

Features

- High Output Power: Pout=48.0dBm (Typ.)
- High Gain: GL=8.5dB (Typ.)
- High Power Added Efficiency: PAE=32% (Typ.)
- Broad Band: 13.75 to 14.5GHz
- Hermetically Sealed Package
- Description

The SGK1314-60A is a high power GaN-HEMT that is internally matched for standard communication bands to provide optimum power and gain in a 50ohm system.

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



Item	Symbol	Rating	Unit
Drain-Source Voltage	V _{DS}	26	V
Gate-Source Voltage	V _{GS}	-10	V
Total Power Dissipation	PT	225	W
Storage Temperature	T _{stg}	-55 to +125	deg.C
Channel Temperature	T _{ch}	+250	deg.C
Case Temperature	T _{case}	-40 to +125	deg.C
Input Power	Pin	<=46	dBm

RECOMMENDED OPERATING CONDITION

Item	Symbol	Condition	Limit	Unit		
Drain-Source Voltage	V _{DS}		<=24	V		
Forward Gate Current	I_{GF}	Rg=51ohm	<=20.2	mA		
Reverse Gate Current	I _{GR}	Rg=51ohm	>=-6.4	mA		
Channel Temperature	T _{ch}		<+193	deg.C		

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

Item	Symbol	Condition	Limit			l lasite
		Condition	Min.	Тур.	Max.	Unit
Saturated Drain Current	I _{DSS}	$V_{DS}=10V$, $V_{GS}=0V$	-	21.0	-	A
Trans Conductance	Gm	V_{DS} =24V, I_{DS} =1.8A	-	6.2	-	S
Pinch-off Voltage	VP	V_{DS} =10V, I_{DS} =1.8mA	-	-3.6	-	V
Frequency Range	f		13.75	-	14.5	GHz
Output Power at Pin=43dBm	Pout		47.0	48.0	-	dBm
Linear Gain at Pin=27dBm	GL	V _{DS} =24V(typ.)	7.5	8.5	-	dB
Power Gain at Pout=44.5dBm	GP	$I_{DS(DC)}=1.8A(typ.)$	6.0	7.0	-	dB
Drain Current at Pin=43dBm	I _{DSR}	Vgs-constant	-	6.6	9.1	А
Power Added Efficiency at Pin=43dBm	PAE		-	32	-	%
Gain Flatness at Pin=27dBm	ΔG		-	-	1.6	dB
3rd Order Intermodulation Distortion	IM ₃	f=13.75GHz, 14.5GHz Δf=10MHz, 2-tone Test Pout=41.5dBm (S.C.L.)	-25.0	-30.0	-	dBc
Thermal Resistance	R _{th}	Channel to Case (Tc=25deg.C, P _{diss} =43.2W)	-	0.8	1.0	deg.C/W

S.C.L. : Single Carrier Level

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

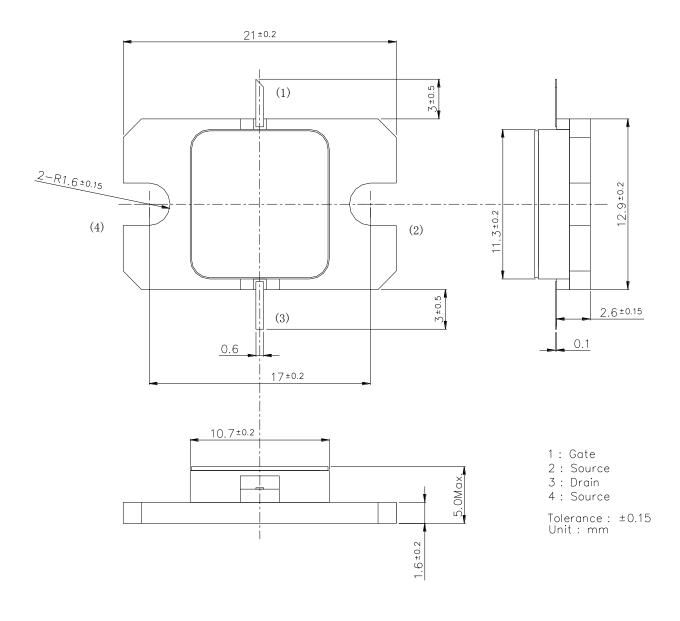
Note : Based on ANSI/ESDA/JEDEC JS-001-2012(C=100pF, R=1.5kohm)



SGK1314-60A Ku-Band Internally Matched GaN-HEMT

• Package Out line

Case Style : IBK





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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