

FEATURES

■ **HIGH POWER**

P1dB=39.5dBm at 7.7GHz to 8.5GHz

■ **HIGH GAIN**

G1dB= 8.5dB at 7.7GHz to 8.5GHz

■ **BROAD BAND INTERNALLY MATCHED**

■ **HERMETICALLY SEALED PACKAGE**

RF PERFORMANCE SPECIFICATIONS (Ta= 25°C)

| CHARACTERISTICS | SYMBOL | CONDITION | UNIT | MIN. | TYP. | MAX. |
|---------------------------------------|--------|------------------------------|------|------|------|------|
| Output Power at 1dB Compression Point | P1dB | VDS= 10V f = 7.7 – 8.5GHz | dBm | 38.5 | 39.5 | — |
| Power Gain at 1dB Compression Point | G1dB | | dB | 7.5 | 8.5 | — |
| Drain Current | IDS1 | | A | — | 2.2 | 2.6 |
| Gain Flatness | ΔG | | dB | — | — | ±0.6 |
| Power Added Efficiency | ηadd | | % | — | 35 | — |
| 3rd Order Intermodulation Distortion | IM3 | Two Tone Test Po= 28.5dBm | dBc | -44 | -47 | — |
| Drain Current | IDS2 | (Single Carrier Level) | A | — | 2.2 | 2.6 |
| Channel Temperature Rise | ΔTch | VDS X IDS X Rth(c-c) | °C | — | — | 80 |

ELECTRICAL CHARACTERISTICS (Ta= 25°C)

| CHARACTERISTICS | SYMBOL | CONDITION | UNIT | MIN. | TYP. | MAX. |
|-------------------------------|----------|----------------------|------|------|------|------|
| Transconductance | gm | VDS= 3V IDS= 3.0A | mS | — | 1800 | — |
| Pinch-off Voltage | VGSoff | VDS= 3V IDS= 30mA | V | -1.0 | -2.5 | -4.0 |
| Saturated Drain Current | IDSS | VDS= 3V VGS= 0V | A | — | 5.2 | 7.0 |
| Gate-Source Breakdown Voltage | VGSO | IGS= -100μA | V | -5 | — | — |
| Thermal Resistance | Rth(c-c) | Channel to Case | °C/W | — | 2.5 | 3.5 |

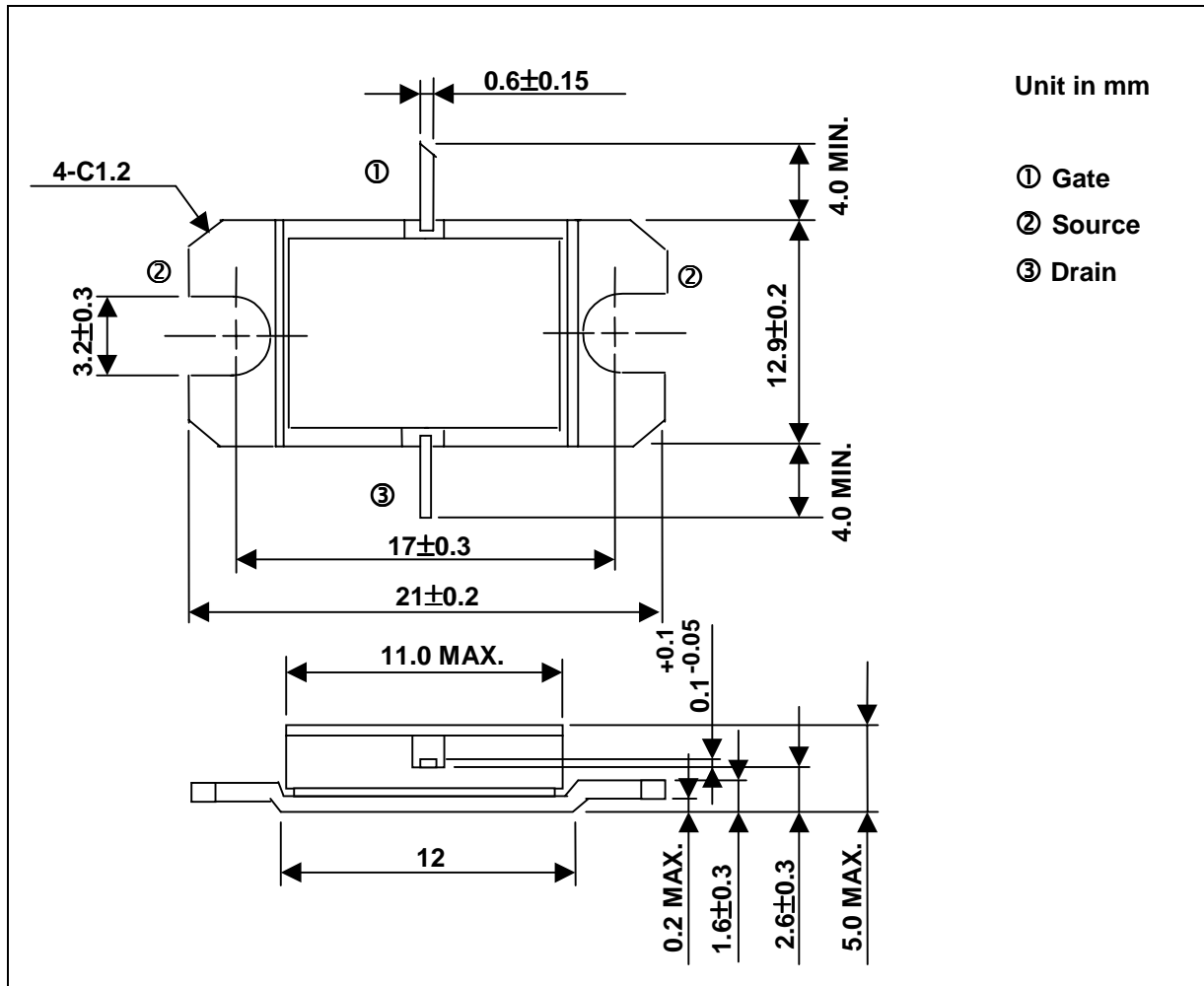
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The information contained herein is subject to change without prior notice. It is therefor advisable to contact TOSHIBA before proceeding with design of equipment incorporating this product.

ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

| CHARACTERISTICS | SYMBOL | UNIT | RATING |
|-------------------------------------|--------|------|------------|
| Drain-Source Voltage | VDS | V | 15 |
| Gate-Source Voltage | VGS | V | -5 |
| Drain Current | IDS | A | 7.0 |
| Total Power Dissipation (Tc= 25 °C) | PT | W | 37.5 |
| Channel Temperature | Tch | °C | 175 |
| Storage | Tstg | °C | -65 ~ +175 |

PACKAGE OUTLINE (2-11D1B)

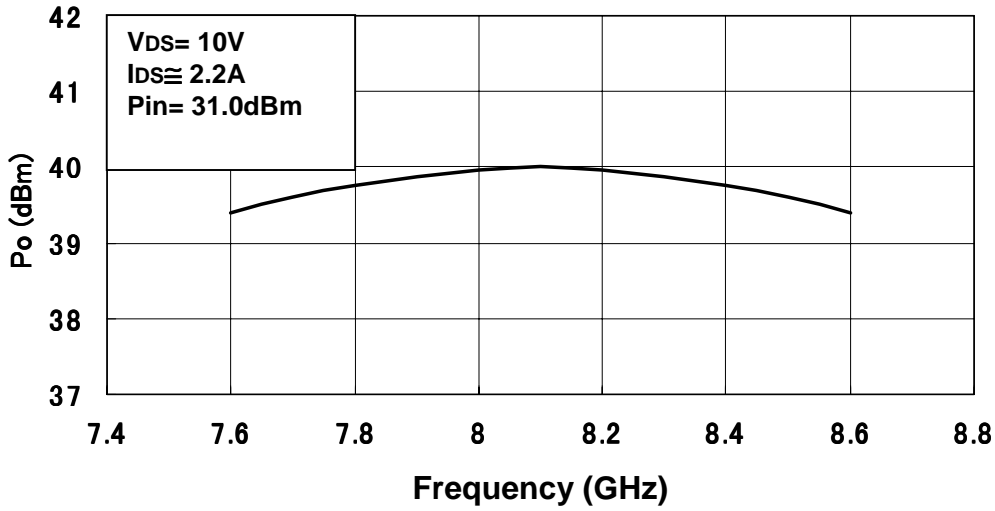


HANDLING PRECAUTIONS FOR PACKAGED TYPE

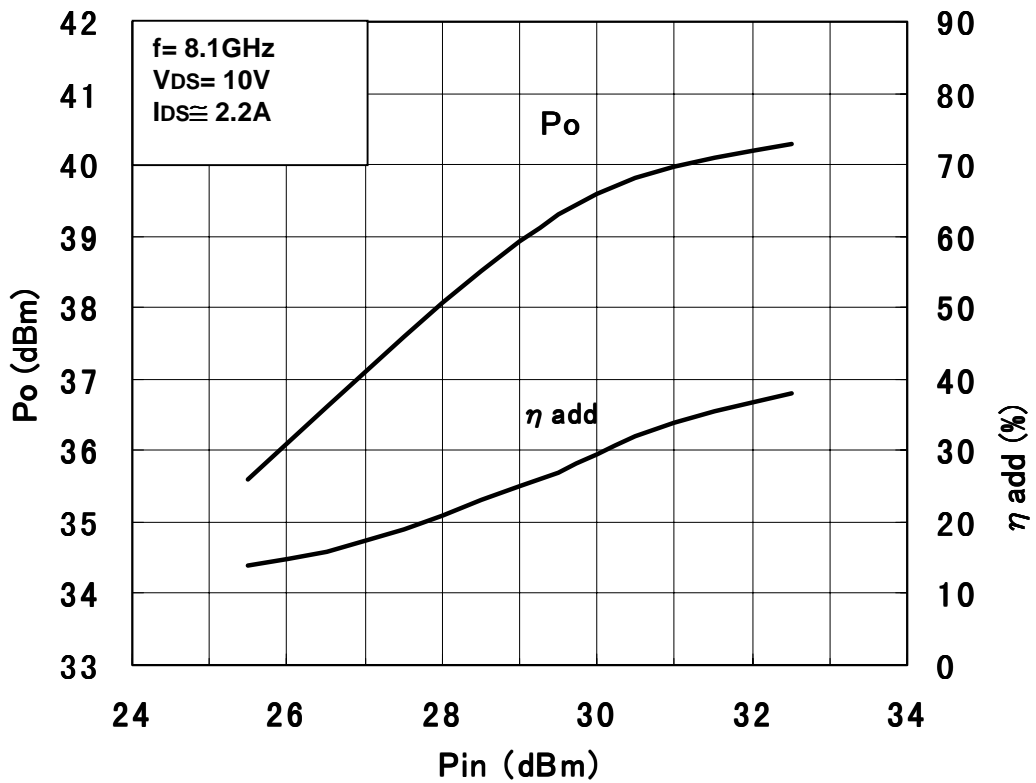
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

RF PERFORMANCES

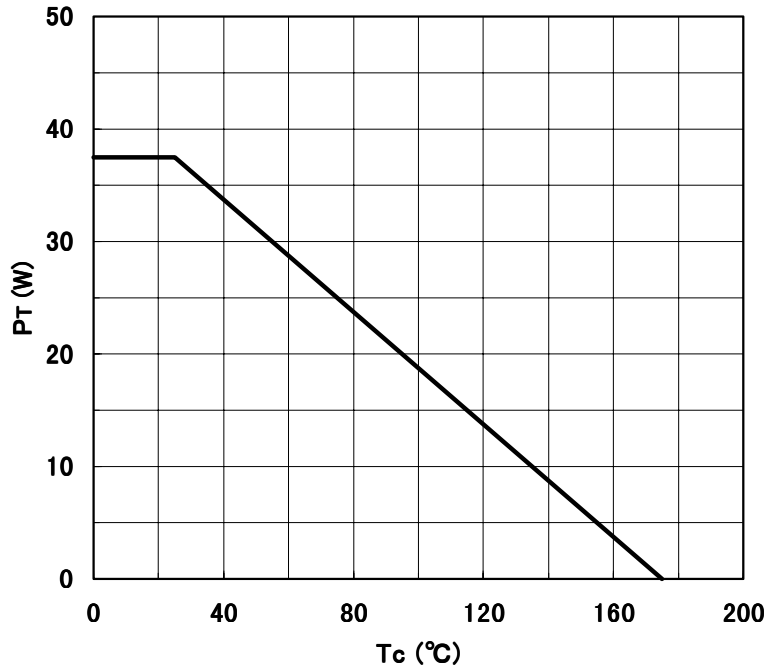
Output Power vs. Frequency



Output Power vs. Input Power



POWER DISSIPATION vs. CASE TEMPERATURE



IM3 vs. OUTPUT POWER CHARACTERISTICS

