

FEATURES

- **LOW INTERMODULATION DISTORTION**
 IM3=-45 dBc at Pout= 31.5dBm
 Single Carrier Level
- **HIGH POWER**
 P1dB=42.5dBm at 4.4GHz to 5.0GHz
- **HIGH GAIN**
 G1dB=9.0dB at 4.4GHz to 5.0GHz
- **BROAD BAND INTERNALLY MATCHED FET**
- **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 f= 4.4 to 5.0GHz | dBm | 41.5 | 42.5 | — |
| Power Gain at 1dB Gain Compression Point | G1dB | | dB | 7.5 | 8.5 | — |
| Drain Current | IDS1 | | A | — | 4.4 | 5.0 |
| Gain Flatness | ΔG | | dB | — | — | ± 0.8 |
| Power Added Efficiency | η_{add} | | % | — | 35 | — |
| 3 rd Order Intermodulation Distortion | IM3 | Two-Tone Test Po=31.5dBm | dBc | -42 | -45 | — |
| Drain Current | IDS2 | (Single Carrier Level) | A | — | 4.4 | 5.0 |
| Channel Temperature Rise | ΔT_{ch} | (VDS X IDS + Pin - P1dB) X Rth(c-c) | °C | — | — | 80 |

Recommended Gate Resistance(Rg): 100 Ω (Max.)

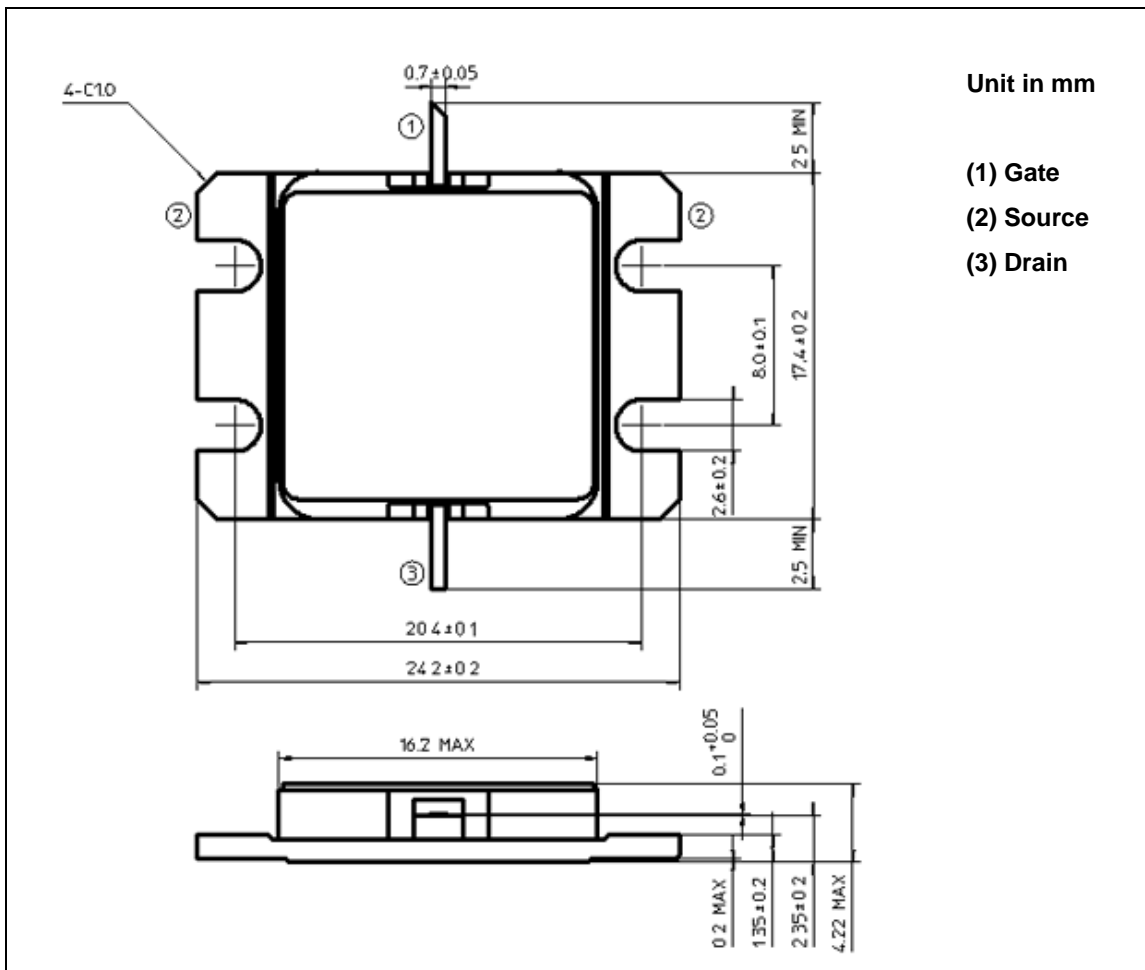
ELECTRICAL CHARACTERISTICS (Ta= 25°C)

| CHARACTERISTICS | SYMBOL | CONDITIONS | UNIT | MIN. | TYP. | MAX. |
|-------------------------------|----------|----------------------|------|------|------|------|
| Transconductance | Gm | VDS= 3V IDS= 6.0A | mS | — | 3600 | — |
| Pinch-off Voltage | VGSoff | VDS= 3V IDS= 60mA | V | -1.0 | -2.5 | -4.0 |
| Saturated Drain Current | IDSS | VDS= 3V VGS= 0V | A | — | 10.5 | — |
| Gate-Source Breakdown Voltage | VGSO | IGS= -200 μ A | V | -5 | — | — |
| Thermal Resistance | Rth(c-c) | Channel to Case | °C/W | — | 1.5 | 2.0 |

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ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

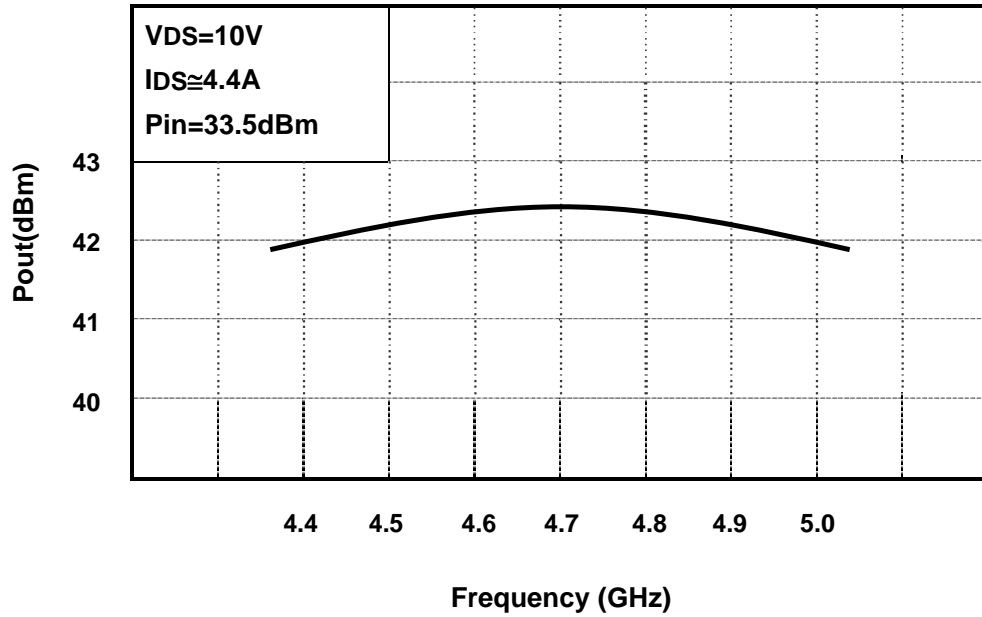
| CHARACTERISTICS | SYMBOL | UNIT | RATING |
|-------------------------------------|--------|------|-------------|
| Drain-Source Voltage | VDS | V | 15 |
| Gate-Source Voltage | VGS | V | -5 |
| Drain Current | IDS | A | 14.0 |
| Total Power Dissipation (Tc= 25 °C) | PT | W | 75 |
| Channel Temperature | Tch | °C | 175 |
| Storage Temperature | Tstg | °C | -65 to +175 |

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

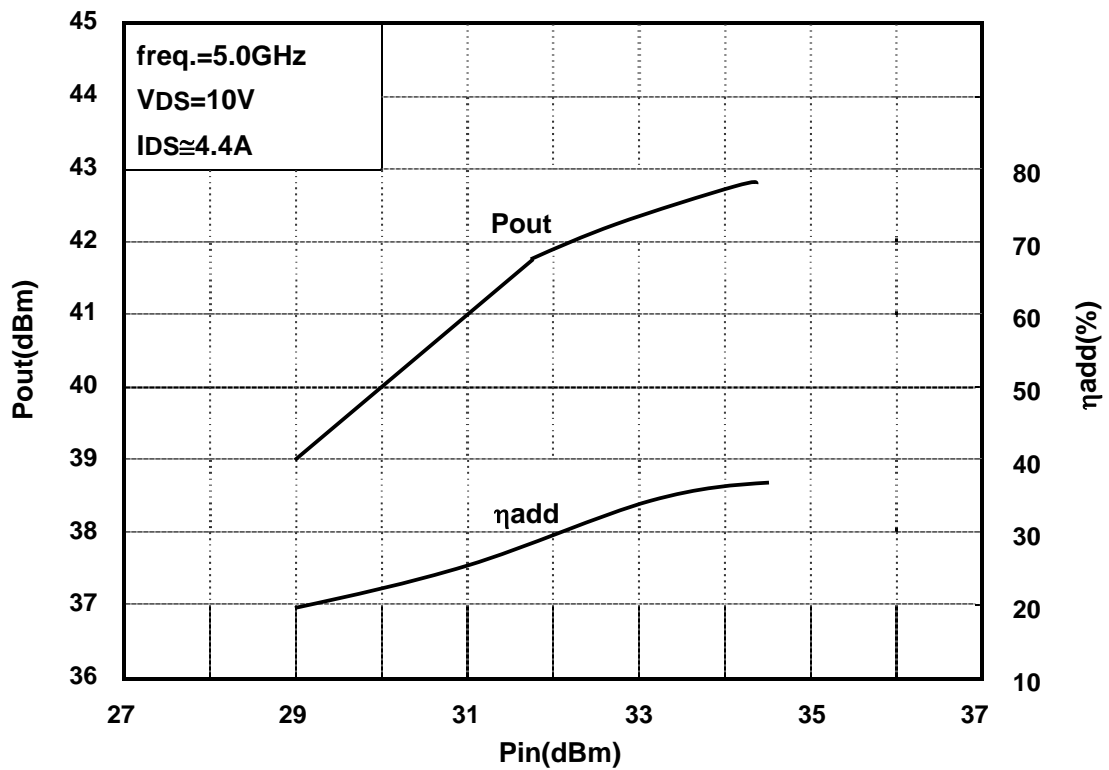
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

RF PERFORMANCE

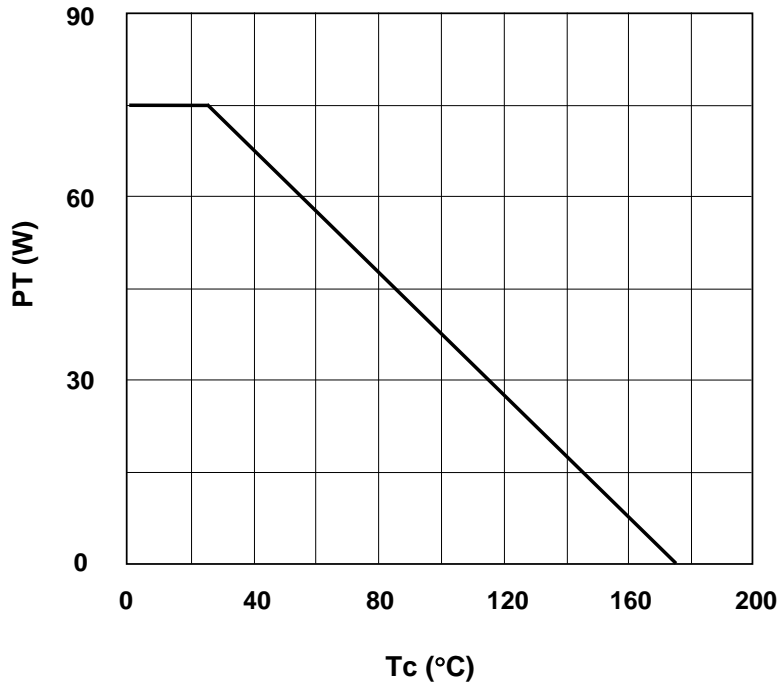
Output Power (Pout) vs. Frequency



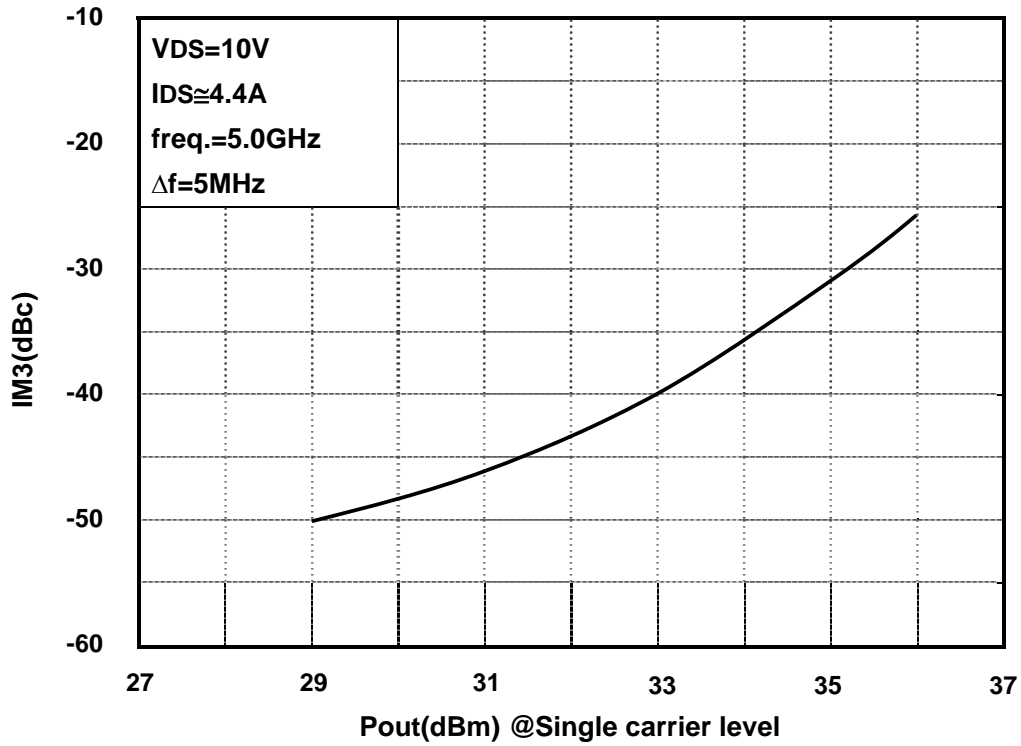
Output Power(Pout) vs. Input Power(Pin)



Power Dissipation vs. Case Temperature



IM3 vs. Output Power Characteristics



FEATURES

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- **HIGH GAIN**
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| CHARACTERISTICS | SYMBOL | CONDITIONS | UNIT | MIN. | TYP. | MAX. |
|--|--------|--|------|------|------|------|
| Output Power at 1dB Gain Compression Point | P1dB | VDS= 10V 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 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) X Rth(c-c) | °C | — | — | 80 |

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

ELECTRICAL CHARACTERISTICS (Ta= 25°C)

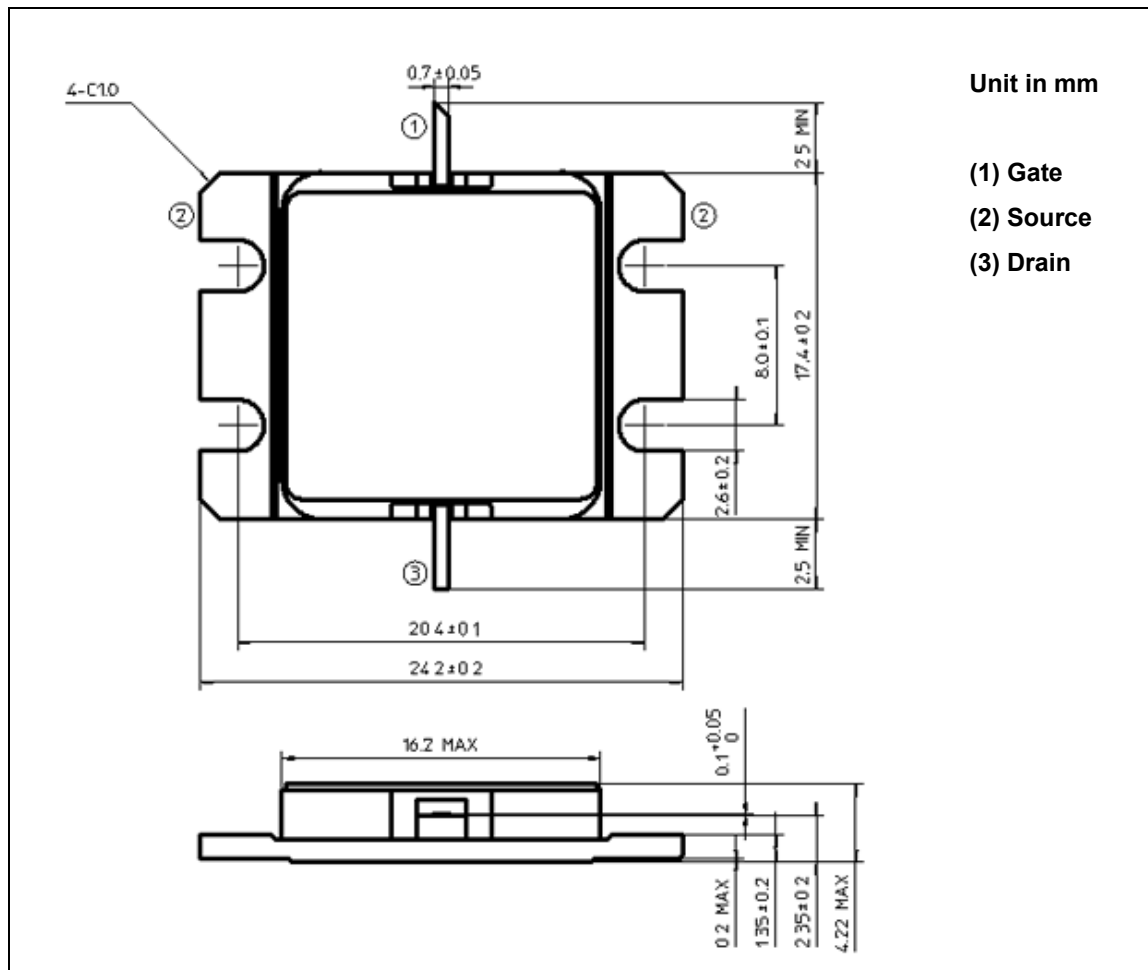
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| Saturated Drain Current | IDSS | VDS= 3V VGS= 0V | A | — | 10.5 | — |
| Gate-Source Breakdown Voltage | VGSO | IGS= -200μA | V | -5 | — | — |
| Thermal Resistance | Rth(c-c) | Channel to Case | °C/W | — | 1.5 | 1.8 |

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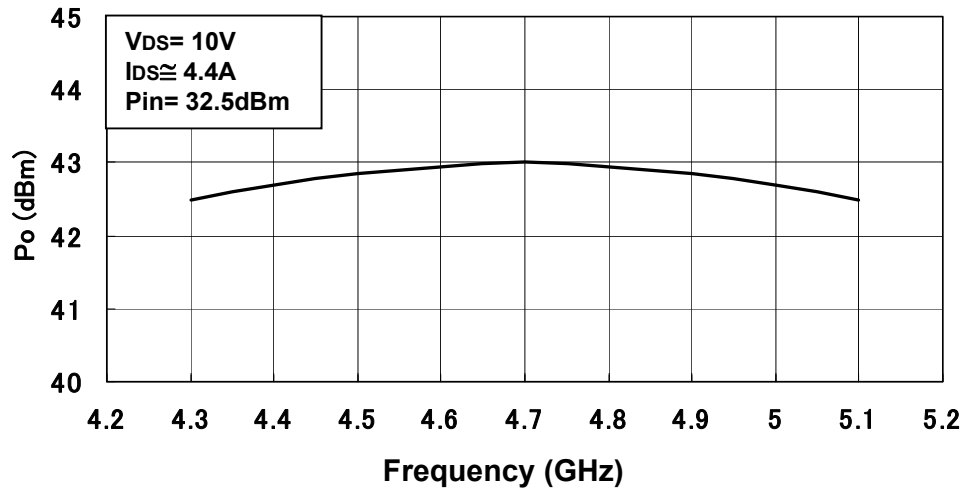
| CHARACTERISTICS | SYMBOL | UNIT | RATING |
|-------------------------------------|--------|------|-------------|
| Drain-Source Voltage | VDS | V | 15 |
| Gate-Source Voltage | VGS | V | -5 |
| Drain Current | IDS | A | 14 |
| Total Power Dissipation (Tc= 25 °C) | PT | W | 83.3 |
| Channel Temperature | Tch | °C | 175 |
| Storage | Tstg | °C | -65 to +175 |

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

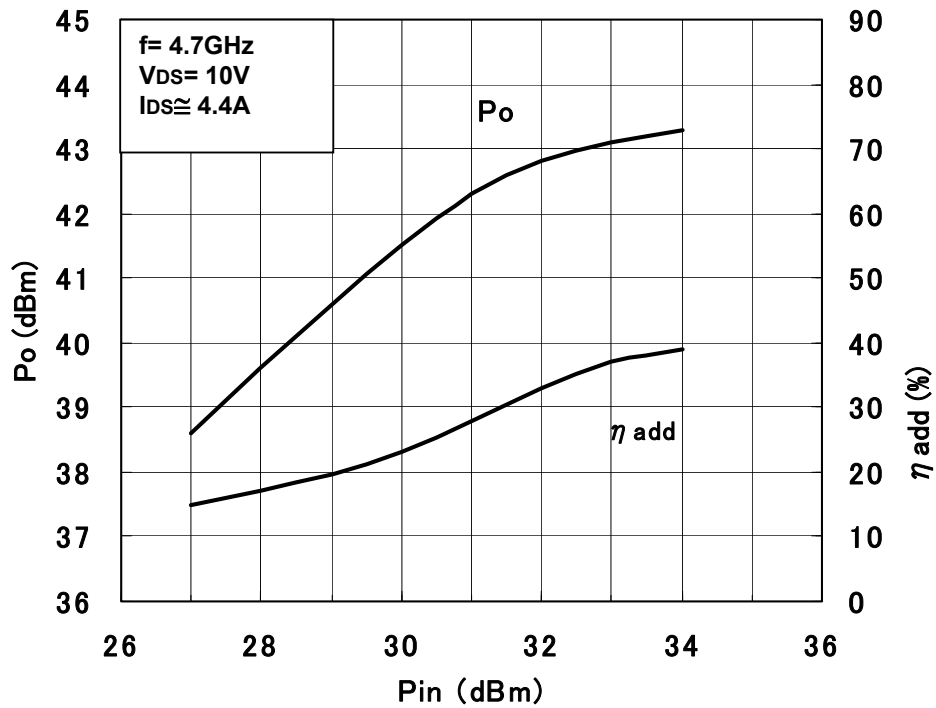
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.

RF PERFORMANCE

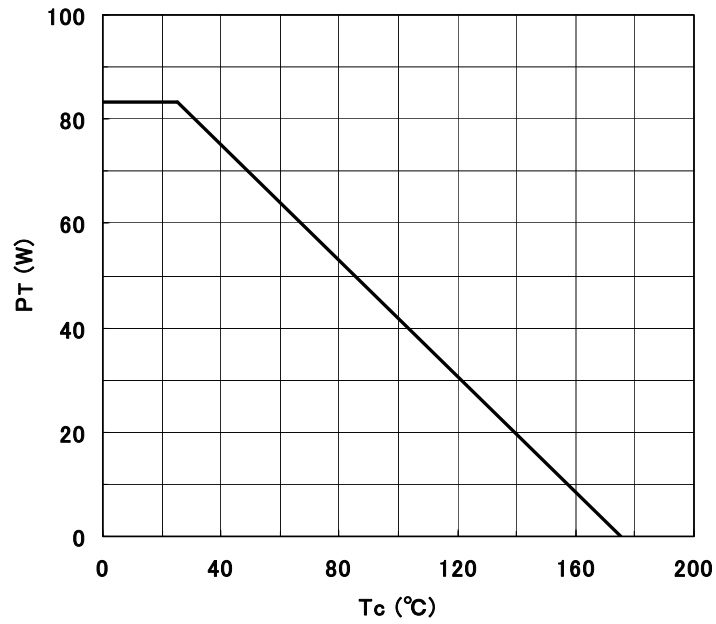
Output Power vs. Frequency



Output Power vs. Input Power



Power Dissipation vs. Case Temperature



IM3 vs. Output Power Characteristics

