

**FEATURES**

n **HIGH POWER**

P1dB=42.5dBm at 4.4GHz to 5.0GHz

n **HIGH GAIN**

G1dB=10.0dB at 4.4GHz to 5.0GHz

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 = 4.4 to 5.0GHz          | 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  |

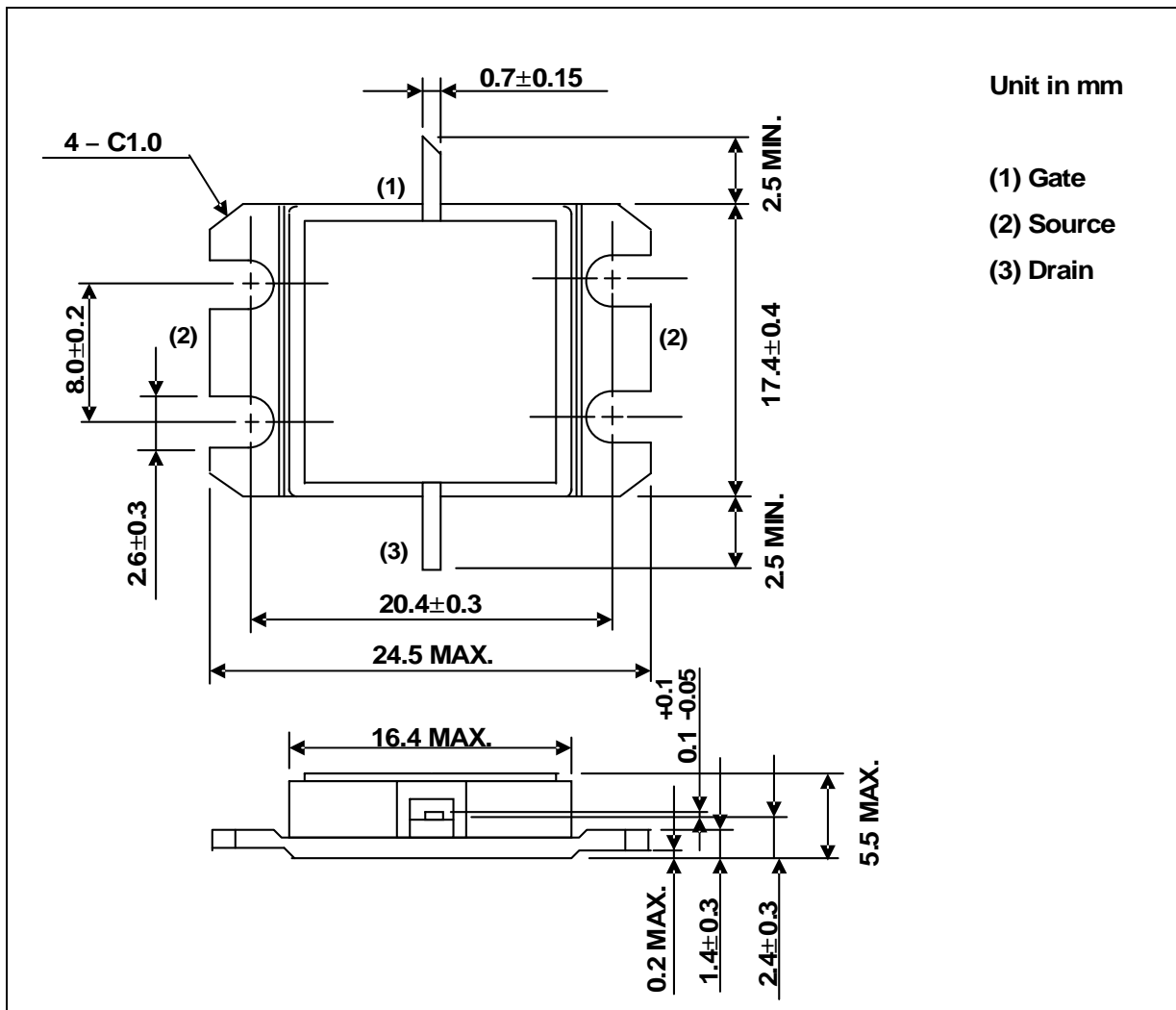
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The information contained herein is subject to change without prior notice. It is therefor advisable to contact TOSHIBA before proceeding with design of equipment incorporating this product.

**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) | PT               | W    | 83.3        |
| Channel Temperature                              | T <sub>ch</sub>  | °C   | 175         |
| Storage  | T <sub>stg</sub> | °C   | -65 to +175 |

**PACKAGE OUTLINE (2-16G1B)**

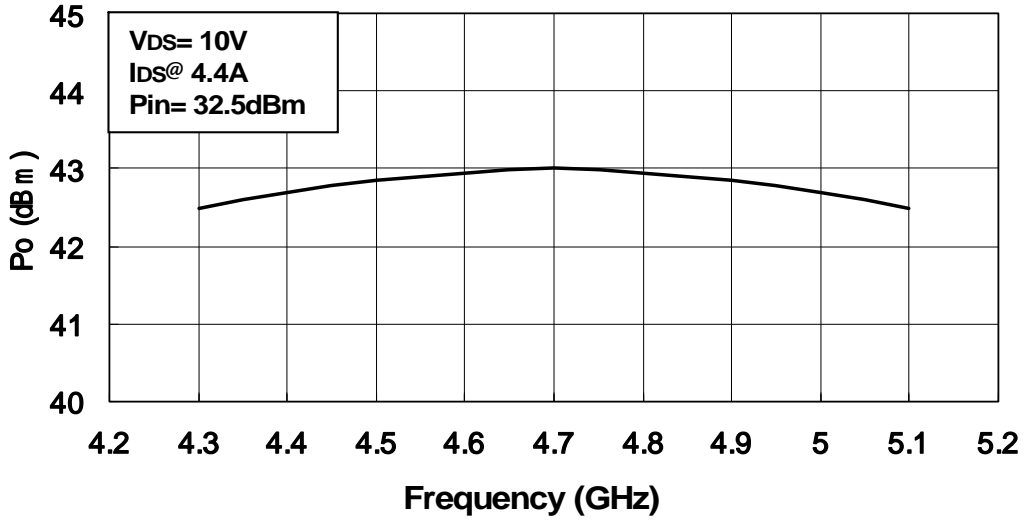


**HANDLING PRECAUTIONS FOR PACKAGE MODEL**

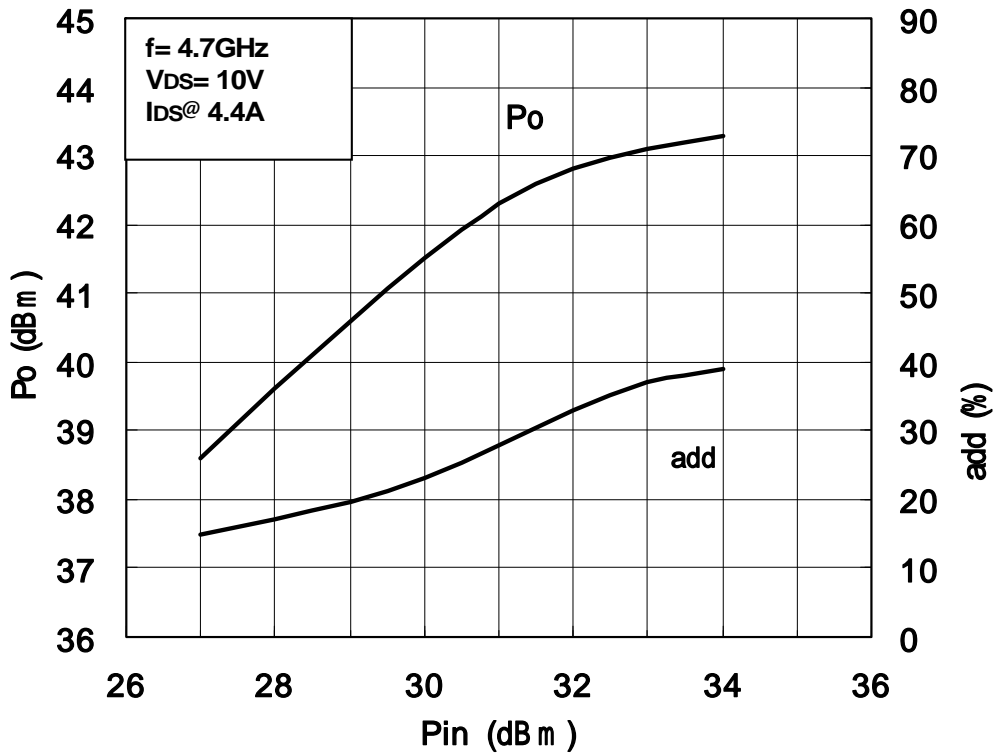
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

RF PERFORMANCE

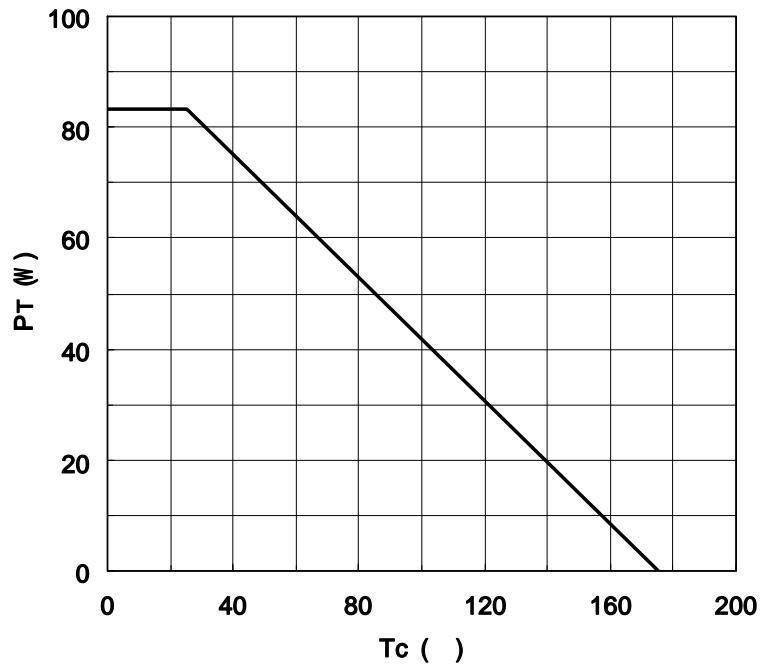
Output Power vs. Frequency



Output Power vs. Input Power



**Power Dissipation vs. Case Temperature**



**IM3 vs. Output Power Characteristics**

