

# SANCOM

**SA-PAN050053-P40**

5.0-5.3 GHz High Power GaN-HEMT

## Features

Frequency Range: 5.0-5.3 GHz

 $P_{\text{sat}} \geq 40 \text{ dBm}$ Power Gain:  $\geq 12 \text{ dB}$ Efficiency:  $\geq 45\%$  $Z_{\text{in}}/Z_{\text{out}} = 50 \Omega$ 

## Description

Sancom Electric's GaN-HEMT SA-PAN050053-P40 offers high power, high efficiency, ease of matching and greater consistency for high power applications with 28V operation. The SA-PAN050053-P40 typically provides 40 dBm of saturated output power and 12dB of large-signal gain and can be widely used in various RF/microwave systems.

### ABSOLUTE MAXIMUM RATINGS

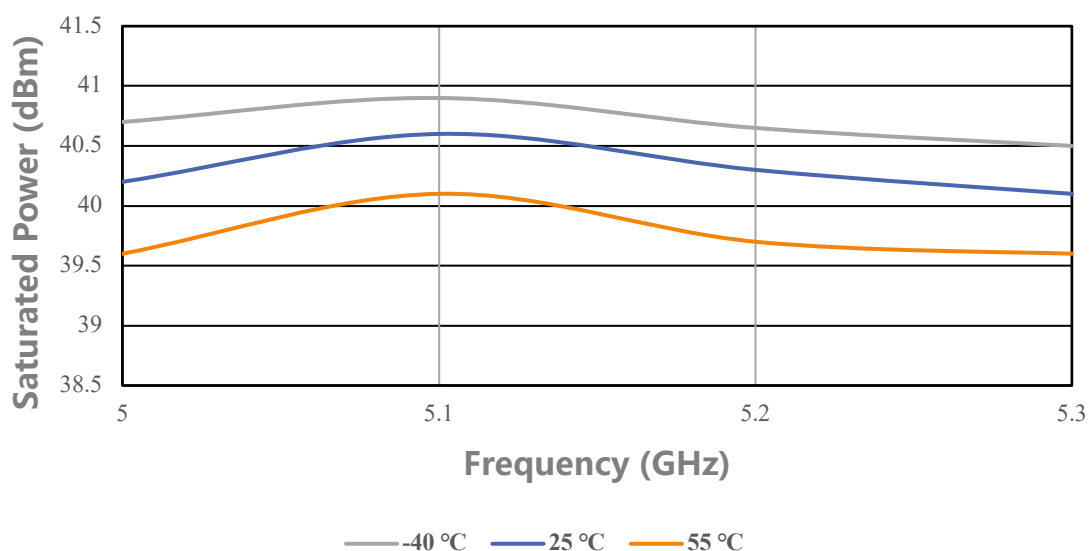
Parameter	Symbol	Condition	Rating	Unit
Drain-Source Voltage	$V_{DS}$	TC=25°C	40	V
Gate-Source Voltage	$V_{GS}$	TC=25°C	-5	V
Storage Temperature	$T_{stg}$	TC=25°C	-65 to 150	°C
Channel Temperature	$T_{ch}$	TC=25°C	150	°C

### ELECTRICAL SPECIFICATIONS

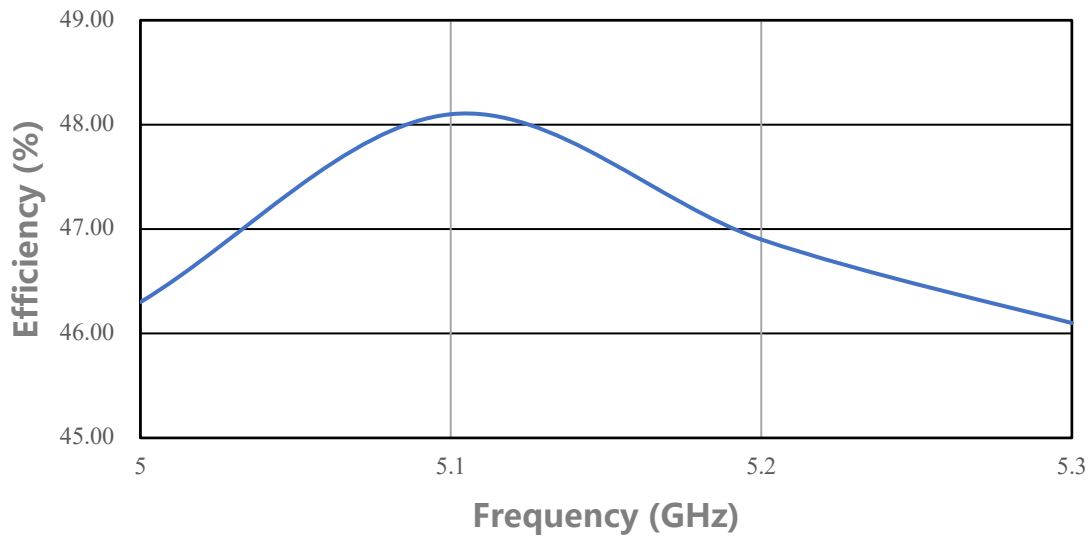
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source Current	$I_{DS}$	$V_{DS}$ : 28 V CW (Continuous Wave) $P_{in}$ : 28 dBm Freq: 5.0 ~ 5.3 GHz	-	0.8	-	A
Saturated Power	$P_{sat}$		40	-	-	dBm
Power Gain	$G_p$		12	-	-	dB
Efficiency	$\eta$		45	-	-	%
Flatness	$\Delta G$		-0.8	-	0.8	dB

## Performance Plots

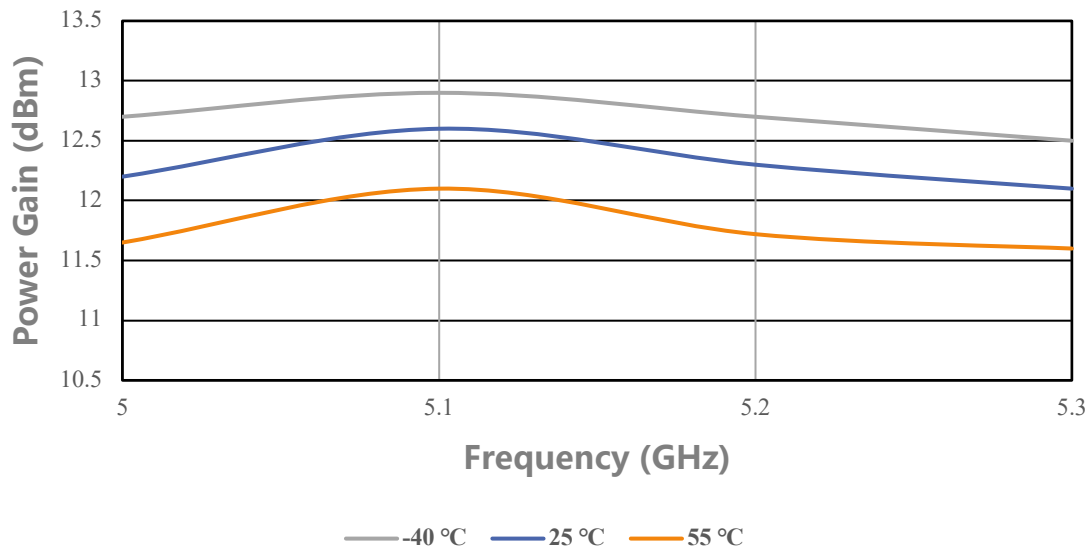
### Saturated Power VS Frequency



### Efficiency VS Frequency



### Power Gain VS Frequency



## Simplified Block Diagram



### DUT information

C1: 4.7 pF	R <sub>p</sub> : 51 $\Omega$
C2: 1000 pF	R <sub>g</sub> : 15 $\Omega$
C3: 100 $\mu$ F	R $\approx$ 5.8 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