

Internally Matched Power GaAs FETs (C-Band)

Features

- High power
 - $P_{1dB} = 36.0$ dBm at 6.4 GHz to 7.2 GHz
- High gain
 - $G_{1dB} = 8.5$ dB at 6.4 GHz to 7.2 GHz
- Broad band internally matched
- Hermetically sealed package

RF Performance Specifications ($T_a = 25^\circ\text{C}$)

| Characteristics | Symbol | Condition | Unit | Min. | Typ. | Max |
|---------------------------------------|-----------------|---|------------------|------|------|-----|
| Output Power at 1dB Compression Point | P_{1dB} | $V_{DS} = 10V$ $f = 6.4 \sim 7.2$ GHz | dBm | 35.0 | 36.0 | — |
| Power Gain at 1dB Compression Point | G_{1dB} | | dB | 7.0 | 8.0 | — |
| Drain Current | I_{DS} | | A | — | 1.1 | 1.5 |
| Power Added Efficiency | η_{add} | | % | — | 30 | — |
| Channel-Temperature Rise | ΔT_{ch} | $V_{DS} \times I_{DS} \times R_{th(c-c)}$ | $^\circ\text{C}$ | — | — | 80 |

Electrical Characteristics ($T_a = 25^\circ\text{C}$)

| Characteristic | Symbol | Condition | Unit | Min. | Typ. | Max |
|----------------------------------|---------------|----------------------------------|--------------------|------|------|-----|
| Trans-conductance | gm | $V_{DS} = 3V$ $I_{DS} = 1.5A$ | mS | — | 900 | — |
| Pinch-off Voltage | V_{GSoff} | $V_{DS} = 3V$ $I_{DS} = 20mA$ | V | -2 | -3.5 | -5 |
| Saturated Drain Current | I_{DSS} | $V_{DS} = 3V$ $V_{GS} = 0V$ | A | — | 2.9 | 3.8 |
| Gate to Source Breakdown Voltage | V_{GSO} | $I_{GS} = -60 \mu A$ | V | -5 | — | — |
| Thermal Resistance | $R_{th(c-c)}$ | Channel to case | $^\circ\text{C/W}$ | — | 4.0 | 6.0 |

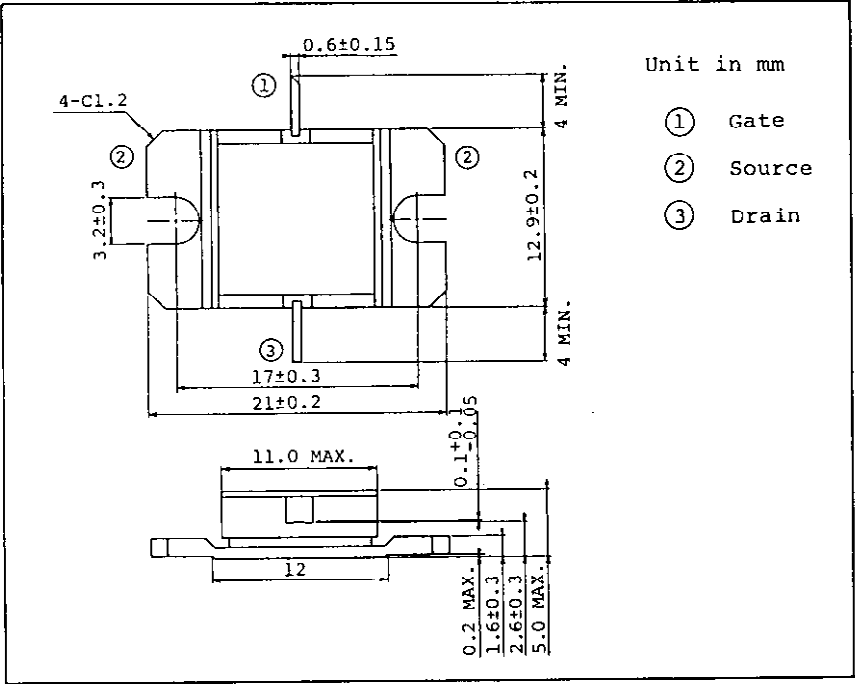
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Absolute Maximum Ratings (T_a = 25° C)

| Characteristic | Symbol | Unit | Rating |
|---|------------------|------|---------|
| Drain Source Voltage | V _{DS} | V | 15 |
| Gate Source Voltage | V _{GS} | V | -5 |
| Drain Current | I _D | A | 4 |
| Total Power Dissipation (T _c = 25°C) | P _T | W | 20 |
| Channel Temperature | T _{ch} | °C | 175 |
| Storage Temperature | T _{stg} | °C | -65~175 |

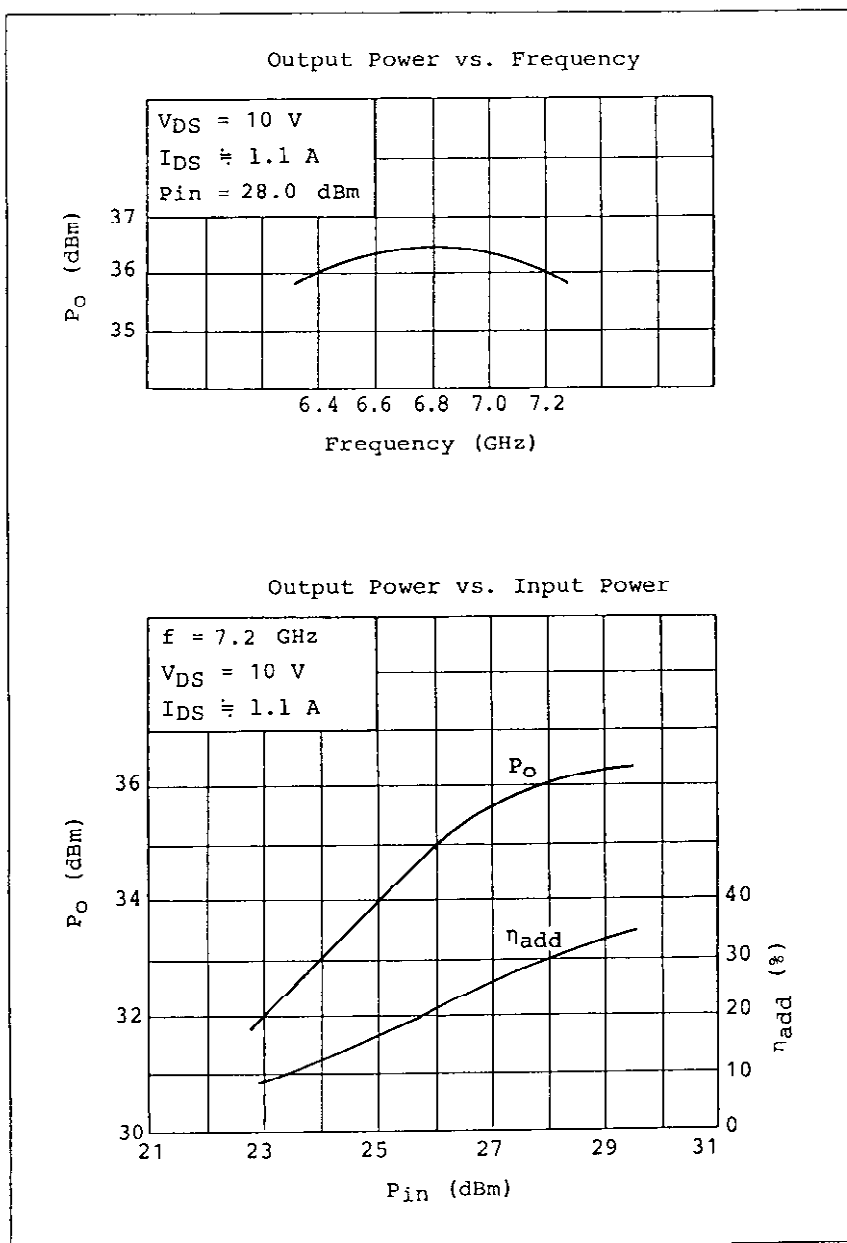
Package Outline (2-11D1B)



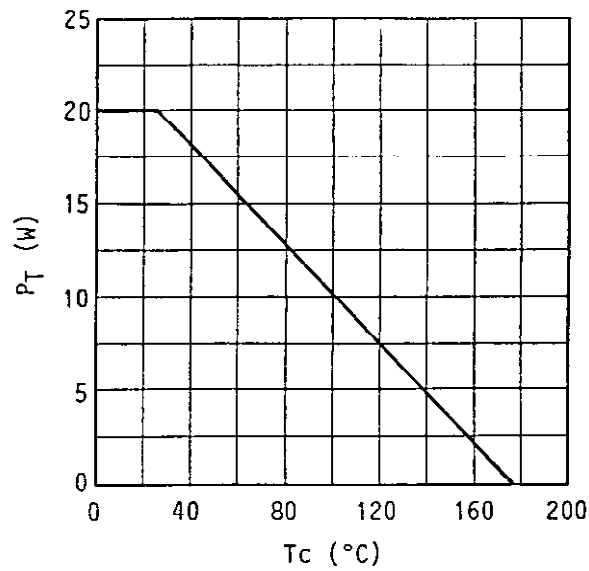
Handling Precautions for Packaged Type

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

RF Performances



Power Dissipation vs. Case Temperature



TIM6472-4 S-Parameters (MAGN. and ANGLES)

$$V_{DS} = 10 \text{ V}, I_{DS} = 1.0 \text{ A}$$

