

# SANCOM

**SA-PAN085096-P50****8.5-9.6 GHz High Power GaN-HEMT**

## Features

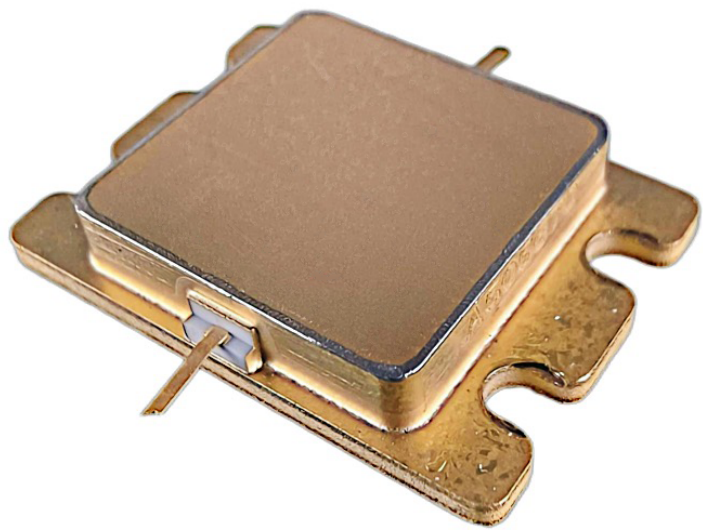
Frequency Range: 8.5-9.6 GHz

$P_{\text{sat}} \geq 50 \text{ dBm}$

Power Gain:  $\geq 8 \text{ dB}$

Efficiency:  $\geq 36\%$

$Z_{\text{in}}/Z_{\text{out}} = 50 \Omega$



## Description

Sancom Electric's GaN-HEMT SA-PAN085096-P50 offers high power, high efficiency, ease of matching and greater consistency for high power applications with 28V operation. The SA-PAN085096-P50 typically provides 50 dBm of saturated output power and 8dB of large-signal gain and can be widely used in various RF/microwave systems.

### ABSOLUTE MAXIMUM RATINGS

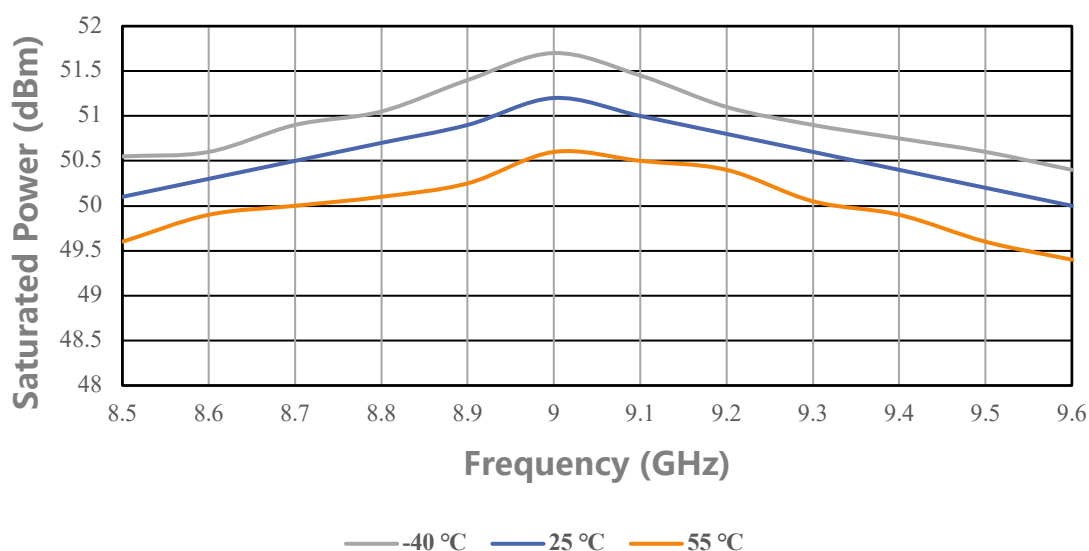
Parameter	Symbol	Condition	Rating	Unit
Drain-Source Voltage	$V_{DS}$	TC=25°C	40	V
Gate-Source Voltage	$V_{GS}$	TC=25°C	-5	V
Storage Temperature	$T_{stg}$	TC=25°C	-65 to 150	°C
Channel Temperature	$T_{ch}$	TC=25°C	150	°C

### ELECTRICAL SPECIFICATIONS

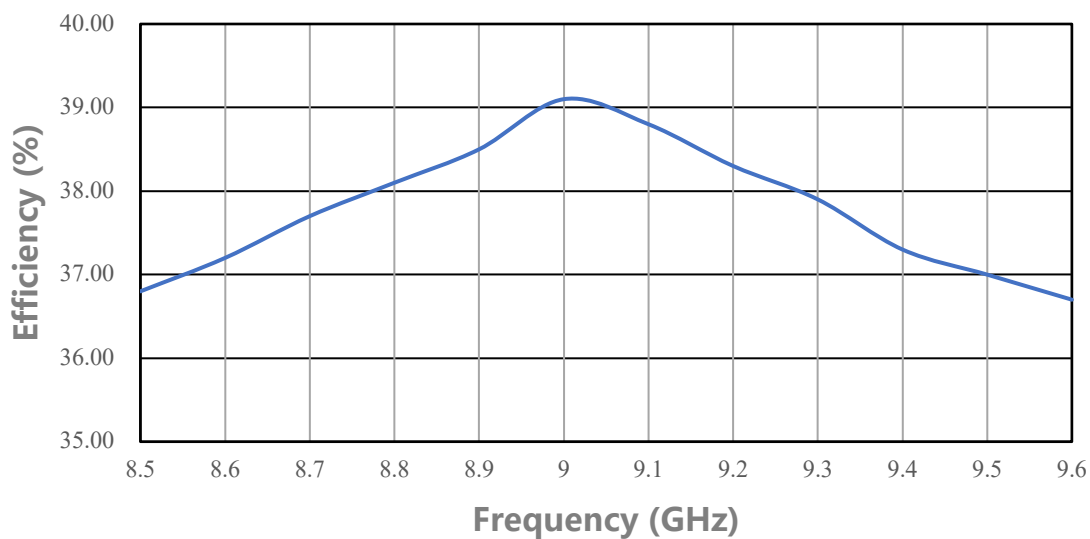
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source Current	$I_{DS}$	$V_{DS}$ : 28 V Pulse T=1ms, Duty=10% $P_{in}$ : 42 dBm Freq: 8.5~ 9.6GHz	-	9.9	-	A
Saturated Power	$P_{sat}$		50	-	-	dBm
Power Gain	$G_p$		8	-	-	dB
Efficiency	$\eta$		36	-	-	%
Flatness	$\Delta G$		-0.8	-	0.8	dB

## Performance Plots

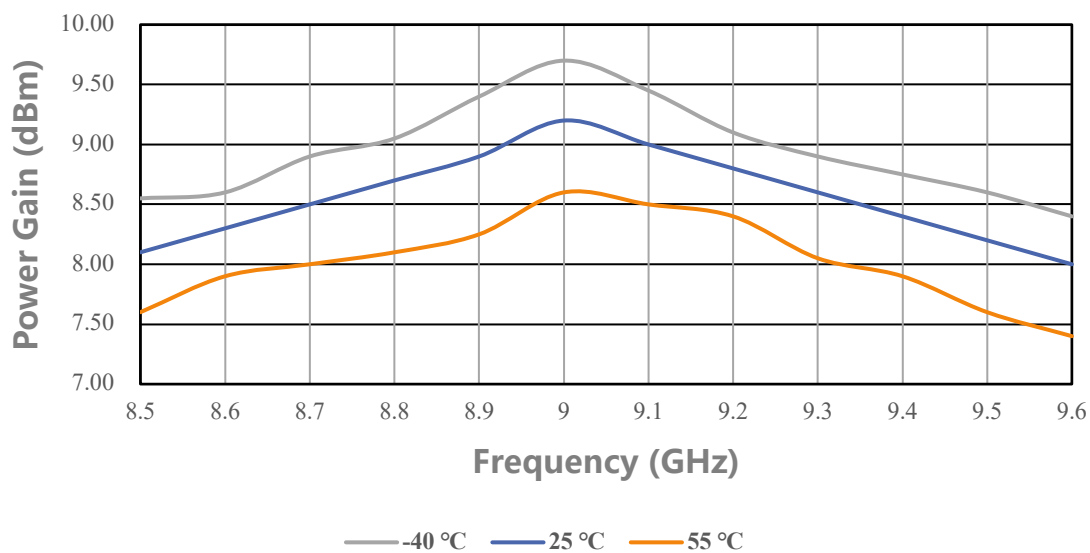
### Saturated Power VS Frequency



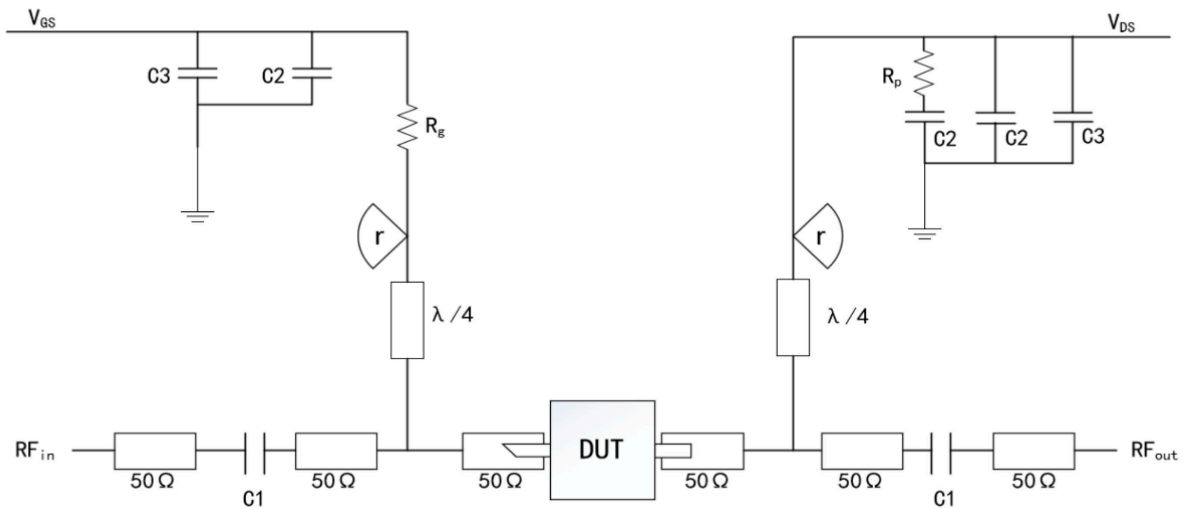
### Efficiency VS Frequency



### Power Gain VS Frequency



## Simplified Block Diagram



### DUT information

C1: 1 pF

$R_p$ : 51  $\Omega$

C2: 1000 pF

$R_g$ : 15  $\Omega$

C3: 100  $\mu$ F

$R \approx 3.5$  mm

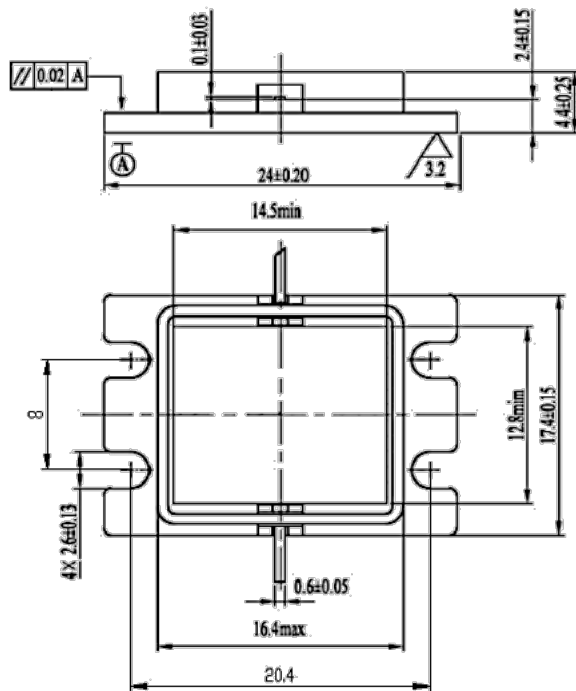
## ESD Protection

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