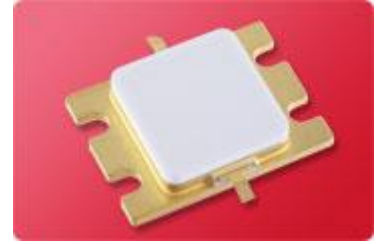


FEATURES

- High Power : 160W (typ.) @ Pin=6.3W (38dBm)
- High Efficiency : 62% (typ.) @ Pin=6.3W (38dBm)
- Broad Band : 2.7 to 3.1 GHz
- Impedance Matched Zin/Zout = 50 ohm

DESCRIPTION

Sumitomo GaN-HEMT SGN2731-130H-R offers high power, high efficiency and greater consistency for S-band radar applications with 50V operation. The low thermal resistance allows to use long pulse up to 5 msec pulse width with duty of 10%.



RoHS COMPLIANCE	Yes
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ABSOLUTE MAXIMUM RATINGS (Case Temperature Tc=25 deg.C)

Item	Symbol	Condition	Rating	Unit
Operating Voltage	V_{DS}		55	V
Drain-Source Voltage	V_{DS}	$V_{GS}=-10V$	250	V
Gate-Source Voltage	V_{GS}		- 15	V
Storage Temperature	T_{stg}		-55 to +125	deg.C
Channel Temperature	T_{ch}		250	deg.C

RECOMMENDED OPERATING CONDITION

Item	Symbol	Condition	Limit	Unit
DC Input Voltage	V_{DS}		≤ 50	V
Forward Gate Current	I_{GF}	$R_G=12 \text{ ohm}$	≤ 122	mA
Reverse Gate Current	I_{GR}	$R_G=12 \text{ ohm}$	≥ -5.2	mA
Peak Channel Temperature	$T_{ch-peak}$		≤ 200	deg.C
Pulse Width	PW	Duty 10%	≤ 5000	μsec
		Duty 25%	≤ 1000	μsec

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

Item	Symbol	Condition	Limit			Unit
			Min.	Typ.	Max.	
Pinch-Off Voltage	V_p	$V_{DS}=50V$ $I_{DS}=36 \text{ mA}$	-4.0	-3.0	-2.0	V
Output Power	P_{out}	$V_{DS}=50V$	51.2	52.2	-	dBm
Drain Efficiency	DE	$I_{DS(DC)}=500 \text{ mA}$	-	62	-	%
Power Gain	G_p	$P_{in}=6.3W$ (38dBm)	13.2	14.2	-	dB
Gain Flatness	GF	$f=2.7, 2.8, 2.9, 3.0, 3.1 \text{ GHz}$	-	0.8	1.3	dB
Load Mismatch Ruggedness	VSWR	PW=400 μsec , Duty=25%	10:1	-	-	-
Thermal Resistance	R_{Th}	Channel to Case at 105W P_{DC}	-	1.0	1.2	deg.C/W

IV Package Outline Metal-Ceramic Hermetic Package

