

SANCOM

SA-PAN050053-P43

5.0-5.3 GHz High Power GaN-HEMT

Features

Frequency Range: 5.0-5.3 GHz

 $P_{\text{sat}} \geq 43 \text{ dBm}$ 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-P43 offers high power, high efficiency, ease of matching and greater consistency for high power applications with 28V operation. The SA-PAN050053-P43 typically provides 43 dBm of saturated output power and 12dB of large-signal gain and can be widely used in various RF/microwave systems.

ABSOLUTE MAXIMUM RATINGS

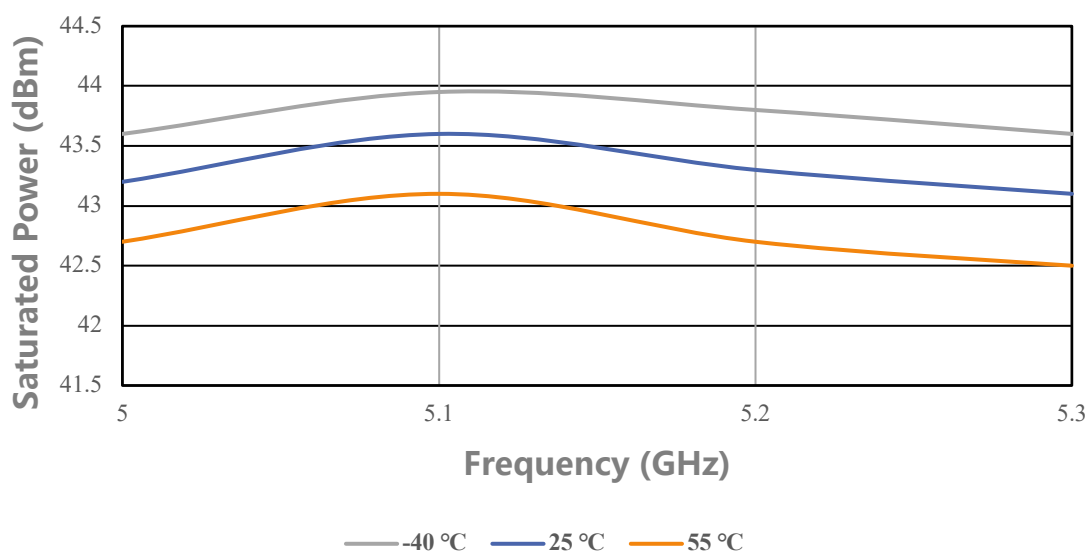
Parameter	Symbol	Condition	Rating	Unit
Drain-Source Voltage	V_{DS}	TC=25 °C	40	V
Gate-Source Voltage	V_{GS}	TC=25 °C	-5	V
Storage Temperature	T_{stg}	TC=25 °C	-65 to 150	°C
Channel Temperature	T_{ch}	TC=25 °C	150	°C

ELECTRICAL SPECIFICATIONS

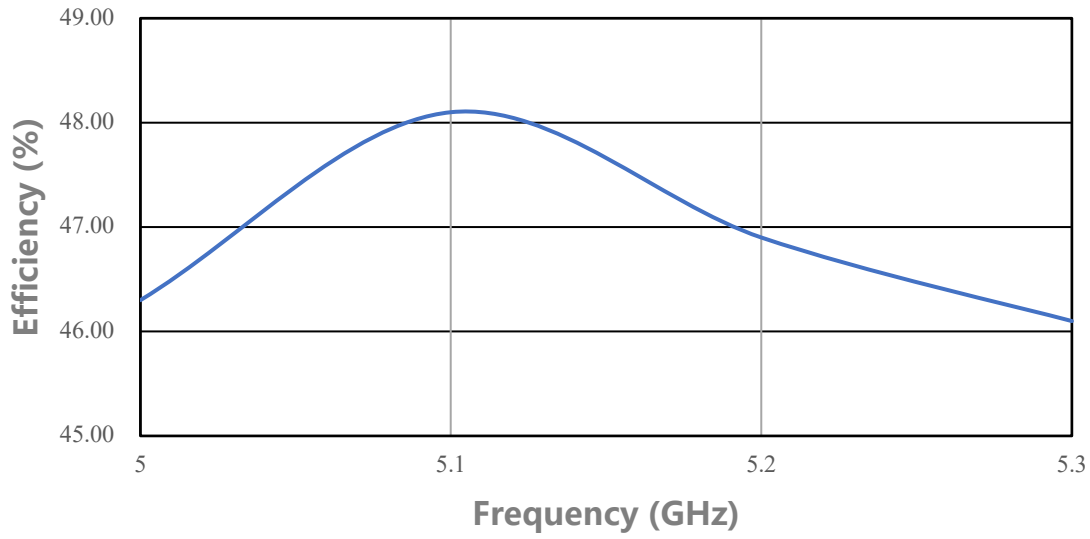
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source Current	I_{DS}	V_{DS} : 28 V CW (Continuous Wave) P_{in} : 31 dBm Freq: 5.0 ~ 5.3 GHz	-	1.6	-	A
Saturated Power	P_{sat}		43	-	-	dBm
Power Gain	G_p		12	-	-	dB
Efficiency	η		45	-	-	%
Flatness	ΔG		-0.8	-	0.8	dB

Performance Plots

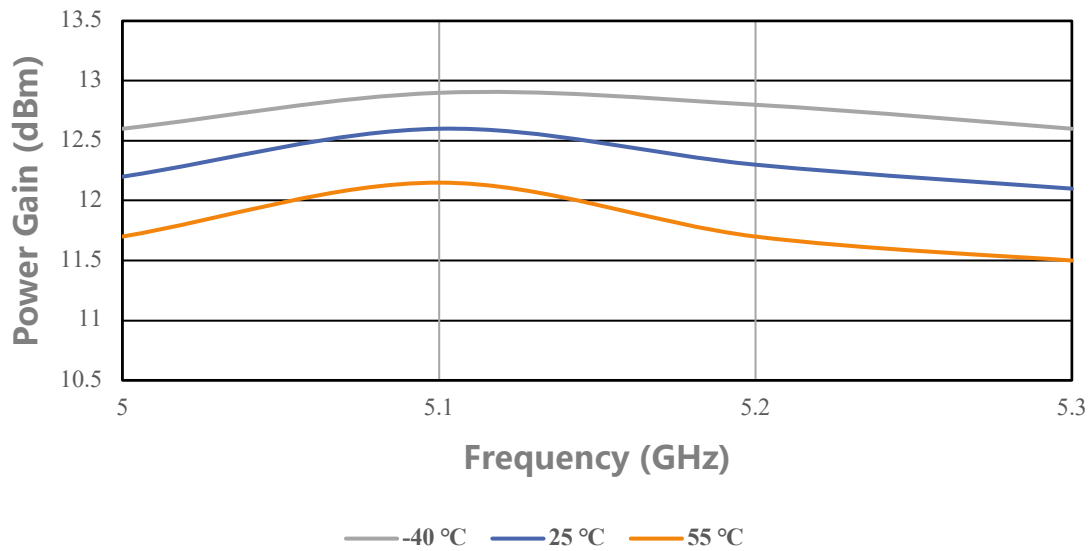
Saturated Power VS Frequency



Efficiency VS Frequency



Power Gain VS Frequency



Simplified Block Diagram



DUT information

C1: 4.7 pF

R_p : 51 Ω

C2: 1000 pF

R_g : 15 Ω

C3: 100 μ F

$R \approx 5.8$ mm

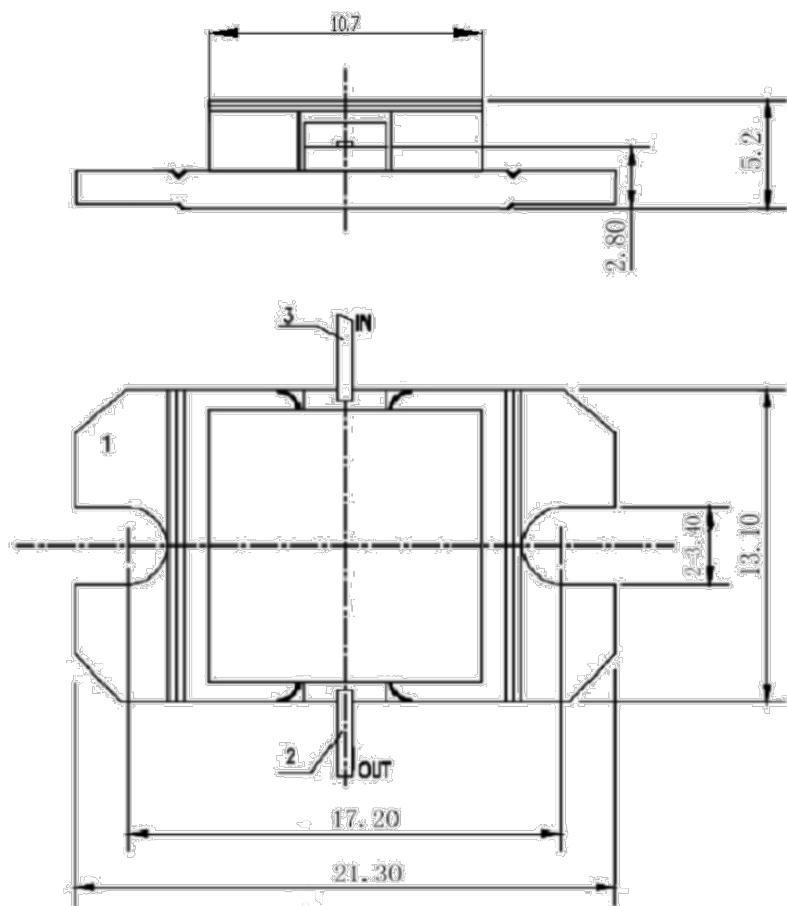
ESD Protection

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