

SANCOM

SA-PAN077085-P43

7.7-8.5 GHz High Power GaN-HEMT

Features

Frequency Range: 7.7-8.5 GHz

 $P_{\text{sat}} \geq 43 \text{ dBm}$ Power Gain: $\geq 9 \text{ dB}$ Efficiency: $\geq 38\%$ $Z_{\text{in}} / Z_{\text{out}} = 50 \Omega$ 

Description

Sancom Electric's GaN-HEMT SA-PAN077085-P43 offers high power, high efficiency, ease of matching and greater consistency for high power applications with 28V operation. The SA-PAN077085-P43 typically provides 43 dBm of saturated output power and 9dB of large-signal gain and can be widely used in various RF/microwave systems.

ABSOLUTE MAXIMUM RATINGS

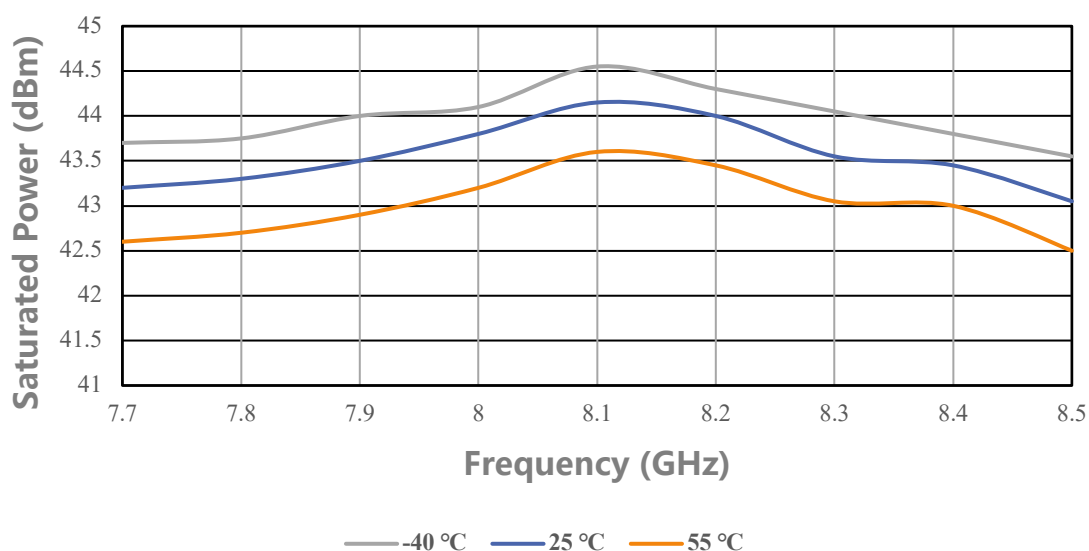
| Parameter | Symbol | Condition | Rating | Unit |
|----------------------|-----------|-----------|------------|------|
| Drain-Source Voltage | V_{DS} | TC=25°C | 40 | V |
| Gate-Source Voltage | V_{GS} | TC=25°C | -5 | V |
| Storage Temperature | T_{stg} | TC=25°C | -65 to 150 | °C |
| Channel Temperature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

ELECTRICAL SPECIFICATIONS

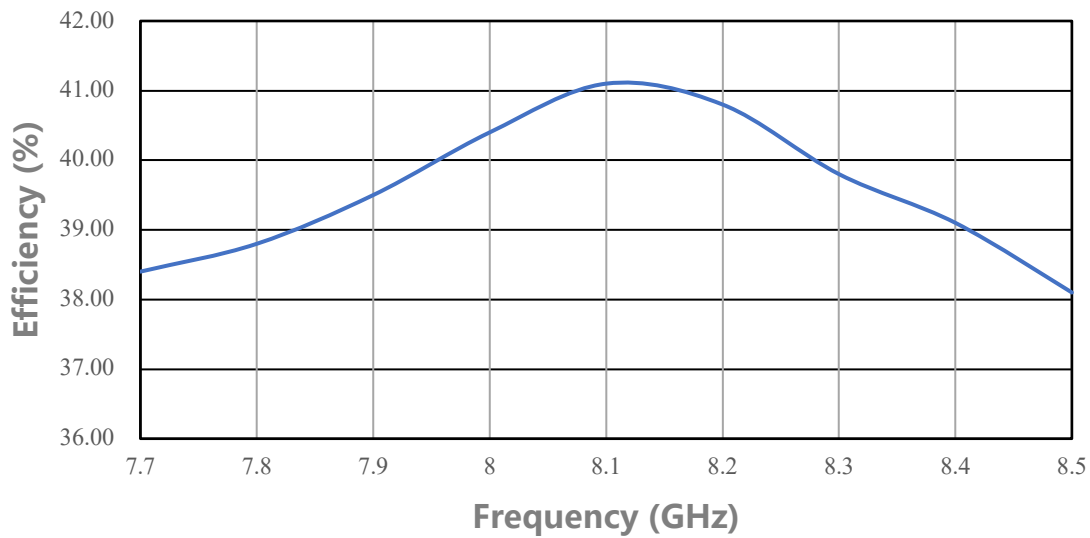
| Parameter | Symbol | Condition | Min | Typ | Max | Unit |
|----------------------|------------|---|------|-----|-----|------|
| Drain-Source Current | I_{DS} | V_{DS} : 28 V CW (Continuous Wave) P_{in} : 34 dBm Freq: 7.7~ 8.5GHz | - | 1.9 | - | A |
| Saturated Power | P_{sat} | | 43 | - | - | dBm |
| Power Gain | G_p | | 9 | - | - | dB |
| Efficiency | η | | 38 | - | - | % |
| Flatness | ΔG | | -0.8 | - | 0.8 | dB |

Performance Plots

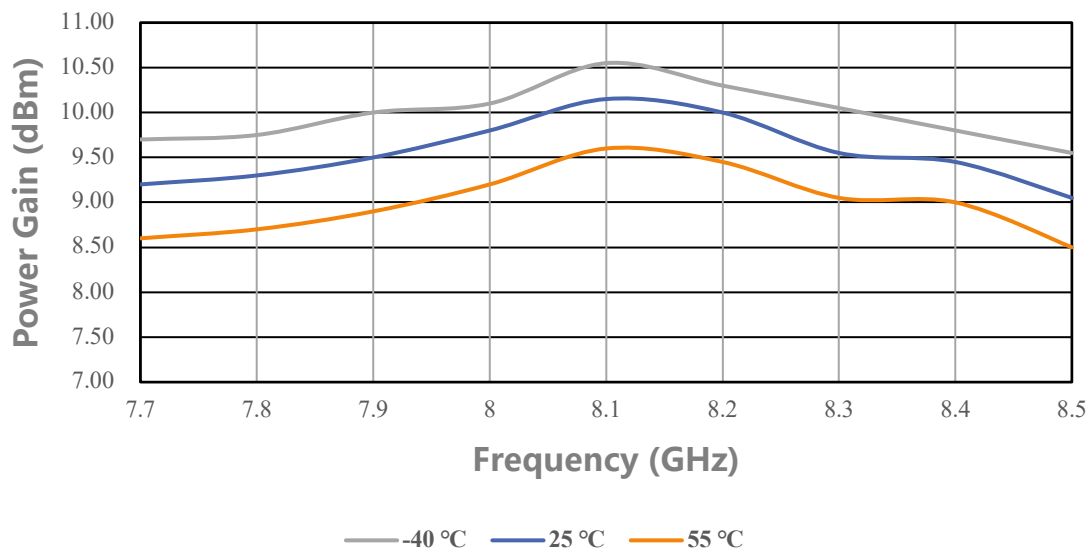
Saturated Power VS Frequency



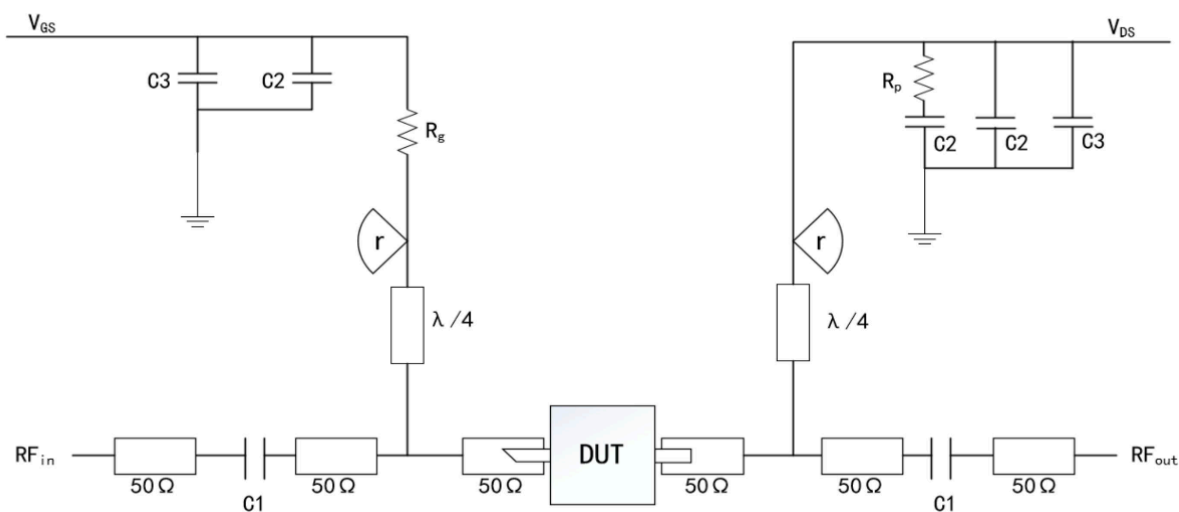
Efficiency VS Frequency



Power Gain VS Frequency



Simplified Block Diagram



DUT information

C1: 1 pF

R_p : 51 Ω

C2: 1000 pF

R_g : 15 Ω

C3: 100 μ 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