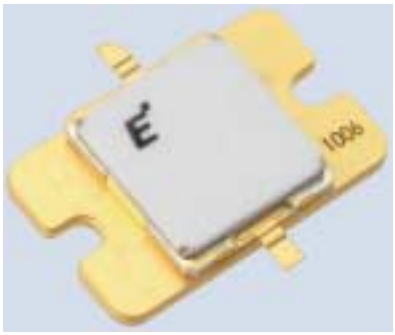
GaN-HEMT 105W

EGN26C105I2D

High Voltage - High Power GaN-HEMT



FEATURES

- High Voltage Operation : V_{DS}=50V
- High Power : 50.3dBm (typ.) @ Psat
- High Efficiency: 68%(typ.) @ Psat
- Power Gain : 17dB(typ.) @ f=2.6GHz
- Proven Reliability

DESCRIPTION

SEDI's GaN-HEMT offers high efficiency, ease of matching, greater consistency and broad bandwidth for high power L-band amplifiers with 50V operation, and gives you higher gain.
This new product is ideally suited for use from 2.3GHz to 2.7GHz W-CDMA & LTE design requirements as it offers high gain, long term reliability and ease of use.

ABSOLUTE MAXIMUM RATINGS (Case Temperature Tc=25°C)

Item	Symbol	Condition	Rating	Unit
Operating-Voltage	V_{DS}		55	V
Drain-Source Voltage	V_{DS}	V_{GS}=-8V	160	V
Gate-Source Voltage	V_{GS}		-15	V
Total Power Dissipation	P_t		97.8	W
Storage Temperature	T_{stg}		-65 to +175	°C
Channel Temperature	T_{ch}		250	°C

RECOMMENDED OPERATING CONDITION

Item	Symbol	Condition	Limit	Unit
DC Input Voltage	V_{DS}		≤ 55	V
Forward Gate Current	I_{GF}	R_G=5Ω	≤ 102	mA
Reverse Gate Current	I_{GR}	R_G=5Ω	≥ -3.9	mA
Channel Temperature	T_{ch}		≤ 180	°C
Average Output Power	Pave.		≤ 47.5	dBm

ELECTRICAL CHARACTERISTICS (Case Temperature Tc=25°C)

Item	Symbol	Condition	Limit			Unit
			min.	Typ.	Max.	
Pinch-Off Voltage	V_p	V_{DS}=50V I_{DS}=27mA	-1.0	-1.5	-2.0	V
Saturated Power	Psat *1	V_{DS}=50V	49.5	50.3	-	dBm
Drain Efficiency	η_d *2	$I_{DS(DC)}$=400mA	27	32	-	%
Power Gain	Gp *2	f=2.60GHz	16.0	17.0	-	dB
Thermal Resistance	R_{th}	Channel to Case at 52.5W P_{DC}	-	2.0	2.3	°C/W

*1 : 10%-duty RF pulse (DC supply constant)
*2 : Pout = 42.0dBm, CW modulation Signal (W-CDMA or WiMAX)

I2D Package Outline
Metal-Ceramic Hermetic Package