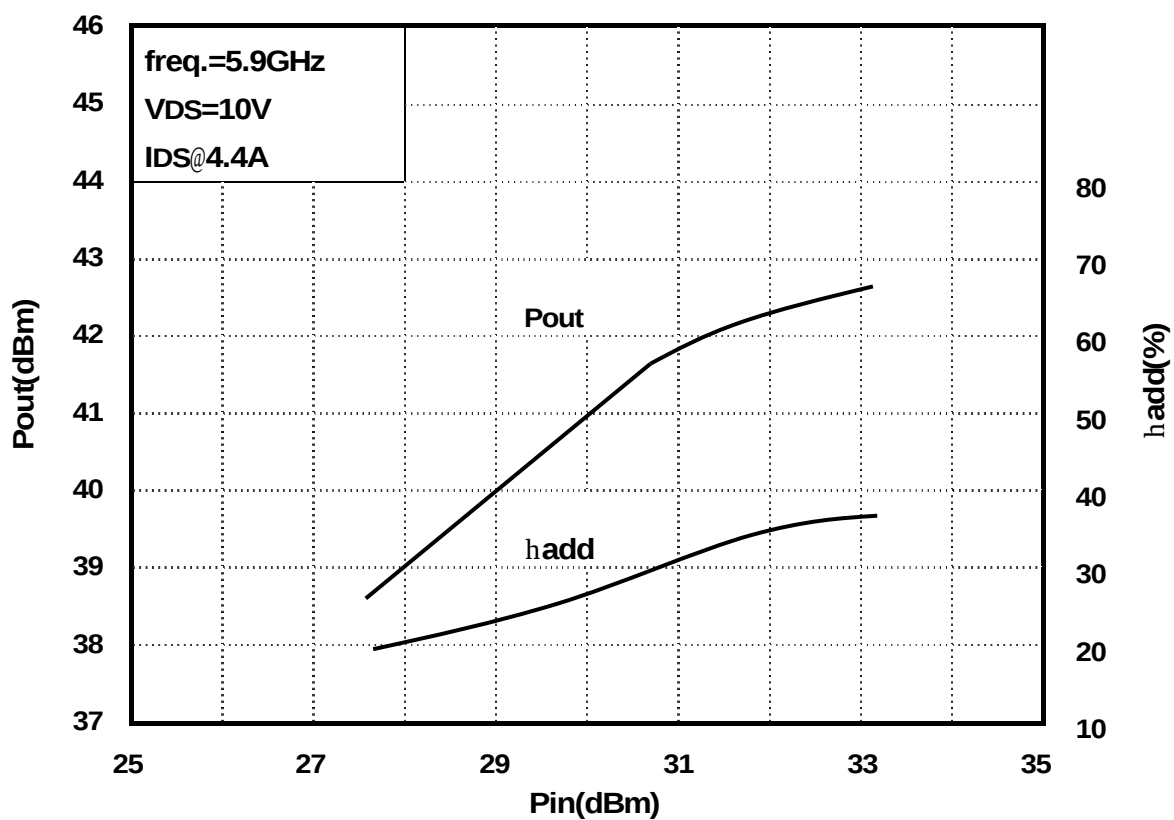
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

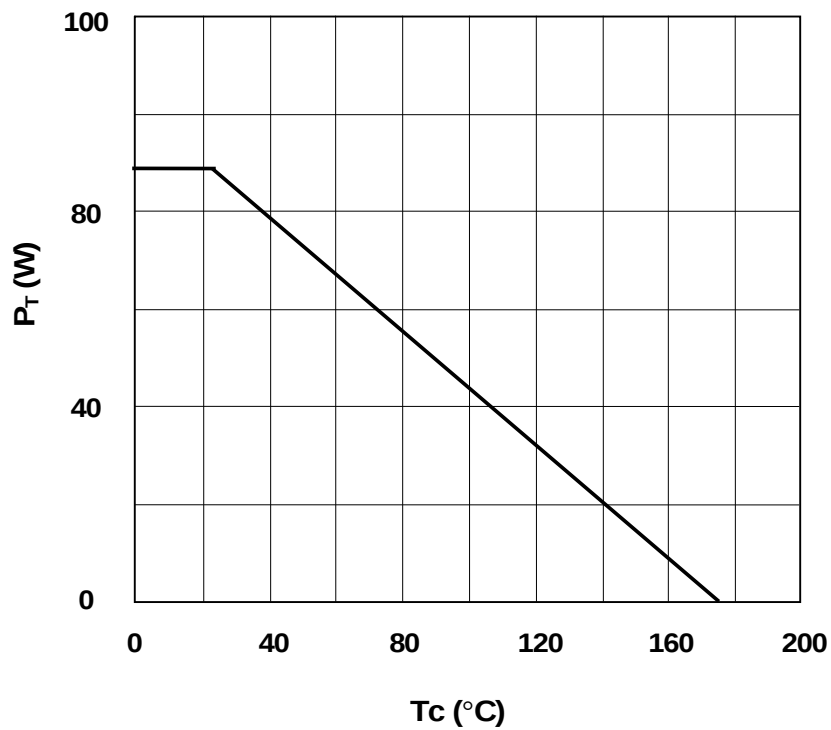
## RF PERFORMANCE

Output Power (Pout) vs. Frequency



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



**Power Dissipation vs. Case Temperature****IM3 vs. Output Power Characteristics**