

Internally Matched Power GaAs FETs (X, Ku-Band)

Features

- High power
 - $P_{1dB} = 39.5$ dBm at 8.5 GHz to 9.6 GHz
- High gain
 - $G_{1dB} = 6.0$ dB at 8.5 GHz to 9.6 GHz
- Broadband internally matched
- Hermetically sealed package

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

| Characteristic | Symbol | Condition | Unit | Min. | Typ. | Max. |
|---------------------------------------|-----------------|---|------------------|------|------|------|
| Output Power at 1dB Compression Point | P_{1dB} | $V_{DS} = 9V$ $f = 8.5 - 9.6$ GHz | dBm | 38.5 | 39.5 | – |
| Power Gain at 1dB Compression Point | G_{1dB} | | dB | 5.0 | 6.0 | – |
| Drain Current | I_{DS} | | A | – | 3.4 | 4.4 |
| Power Added Efficiency | η_{add} | | % | – | 22 | – |
| 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. |
|-------------------------------|---------------|------------------------------------|--------------------|------|------|------|
| Transconductance | gm | $V_{DS} = 3V$ $I_{DS} = 4.0A$ | mS | – | 2400 | – |
| Pinch-off Voltage | V_{GSoff} | $V_{DS} = 3V$ $I_{DS} = 120$ mA | V | -2 | -3.5 | -5 |
| Saturated Drain Current | I_{DSS} | $V_{DS} = 3V$ $V_{GS} = 0V$ | A | – | 8.0 | 10.4 |
| Gate-Source Breakdown Voltage | V_{GSO} | $I_{GS} = -120$ μA | V | -5 | – | – |
| Thermal Resistance | $R_{th(c-c)}$ | Channel to Case | $^\circ\text{C/W}$ | – | 1.6 | 2.5 |

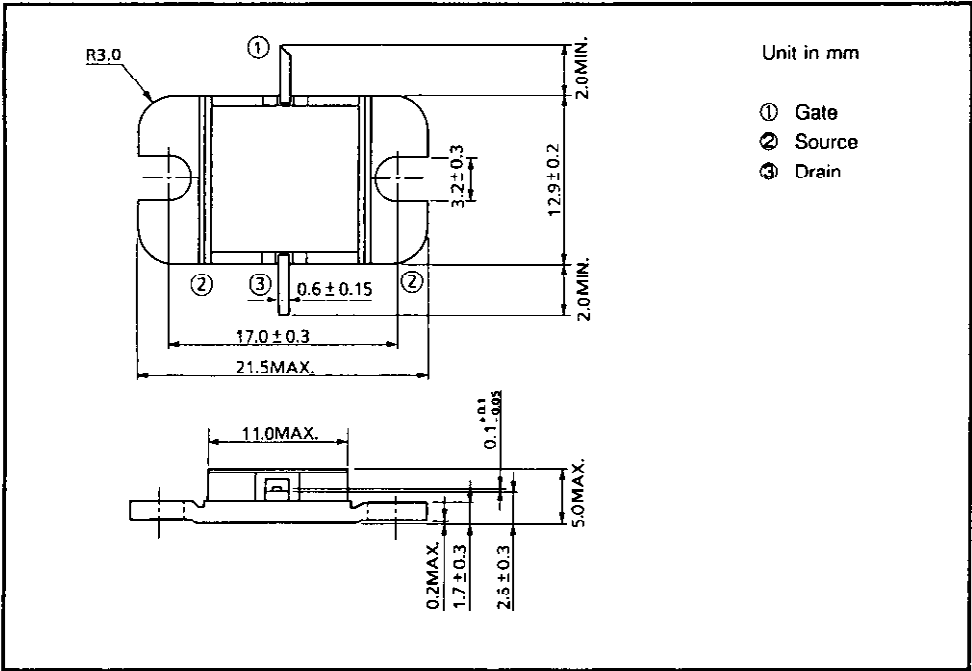
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Absolute Maximum Ratings (T_a = 25°C)

| Characteristic | Symbol | Unit | Rating |
|---|------------------|------|-----------|
| Drain-Source Voltage | V _{DS} | V | 15 |
| Gate-Source Voltage | V _{GS} | V | -5 |
| Drain Current | I _D | A | 10.4 |
| Total Power Dissipation (T _C = 25°C) | P _T | W | 60 |
| Channel Temperature | T _{ch} | °C | 175 |
| Storage Temperature | T _{stg} | °C | -65 ~ 175 |

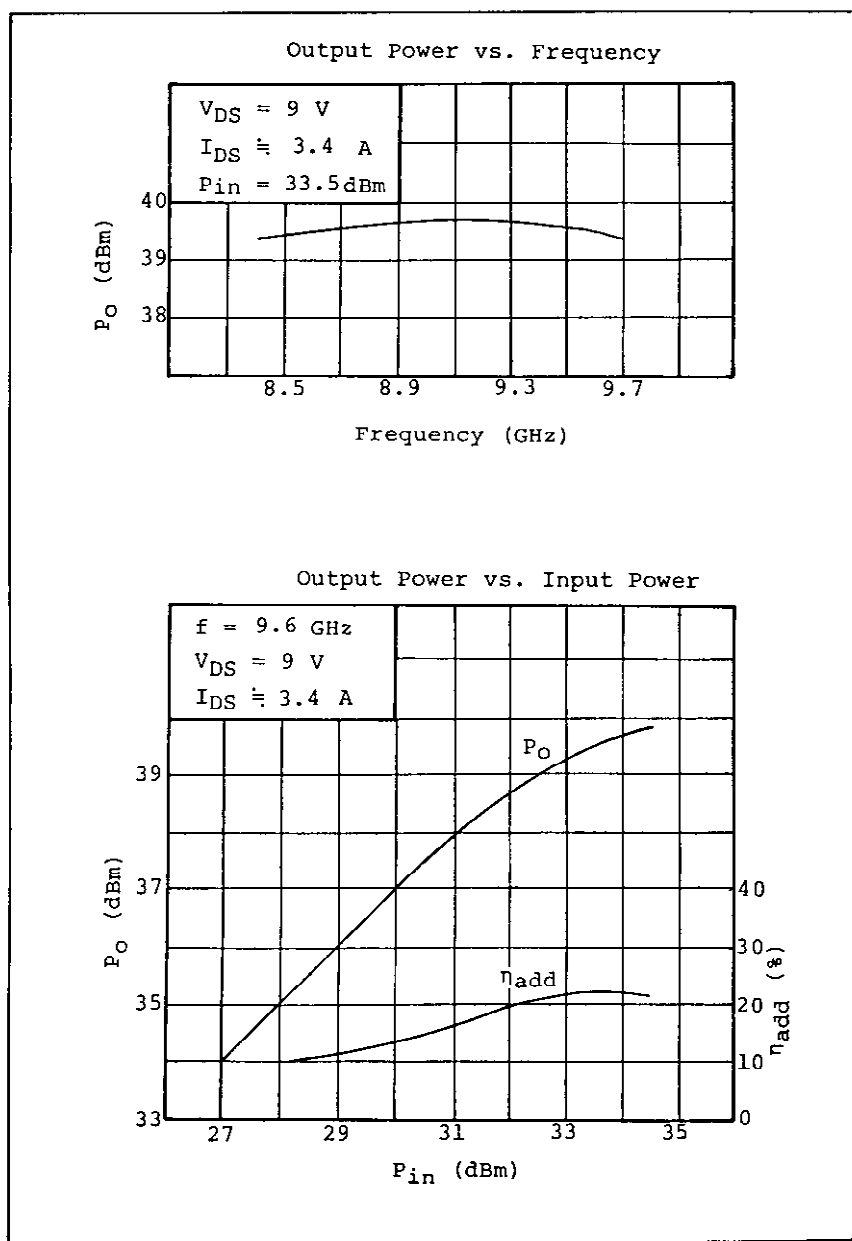
Package Outline (2-11C1B)



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

