SANCOM

SA-PA050053-P41-1

5.0-5.3 GHz High Power GaAs-HEMT

Features

Frequency Range: 5.0-5.3 GHz

P_{1dB} : ≥ 41 dBm

Power Gain: ≥ 10 dB

Efficiency: ≥ 38% (Type)

Z_{in}/ Z_{out} = 50 Ω

Description

Sancom Electric's GaAs-HEMT SA-PA050053-41-1 offers high power, high efficiency, ease of matching and greater consistency for high power applications with 10V operation. The SA-PA050053-P41-1 typically provides 41 dBm of 1dB output power and 10 dB of large-signal gain and can be widely used in various RF/microwave systems.

ABSOLUTE MAXIMUM RATINGS

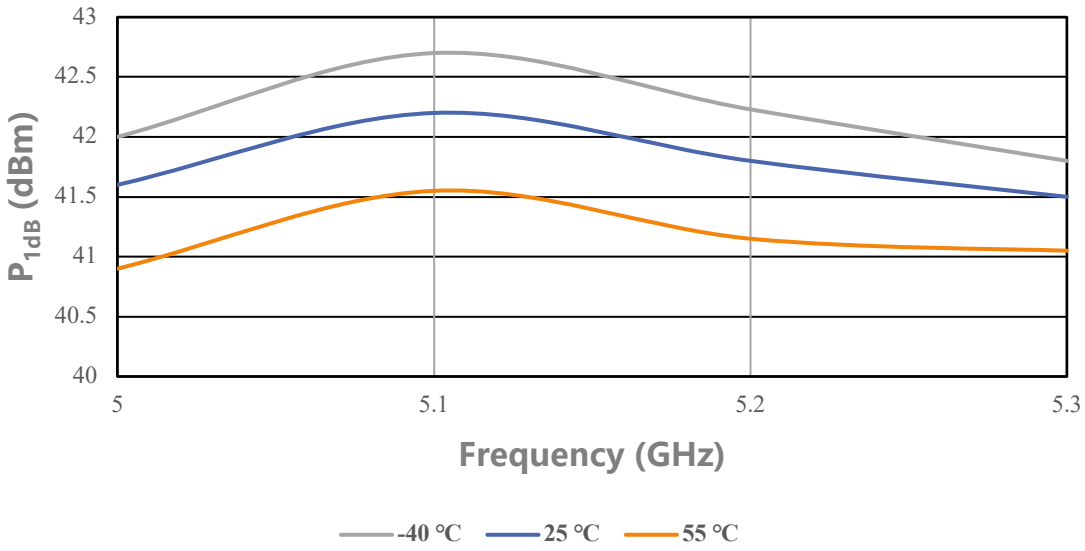
Parameter	Symbol	Condition	Rating	Unit
Drain-Source Voltage	V_{DS}	TC=25℃	11	V
Gate-Source Voltage	V_{GS}	TC=25℃	-5	V
Storage Temperature	T_{stg}	TC=25℃	-65 to 150	℃
Channel Temperature	T_{ch}	TC=25℃	150	℃

ELECTRICAL SPECIFICATIONS

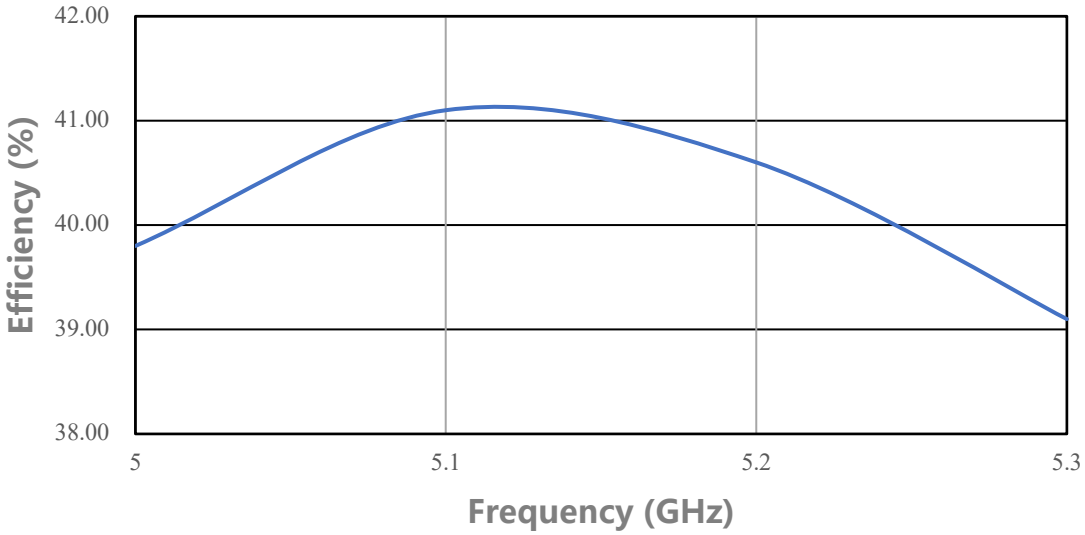
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source Current	I_{DS}	V_{DS}: 10 V CW (Continuous Wave) P_{in}: 31 dBm Freq: 5.0 ~ 5.3 GHz	-	3.3	-	A
1dB Output	P_{1dB}		41	-	-	dBm
Power Gain	G_p		10	-	-	dB
Efficiency	η		38	-	-	%
Flatness	ΔG		-0.8	-	0.8	dB

Performance Plots

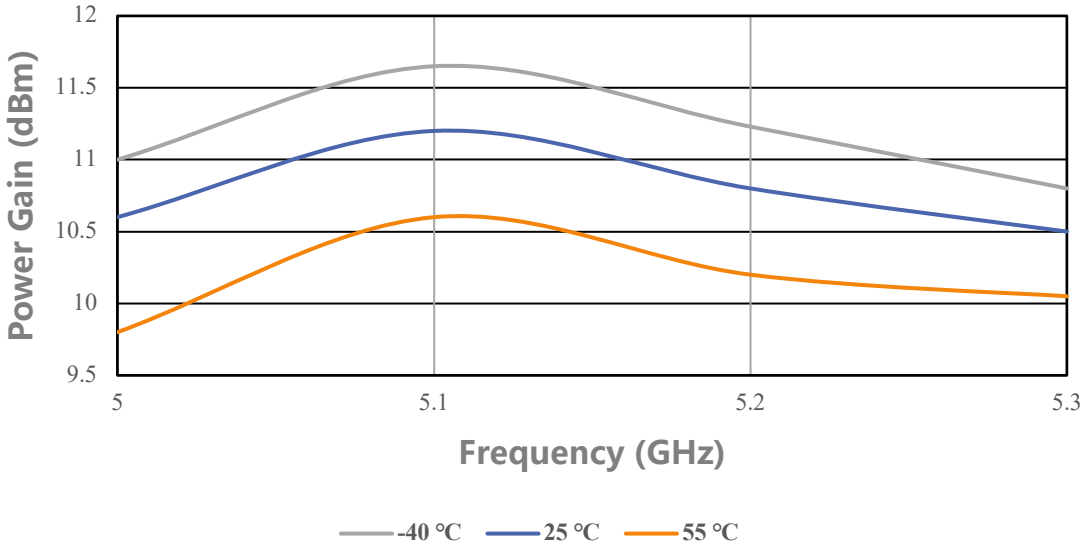
P_{1dB} VS Frequency



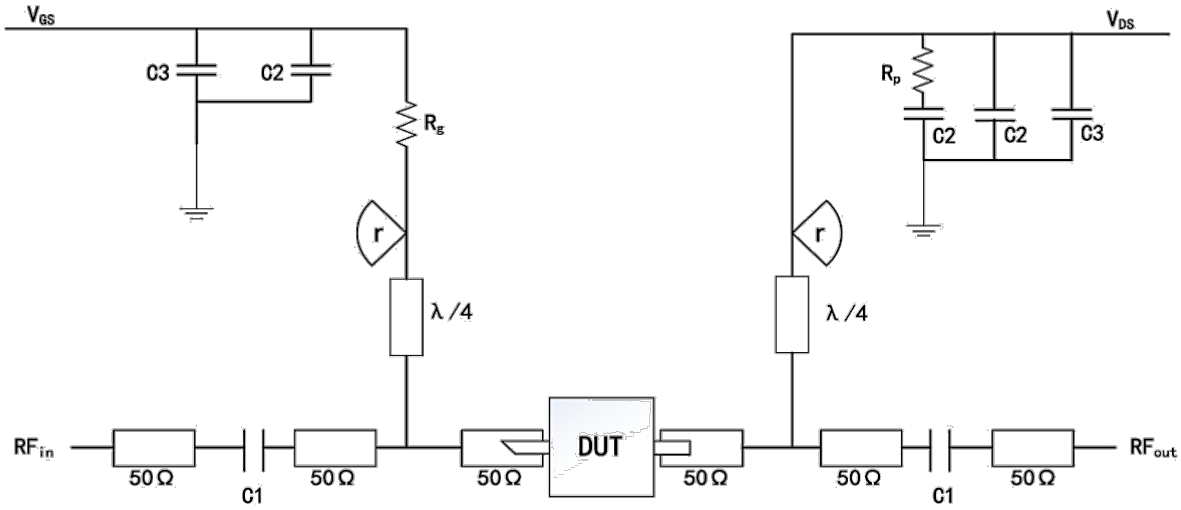
Efficiency VS Frequency



Power Gain VS Frequency



Simplified Block Diagram

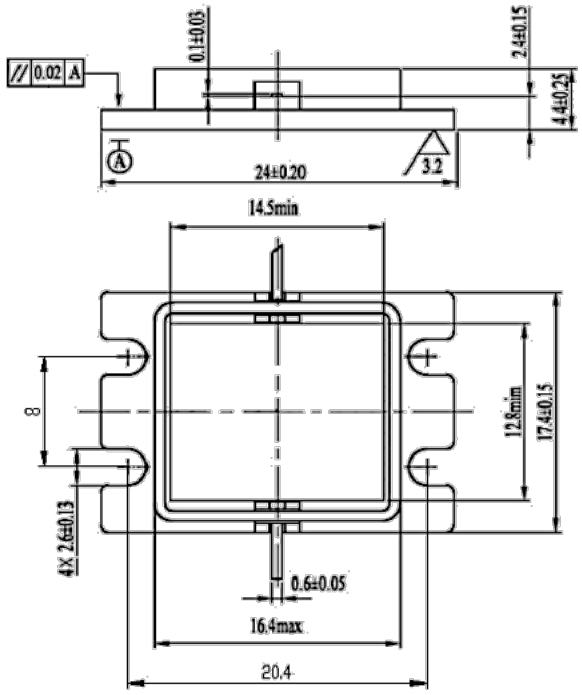


DUT information	
C1: 4.7 pF	Rp: 51 Ω
C2: 1000 pF	Rg: 15 Ω
C3: 100 μF	R≈5.8 mm

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