

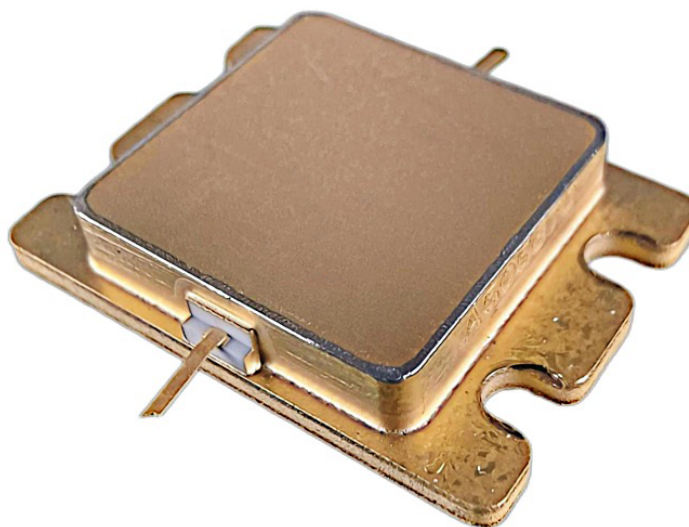
# SANCOM

**SA-PAN044050-P53**

4.4-5.0 GHz High Power GaN-HEMT

## Features

Frequency Range: 4.4-5.0 GHz

 $P_{\text{sat}} \geq 53 \text{ dBm}$ Power Gain:  $\geq 10 \text{ dB}$ Efficiency:  $\geq 45\%$  $Z_{\text{in}}/Z_{\text{out}} = 50 \Omega$ 

## Description

Sancom Electric's GaN-HEMT SA-PAN044050-P53 offers high power, high efficiency, ease of matching and greater consistency for high power applications with 28V operation. The SA-PAN044050-P53 typically provides 53 dBm of saturated output power and 10dB of large-signal gain and can be widely used in various RF/microwave systems.

### ABSOLUTE MAXIMUM RATINGS

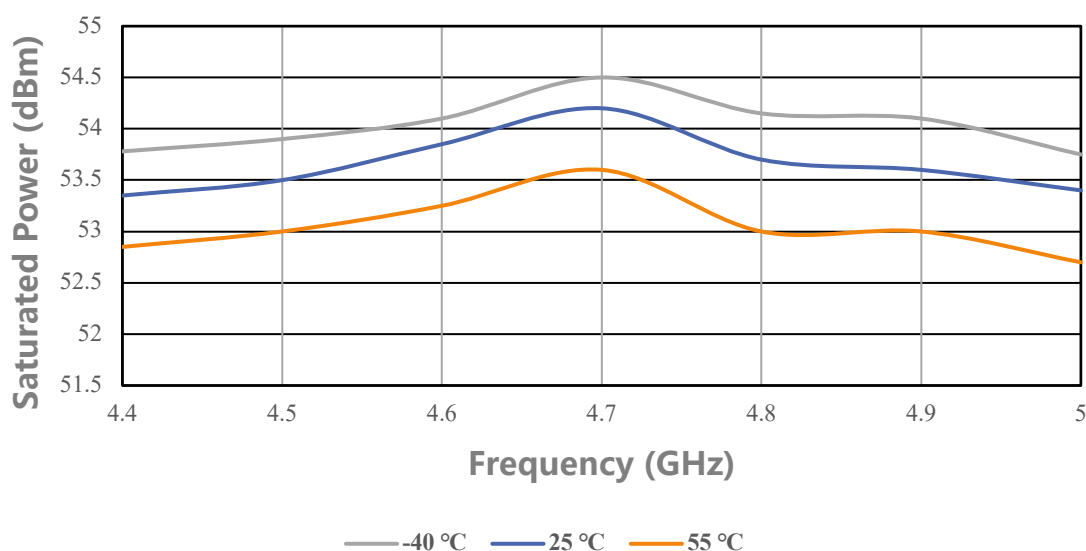
Parameter	Symbol	Condition	Rating	Unit
Drain-Source Voltage	$V_{DS}$	$TC=25^{\circ}C$	40	V
Gate-Source Voltage	$V_{GS}$	$TC=25^{\circ}C$	-5	V
Storage Temperature	$T_{stg}$	$TC=25^{\circ}C$	-65 to 150	$^{\circ}C$
Channel Temperature	$T_{ch}$	$TC=25^{\circ}C$	150	$^{\circ}C$

### ELECTRICAL SPECIFICATIONS

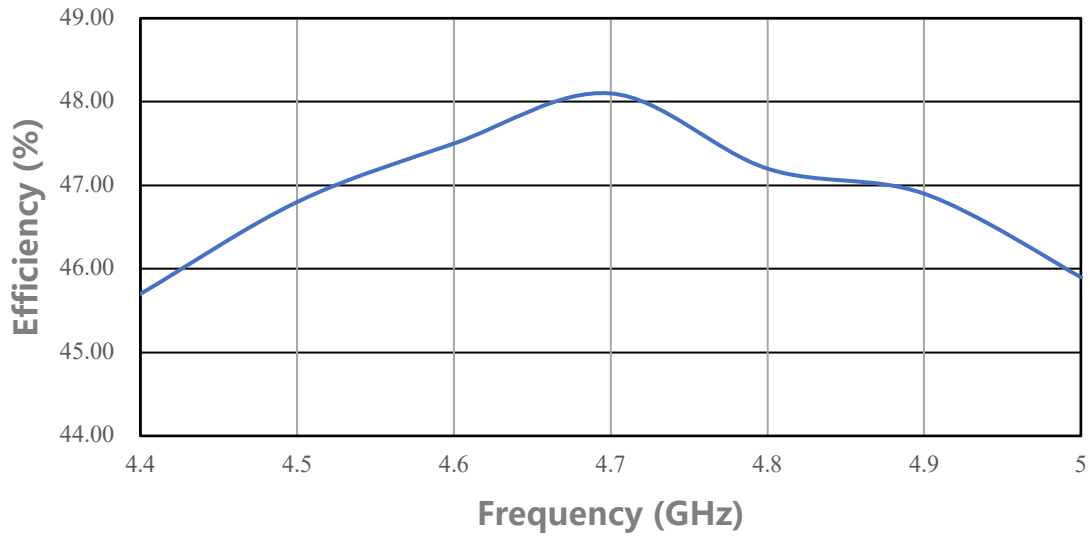
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source Current	$I_{DS}$	$V_{DS}: 32\text{ V}$ Pulse $T=1\text{ms}, \text{Duty}=10\%$ $P_{in}: 43\text{ dBm}$ $\text{Freq}: 4.4 \sim 5.0\text{ GHz}$	-	15.8	-	A
Saturated Power	$P_{sat}$		53	-	-	dBm
Power Gain	$G_p$		10	-	-	dB
Efficiency	$\eta$		45	-	-	%
Flatness	$\Delta G$		-0.8	-	0.8	dB

## Performance Plots

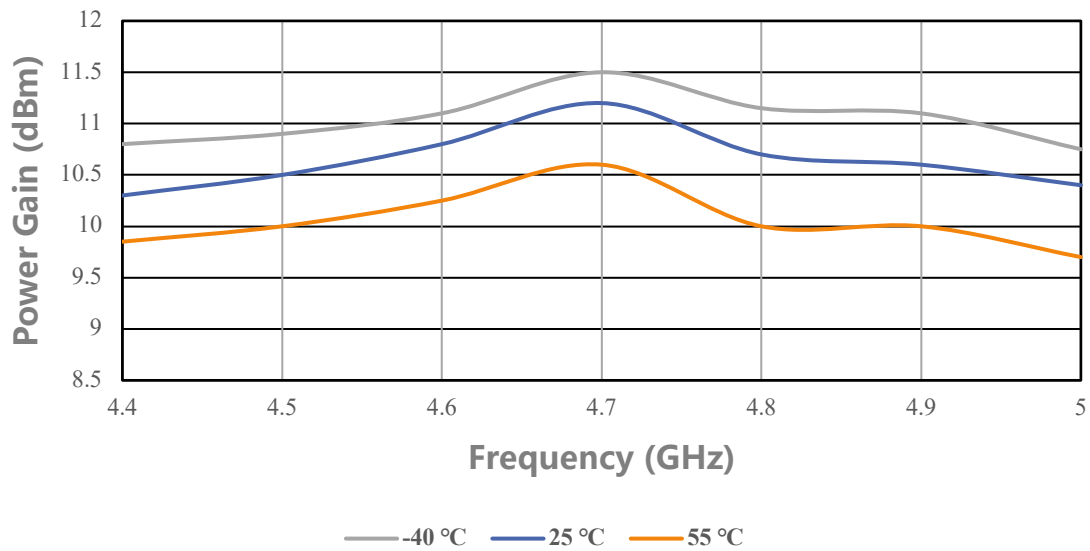
### Saturated Power VS Frequency



### Efficiency VS Frequency



### Power Gain VS Frequency



## Simplified Block Diagram

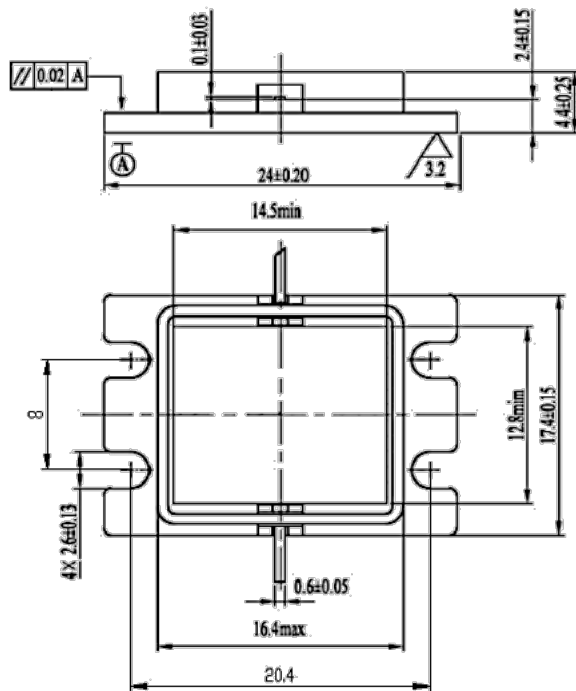


DUT information	
C1: 4.7 pF	Rp: 51 $\Omega$
C2: 1000 pF	Rg: 15 $\Omega$
C3: 100 $\mu$ F	$R \approx 5.8\ \text{mm}$

## ESD Protection

ESD	Class III	2000 V
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## 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