

Features

- High Output Power: Psat=45.15dBm (typ.)
- High Gain: Gp=12.15dB (typ.)
- High Efficiency: PAE=45% (typ.)
- Impedance Matched Zin/Zout = 50ohm
- Hermetically Sealed Package

Description

The SGC7172-30A is a high power GaN-HEMT that is internally matched for C-band applications to provide optimum power and gain in a 500hm system.



ABSOLUTE MAXIMUM RATING (Case Temperature T_c=25 deg.C)

Item	Symbol	Rating	Unit	
Drain-Source Voltage	V _{DS}	55	V	
Gate-Source Voltage	V _{GS}	-15	V	
Storage Temperature	T _{stq}	-55 to +125	deg.C	
Channel Temperature	T _{ch}	+250	deg.C	

RECOMMENDED OPERATING CONDITION

Item	Symbol	Condition	Limit	Unit
Drain-Source Voltage	V _{DS}		<=50	V
Forward Gate Current	I _{GF}	Rg=100ohm	<=22.5	mA
Reverse Gate Current	I _{GR}	Rg=100ohm	>=-1.3	mA
Channel Temperature	T _{ch}		<+200	deg.C

ELECTRICAL CHARACTERISTICS (Case Temperature T_c=25 deg.C)

Item	Symbol	Condition	Limit			11
			Min.	Тур.	Max.	Unit
Pinch-off Voltage	VP	V_{DS} =50V, I_{DS} =2mA	-	-4.5	-	V
Frequency Range	Freq.	$\lambda = E 0 \lambda$	7.14	-	7.24	GHz
Output Power	P _{sat}	V _{DS} =50V, I _{DS(DC)} =0.2A, Freq.=7.14, 7.19, 7.24GHz, Pin=33dBm, CW	44.15	45.15	-	dBm
Power Gain	G _P		11.15	12.15	-	dB
Gain Flatness	ΔG		-	-	1.0	dB
Power Added Efficiency	PAE		-	45	-	%
3 rd Order Intermodulation Distortion	IM3	f=7.24GHz, Δ f=10MHz, 2-tone Test, Pout=38.0dBm(S.C.L.)	-	-30.0	-	dBc
Thermal Resistance	R _{th}	Channel to Case (P _{diss} =30W)	-	2.3	3.0	deg.C/W

CASE STYLE	IK	
RoHS Compliance	YES	
ESD	Class 2	2000V to <4000V

Note: Based on ANSI/ESDA/JEDEC JS-001-2012(C=100pF, R=1.5kohm)



SGC7172-30A C-band Internally Matched GaN-HEMT

• Package Outline

Case Style: IK





For Safety, Observe the Following Procedures Environmental Management

- Do not put this product into the mouth.
- Do not alter the form of this product into a gas, powder, or liquid through burning, crushing, or chemical processing as these by-products are dangerous to the human body if inhaled, ingested, or swallowed.
- Respect all applicable laws of the country when discarding this product. This product must be disposed in accordance with methods specified by applicable hazardous waste procedures.

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