

MICROWAVE POWER MMIC AMPLIFIER

TMD1013-1-431

MICROWAVE SEMICONDUCTOR TECHNICAL DATA

FEATURES

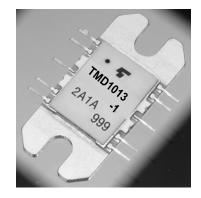
- **·BROAD BAND INTERNALLY MATCHED**
- ·HIGH POWER

P1dB= 33.0dBm at 9.5GHz to 12.0GHz

·HIGH GAIN

G1dB= 25.0dB at 9.5GHz to 12.0GHz

·HERMETICALLY SEALED PACKAGE



RF PERFORMANCE SPECIFICATIONS (Ta= 25°C)

| CHARACTERISTICS | SYMBOL | CONDITIONS | UNIT | MIN. | TYP. | MAX. |
|--|--------|---|------|------|------|------|
| Output Power at 1dB Gain Compression Point | P1dB | VDD= 10V VGG= -5V f = 9.5 to 12.0GHz | dBm | 31.0 | 33.0 | _ |
| Power Gain at 1dB Gain Compression Point | G1dB | | dB | 21.0 | 25.0 | |
| Gain Flatness | ΔG | | dB | _ | _ | ±2.5 |
| Drain Current | IDD | | Α | _ | 1.4 | 1.8 |
| Power Added Efficiency | ηadd | | % | _ | 14 | _ |
| 3rd Order Intermodulation Distortion | IM3 | Two-Tone Test Po=19.0dBm, ∆f= 5MHz (Single Carrier Level) | dBc | -42 | -45 | |

ABSOLUTE MAXIMUMRATINGS (Ta= 25°C)

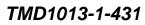
| CHARACTERISTICS | SYMBOL | UNIT | MAX. |
|----------------------|--------|------|-------------|
| Drain Supply Voltage | VDD | V | 15 |
| Gate Supply Voltage | VGG | V | -10 |
| Input Power | Pin | dBm | 15 |
| Flange Temperature | Tf | °C | -30 to +80 |
| Storage Temperature | Tstg | °C | -65 to +175 |

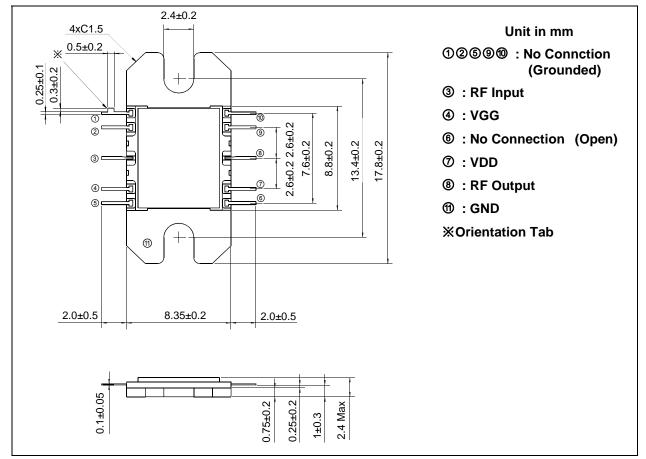
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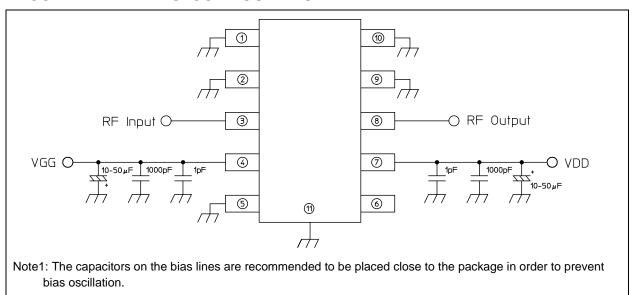
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PACKAGE OUTLINE (2-9E1D)





RECOMMENDED BIAS CONFIGURATION

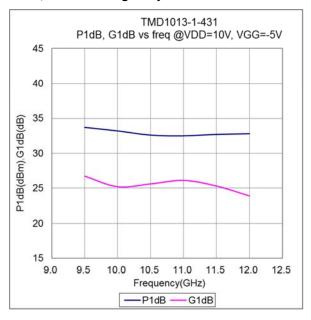


HANDLING PRECAUTIONS FOR PACKAGE MODEL

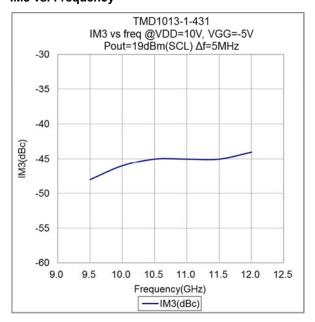
Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C or 3 seconds at 350°C. Flanges of devices should be attached using screws and washers. Recommended torque is 0.18-0.20 N·m.

TYPCAL RF PERFORMANCE

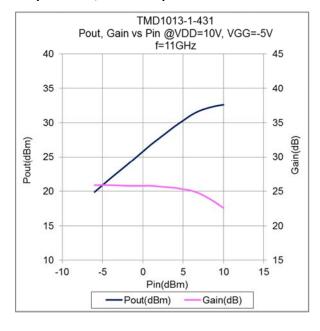
P1dB, G1dB vs. Freguency



IM3 vs. Frequency



Output Power, Gain vs. Input Power



IM3 vs. Output Power

