SANCOM

# SA-PAN071073-P50

## 7.1-7.3 GHz High Power GaN-HEMT

## Features

Frequency Range: 7.1-7.3 GHz

$P_{sat}$: ≥ 50 dBm

Power Gain: ≥ 9 dB

Efficiency: ≥ 40%

$Z_{in}$/ $Z_{out}$ = 50 Ω

## Description

Sancom Electric's GaN-HEMT SA-PAN071073-P50 offers high power, high efficiency, ease of matching and greater consistency for high power applications with 28V operation. The SA-PAN071073-P50 typically provides 50 dBm of saturated output power and 9dB of large-signal gain and can be widely used in various RF/microwave systems.

## ABSOLUTE MAXIMUM RATINGS

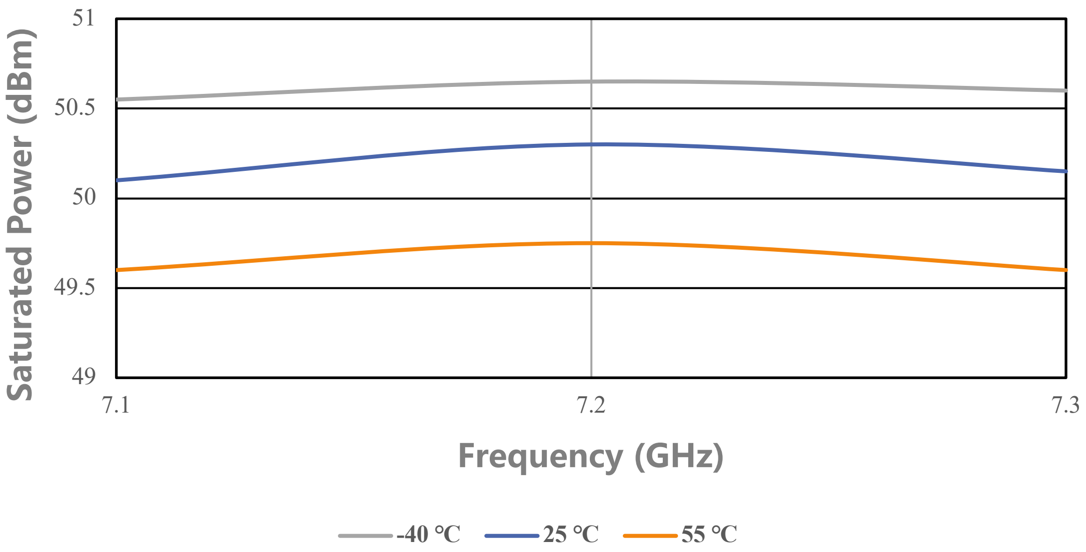
| Parameter | Symbol | Condition | Rating | Unit |
|---|---|---|---|---|
| Drain-Source Voltage | $V_{DS}$ | TC=25℃ | 40 | V |
| Gate-Source Voltage | $V_{GS}$ | TC=25℃ | -5 | V |
| Storage Temperature | $T_{stg}$ | TC=25℃ | -65 to 150 | ℃ |
| Channel Temperature | $T_{ch}$ | TC=25℃ | 150 | ℃ |

## ELECTRICAL SPECIFICATIONS

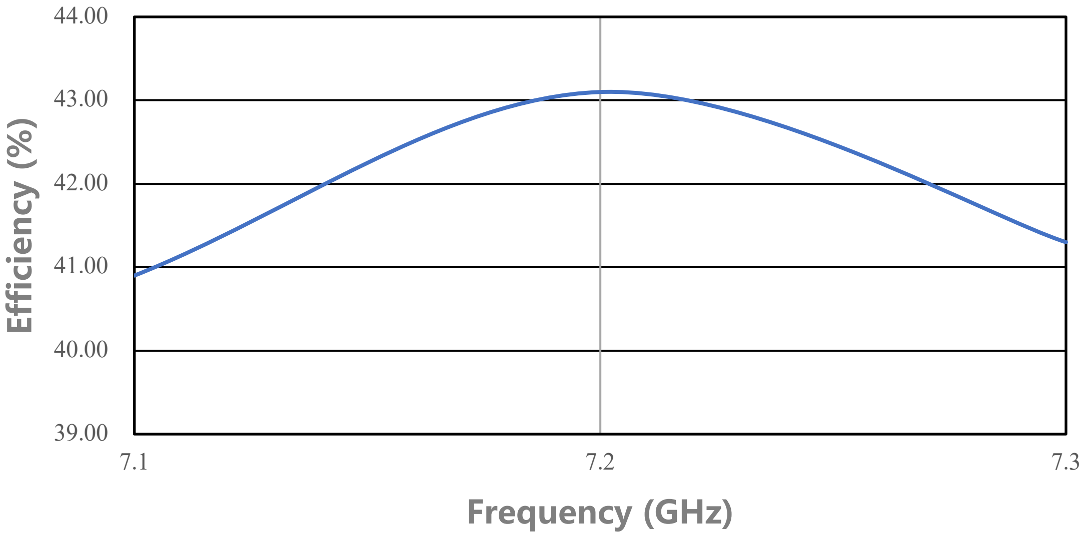
| Parameter | Symbol | Condition | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Drain-Source Current | $I_{DS}$ | $V_{DS}$: 28 V<br>CW (Continuous Wave)<br>$P_{in}$: 41 dBm<br>Freq: 7.1~ 7.3 GHz | - | 8.9 | - | A |
| Saturated Power | $P_{sat}$ | | 50 | - | - | dBm |
| Power Gain | $G_p$ | | 9 | - | - | dB |
| Efficiency | η | | 40 | - | - | % |
| Flatness | ΔG | | -0.8 | - | 0.8 | dB |

# Performance Plots

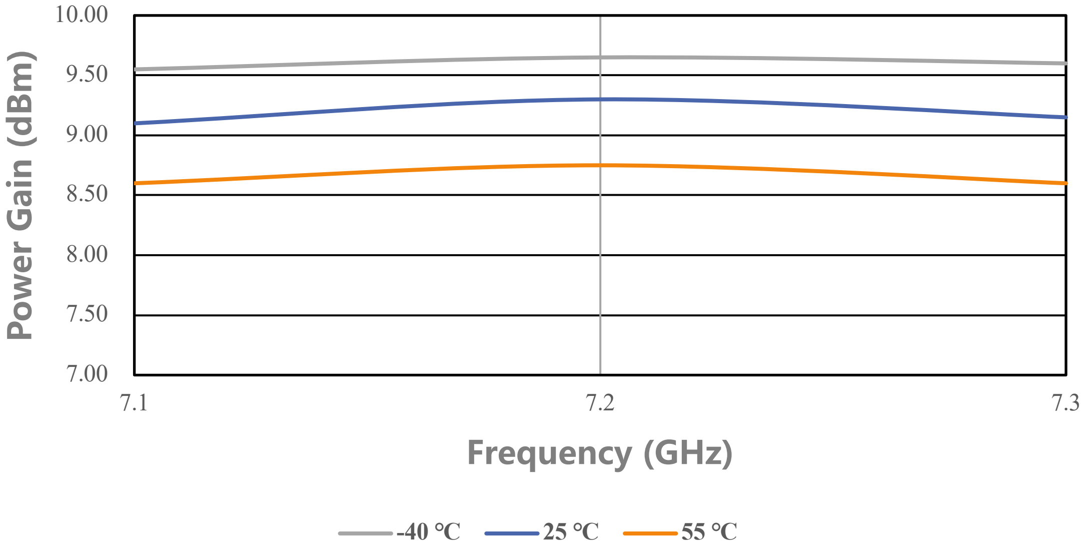
### Saturated Power VS Frequency



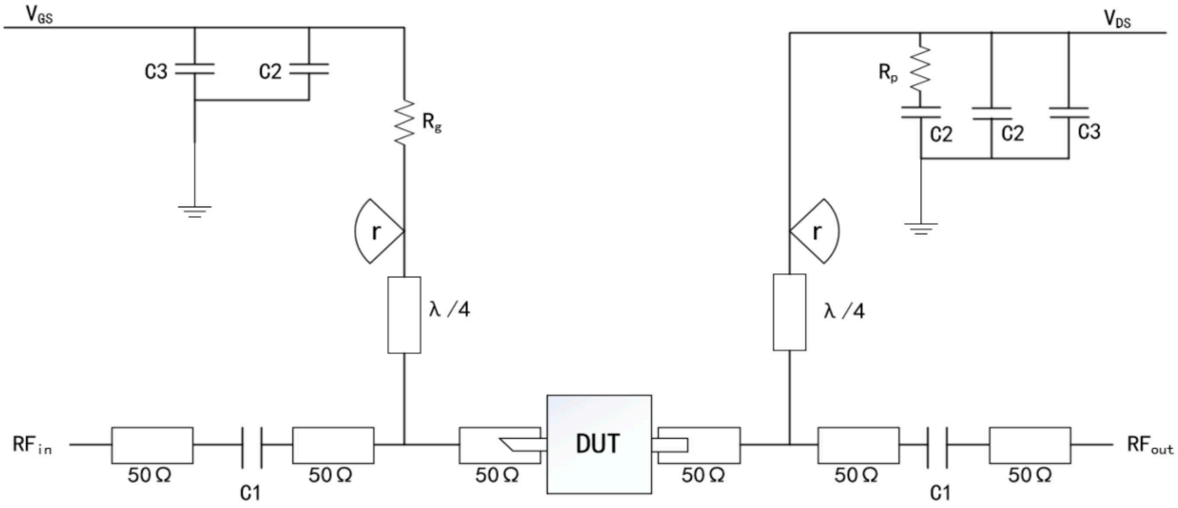
## Efficiency VS Frequency



## Power Gain VS Frequency



## Simplified Block Diagram

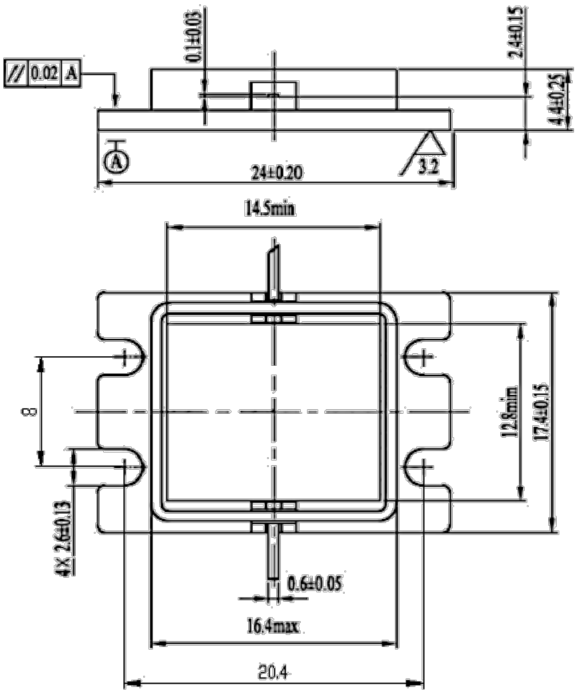


| DUT information | |
|---|---|
| C1: 3 pF | Rp: 51 Ω |
| C2: 1000 pF | Rg: 15 Ω |
| C3: 100 μF | R≈4.5 mm |

## 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