SANCOM

# SA-PAN012014-P56

1.2-1.4 GHz High Power GaN-HEMT

## Features

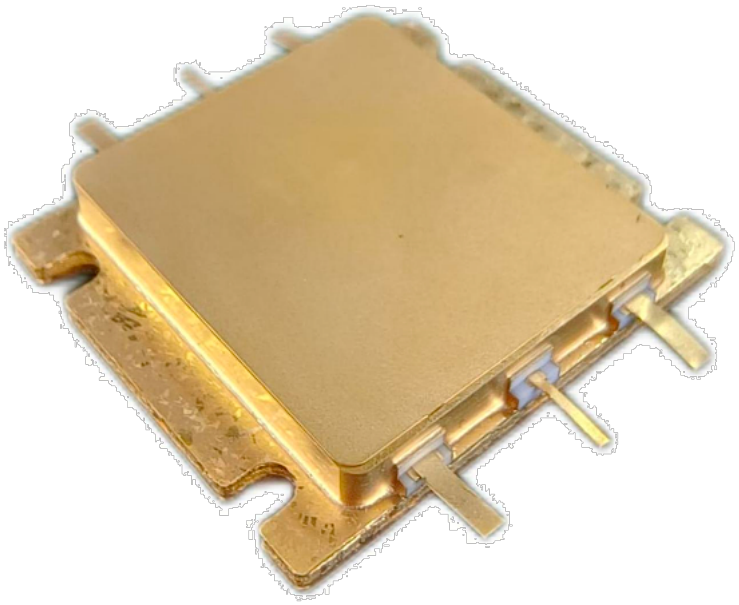
Frequency Range: 1.2-1.4 GHz

$P_{sat}$: ≥ 56 dBm

Power Gain: ≥ 13 dB

Efficiency: ≥ 50%

$Z_{in}$/ $Z_{out}$ = 50 Ω



## Description

Sancom Electric's GaN-HEMT SA-PAN012014-P56 offers high power, high efficiency, ease of matching and greater consistency for high power applications with 50V operation. The SA-PAN012014-P56 typically provides 56 dBm of saturated output power and 13 dB of large-signal gain and can be widely used in various RF/microwave systems.

## ABSOLUTE MAXIMUM RATINGS

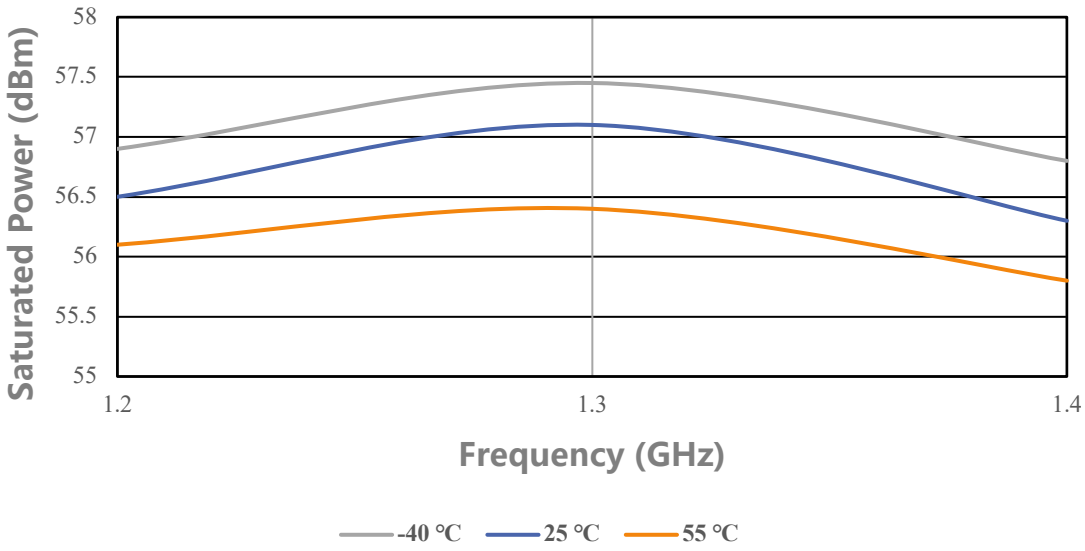
| Parameter | Symbol | Condition | Rating | Unit |
|---|---|---|---|---|
| Drain-Source Voltage | $V_{DS}$ | TC=25℃ | 60 | V |
| Gate-Source Voltage | $V_{GS}$ | TC=25℃ | -5 | V |
| Storage Temperature | $T_{stg}$ | TC=25℃ | -65 to 150 | ℃ |
| Channel Temperature | $T_{ch}$ | TC=25℃ | 150 | ℃ |

## ELECTRICAL SPECIFICATIONS

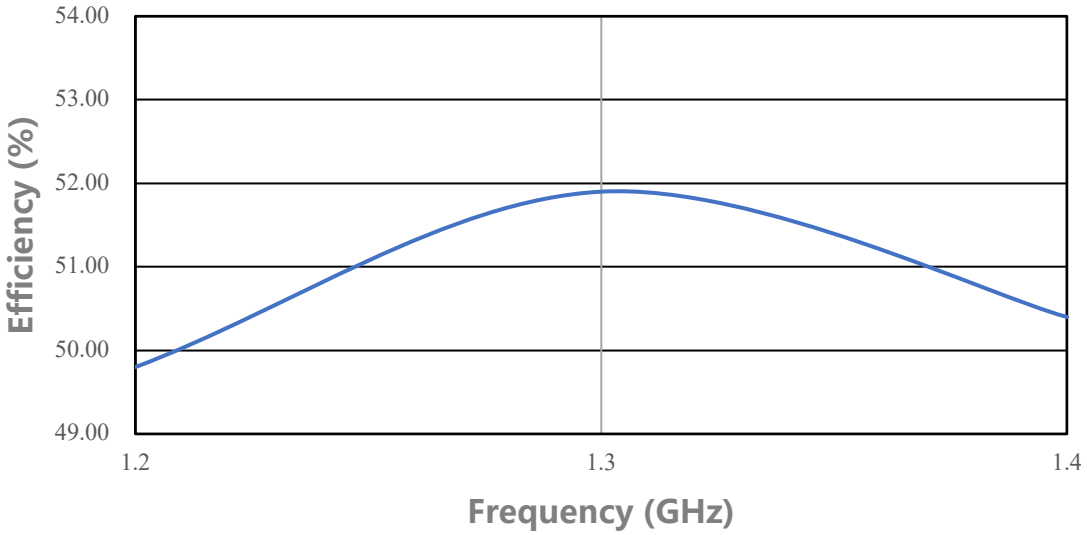
| Parameter | Symbol | Condition | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Drain-Source Current | $I_{DS}$ | $V_{DS}$: 50V | - | 15.9 | - | A |
| Saturated Power | $P_{sat}$ | Pulse | 56 | - | - | dBm |
| Power Gain | $G_p$ | T= 1ms, Duty= 10% | 13 | - | - | dB |
| Efficiency | η | $P_{in}$: 43dBm | - | 50 | - | % |
| Flatness | ΔG | Freq: 1.2 ~ 1.4 GHz | -0.8 | - | 0.8 | dB |

# Performance Plots

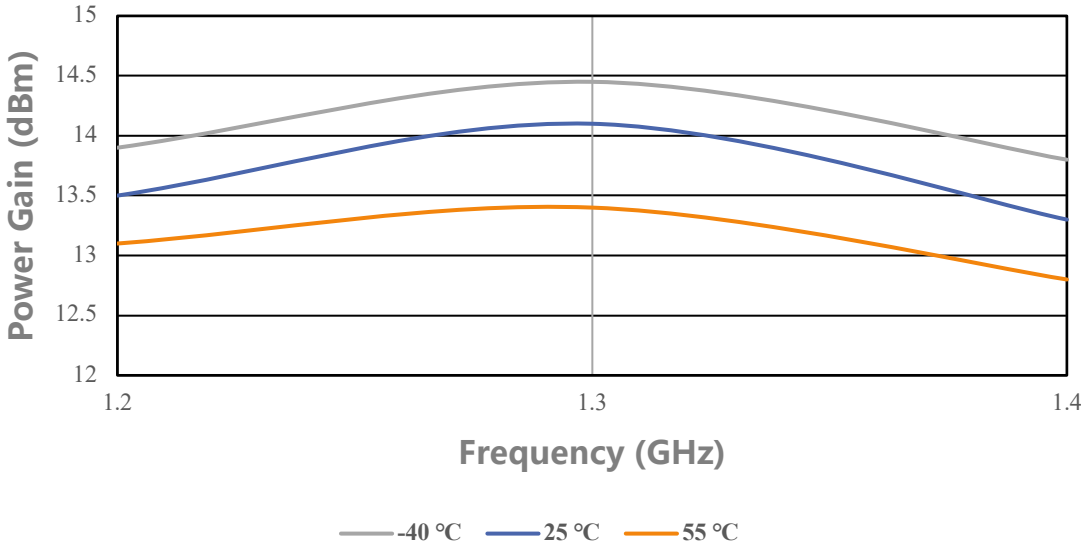
### Saturated Power VS Frequency



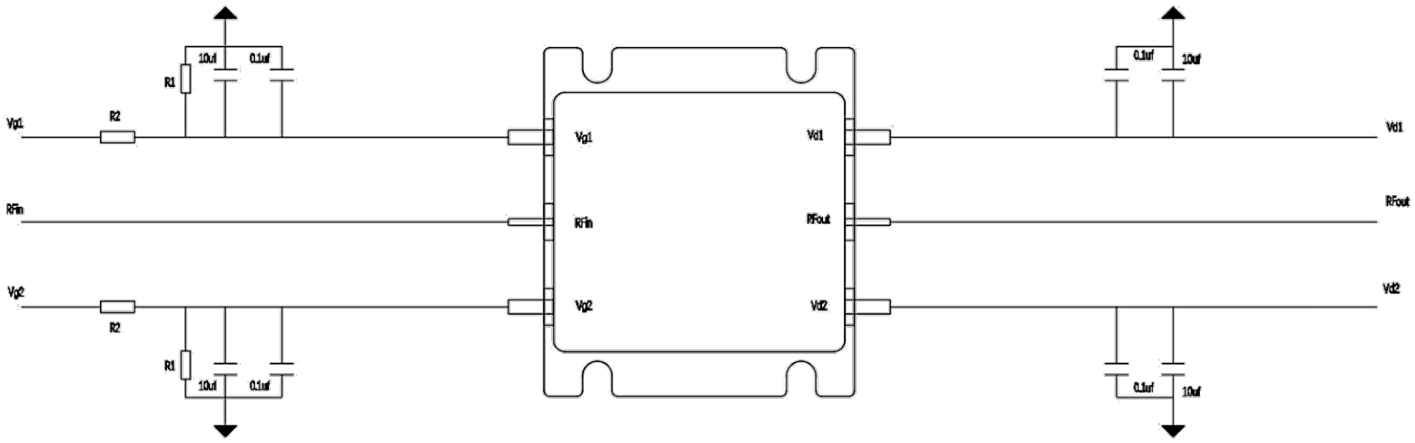
## Efficiency VS Frequency




## Power Gain VS Frequency



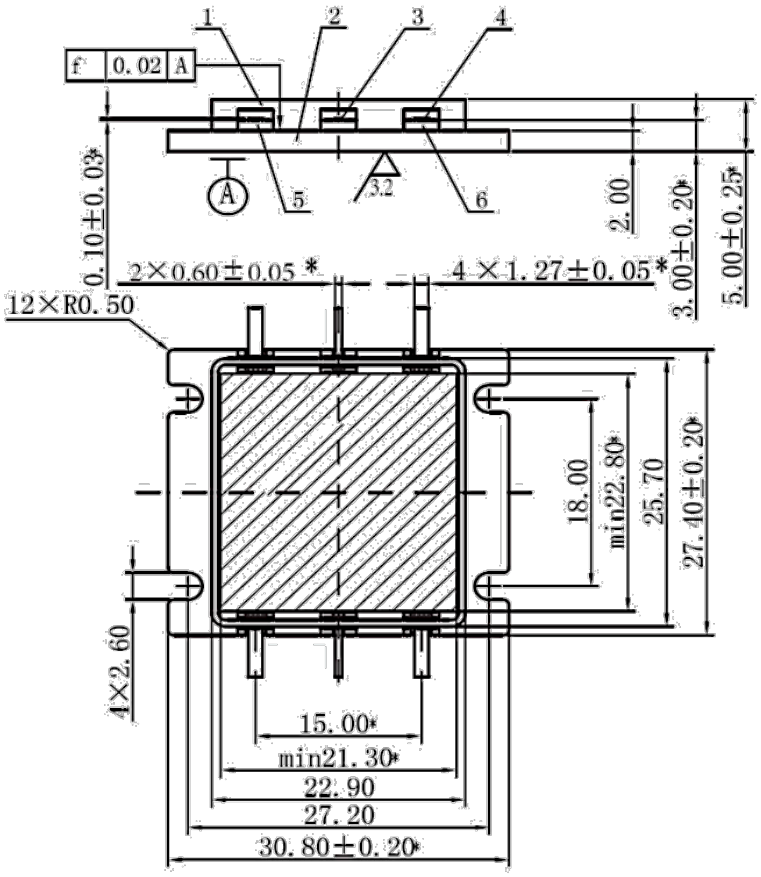
## Simplified Block Diagram




## ESD Protection

| | | |
|---|---|---|
| ESD | Class Ⅲ | 2000 V |

## Outline Drawing




Unit: mm

## Attention

- Please keep away from moisture during transportation and storage
- Pay attention to ESD prevention during chip use and assembly. Wear a grounding ESD bracelet.
- When adding electricity, add gate electricity first and then add leakage electricity