

SANCOM

SA-PAN044050-P50

4.4-5.0 GHz High Power GaN-HEMT

Features

Frequency Range: 4.4-5.0 GHz

 $P_{\text{sat}} \geq 50 \text{ dBm}$ 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-P50 offers high power, high efficiency, ease of matching and greater consistency for high power applications with 28V operation. The SA-PAN044050-P50 typically provides 50 dBm of saturated output power and 10dB of large-signal gain and can be widely used in various RF/microwave systems.

ABSOLUTE MAXIMUM RATINGS

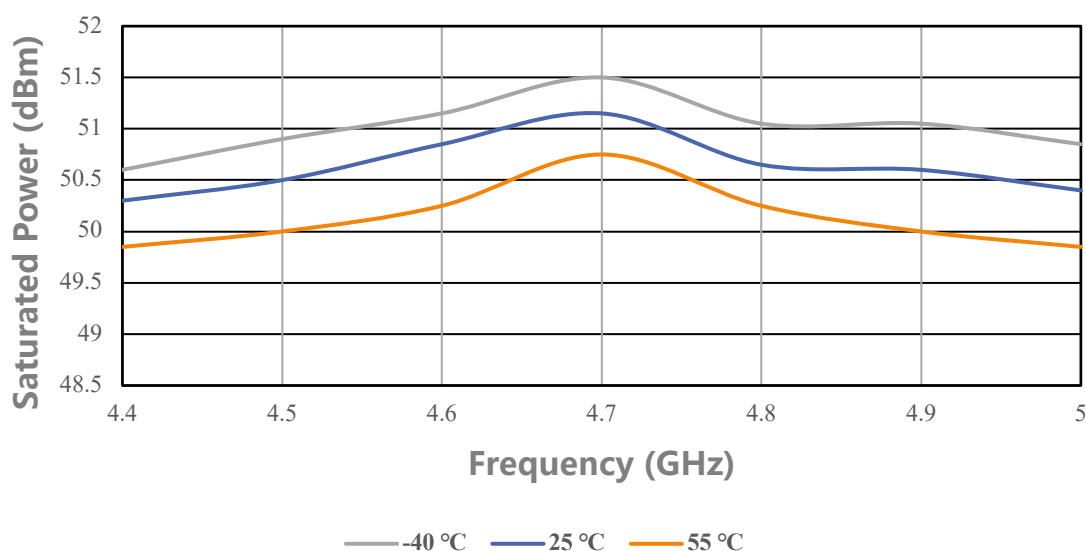
Parameter	Symbol	Condition	Rating	Unit
Drain-Source Voltage	V_{DS}	$TC=25^{\circ}C$	40	V
Gate-Source Voltage	V_{GS}	$TC=25^{\circ}C$	-5	V
Storage Temperature	T_{stg}	$TC=25^{\circ}C$	-65 to 150	$^{\circ}C$
Channel Temperature	T_{ch}	$TC=25^{\circ}C$	150	$^{\circ}C$

ELECTRICAL SPECIFICATIONS

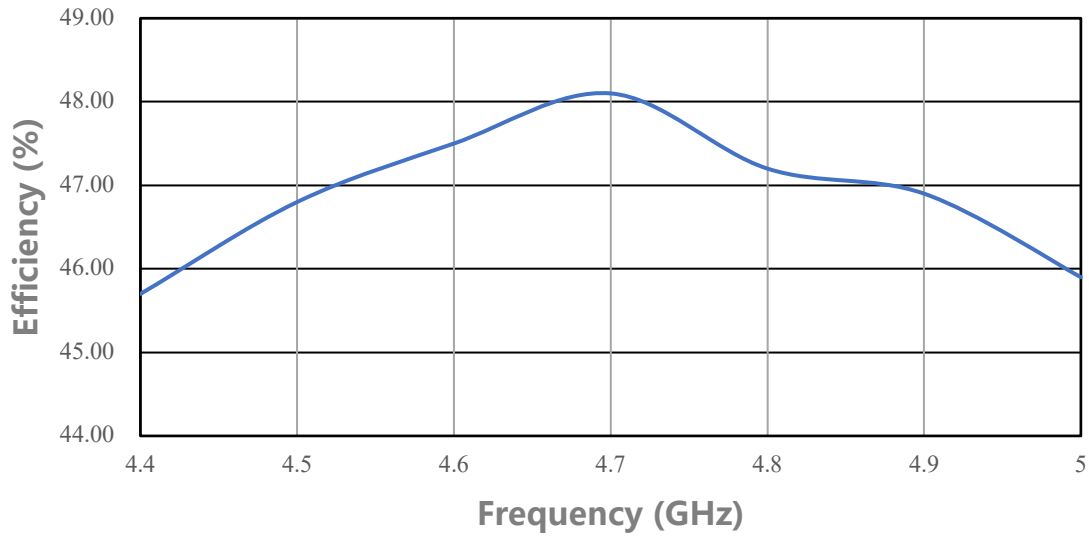
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source Current	I_{DS}	$V_{DS}: 28 V$ CW (Continuous Wave) $P_{in}: 40 dBm$ Freq: 4.4 ~ 5.0 GHz	-	7.9	-	A
Saturated Power	P_{sat}		50	-	-	dBm
Power Gain	G_p		10	-	-	dB
Efficiency	η		45	-	-	%
Flatness	ΔG		-0.8	-	0.8	dB

Performance Plots

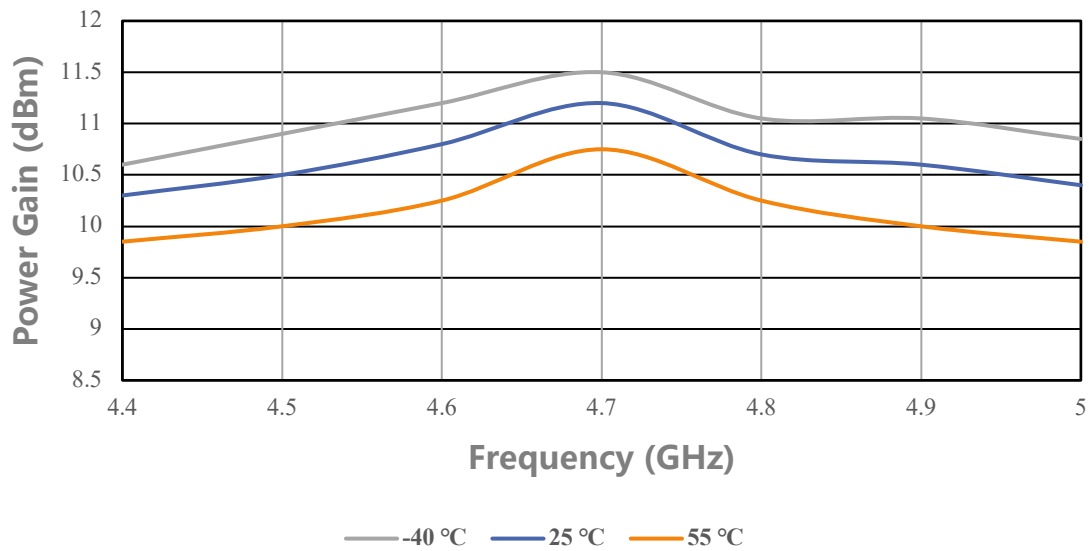
Saturated Power VS Frequency



Efficiency VS Frequency



Power Gain VS Frequency



Simplified Block Diagram



DUT information	
C1: 4.7 pF	Rp: 51 Ω
C2: 1000 pF	Rg: 15 Ω
C3: 100 μ 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