

SANCOM

SA-PA090100-P41-1

9.0-10.0 GHz High Power GaAs-HEMT

Features

Frequency Range: 9.0-10.0 GHz

 $P_{1dB} : \geq 41 \text{ dBm}$ Power Gain: $\geq 7 \text{ dB}$ Efficiency: $\geq 30\%$ $Z_{in} / Z_{out} = 50 \Omega$ 

Description

Sancom Electric's GaAs-HEMT SA-PA090100-P41-1 offers high power, high efficiency, ease of matching and greater consistency for high power applications with 10V operation. The SA-PA090100-P41-1 typically provides 41 dBm of 1dB output power and 7 dB of large-signal gain and can be widely used in various RF/microwave systems.

ABSOLUTE MAXIMUM RATINGS

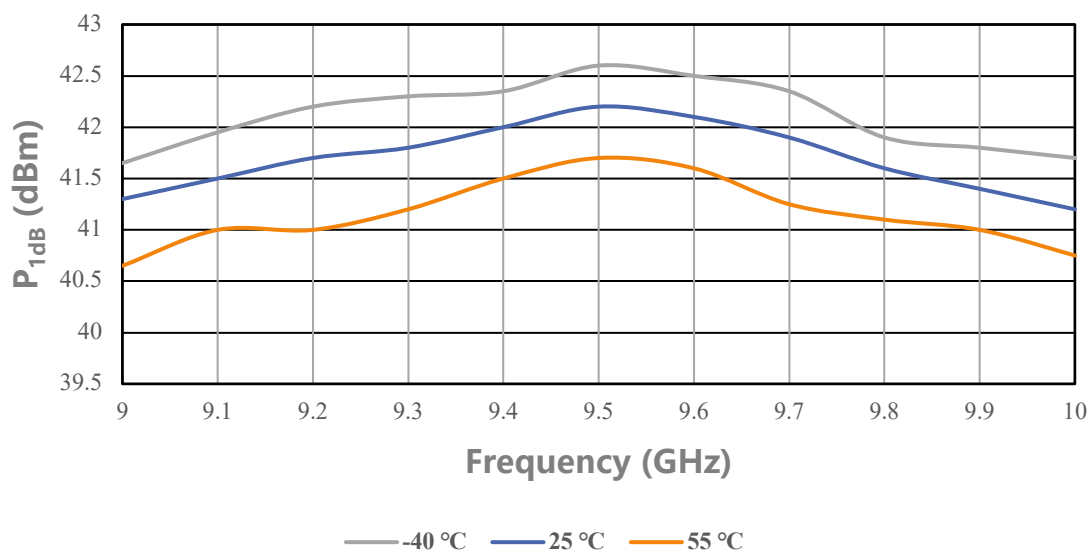
Parameter	Symbol	Condition	Rating	Unit
Drain-Source Voltage	V_{DS}	$TC=25^{\circ}C$	11	V
Gate-Source Voltage	V_{GS}	$TC=25^{\circ}C$	-5	V
Storage Temperature	T_{stg}	$TC=25^{\circ}C$	-65 to 150	$^{\circ}C$
Channel Temperature	T_{ch}	$TC=25^{\circ}C$	150	$^{\circ}C$

ELECTRICAL SPECIFICATIONS

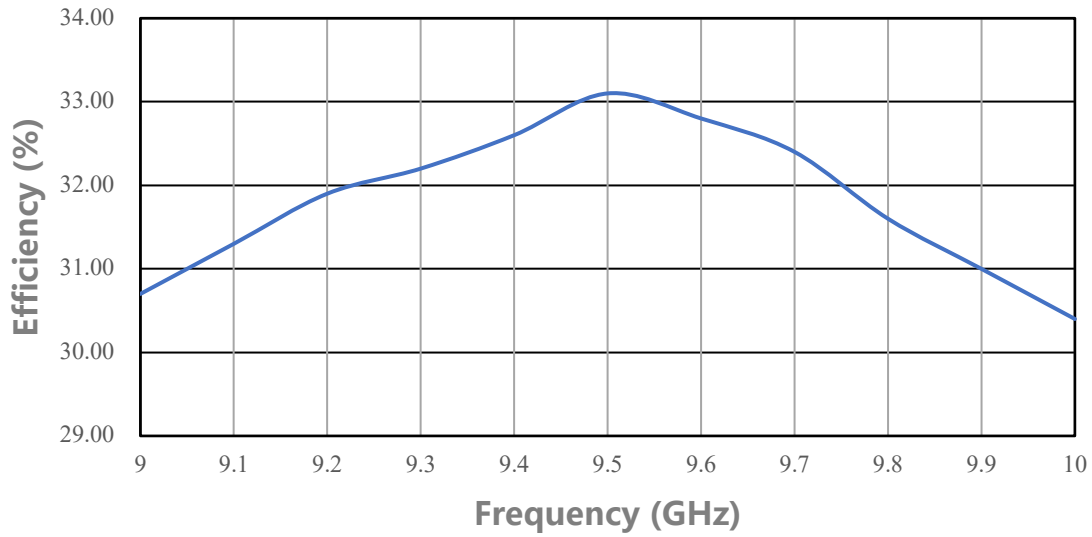
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source Current	I_{DS}	$V_{DS}: 10\text{ V}$ CW (Continuous Wave) $P_{in}: 34\text{ dBm}$ Freq: 9.0 ~ 10.0 GHz	-	4.2	-	A
1dB Output	P_{1dB}		41	-	-	dBm
Power Gain	G_p		7	-	-	dB
Efficiency	η		30	-	-	%
Flatness	ΔG		-0.8	-	0.8	dB

Performance Plots

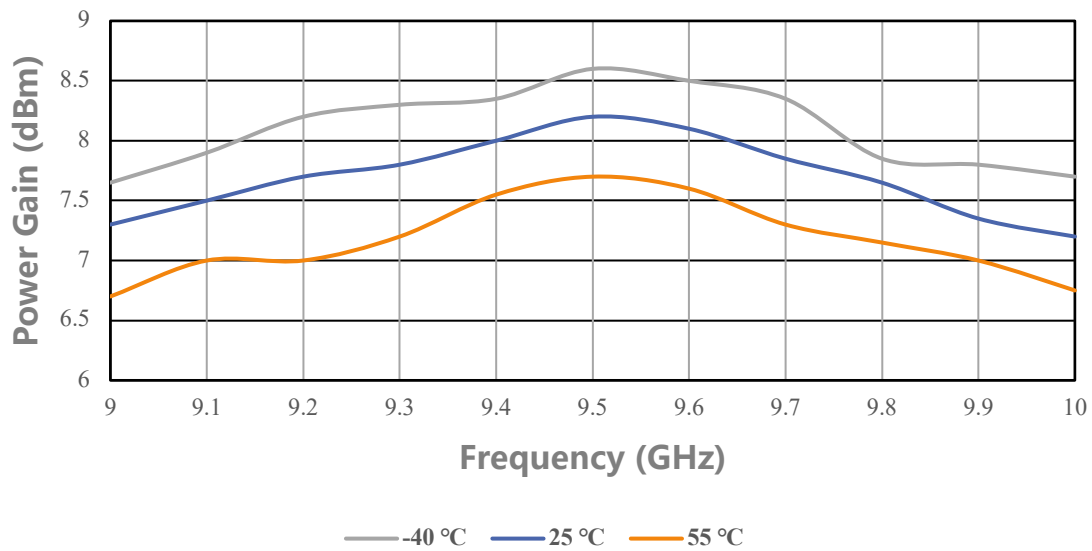
P_{1dB} VS Frequency



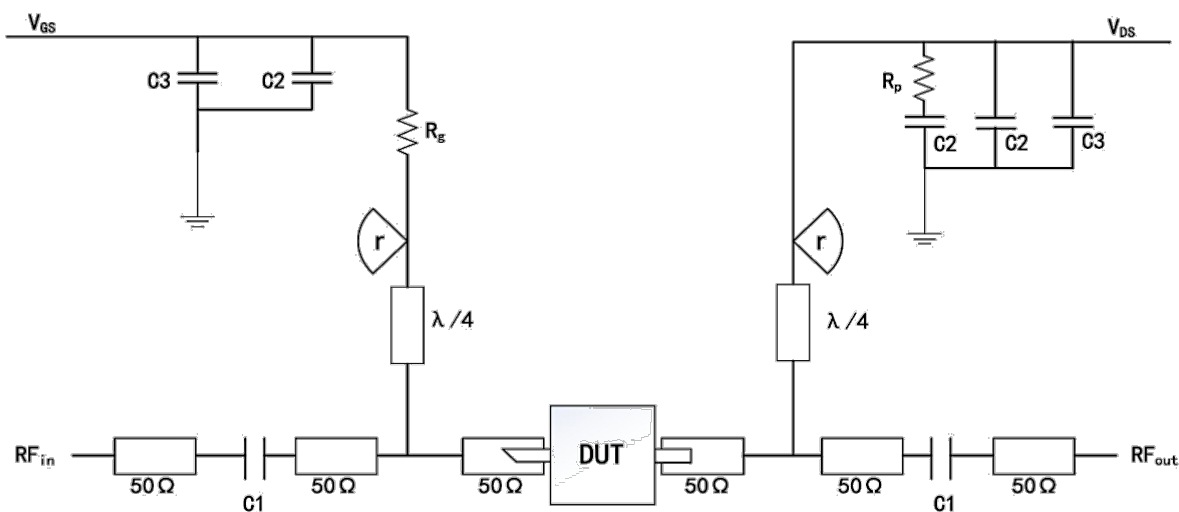
Efficiency VS Frequency



Power Gain VS Frequency



Simplified Block Diagram

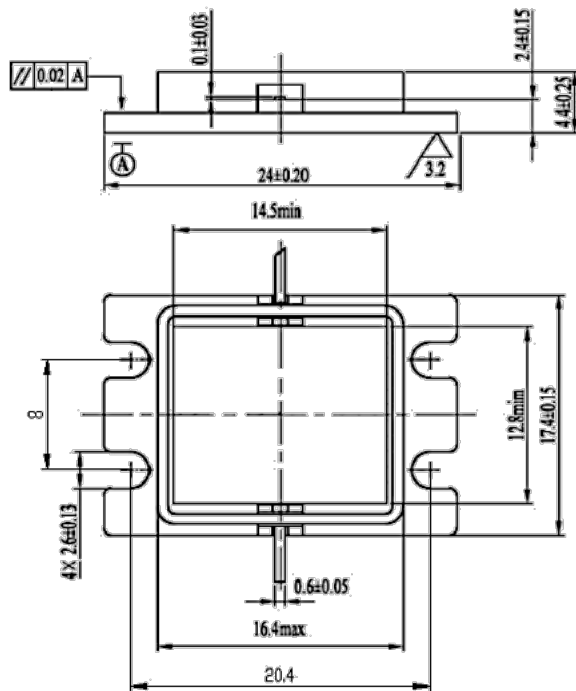


DUT information	
C1: 1 pF	Rp: 51 Ω
C2: 1000 pF	Rg: 15 Ω
C3: 100 μF	R ≈ 3.5 mm

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