



# GaN-HEMT 210W

# EGN26C210I2D

High Voltage - High Power GaN-HEMT

### FEATURES

- High Voltage Operation :  $V_{DS}=50V$
- High Power : 53.0dBm (typ.) @  $P_{sat}$
- High Efficiency: 62%(typ.) @  $P_{sat}$
- Power Gain : 16dB(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 $T_c=25^{\circ}C$ )

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	$P_t$		173	W
Storage Temperature	$T_{stg}$		-65 to +175	$^{\circ}C$
Channel Temperature	$T_{ch}$		250	$^{\circ}C$

### RECOMMENDED OPERATING CONDITION

Item	Symbol	Condition	Limit	Unit
DC Input Voltage	$V_{DS}$		$\leq 55$	V
Forward Gate Current	$I_{GF}$	$R_G=5\Omega$	$\leq 204$	mA
Reverse Gate Current	$I_{GR}$	$R_G=5\Omega$	$\geq -7.8$	mA
Channel Temperature	$T_{ch}$		$\leq 180$	$^{\circ}C$
Average Output Power	$P_{ave.}$		$\leq 50.5$	dBm

### ELECTRICAL CHARACTERISTICS (Case Temperature $T_c=25^{\circ}C$ )

Item	Symbol	Condition	Limit			Unit
			min.	Typ.	Max.	
Pinch-Off Voltage	$V_p$	$V_{DS}=50V$ $I_{DS}=54.4mA$	-1.0	-1.5	-2.0	V
Saturated Power	$P_{sat} *1$	$V_{DS}=50V$	52.0	53.0	-	dBm
Drain Efficiency	$\eta_d *2$	$I_{DS}(DC)=750mA$	25	30	-	%
Power Gain	$G_p *2$	$f=2.60GHz$	15.0	16.0	-	dB
Thermal Resistance	$R_{th}$	Channel to Case at 105W $P_{DC}$	-	1.1	1.3	$^{\circ}C/W$

\*1 : 10%-duty RF pulse (DC supply constant)

\*2 :  $P_{out} = 45.0dBm$ , CW modulation Signal (W-CDMA or WiMAX)



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## I2D Package Outline Metal-Ceramic Hermetic Package

