

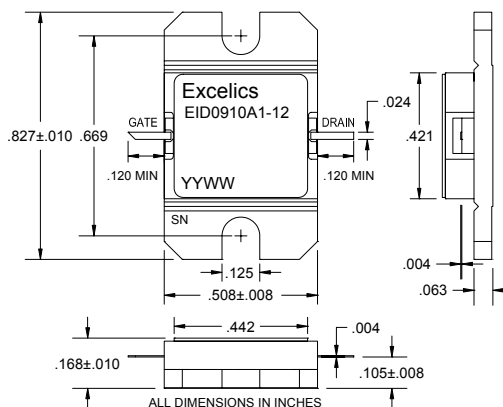
# EID0910A1-12

UPDATED 07/12/2007

## 9.50-10.50 GHz 12-Watt Internally Matched Power FET

### FEATURES

- 9.50– 10.50GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +41 dBm Output Power at 1dB Compression
- 8.0 dB Power Gain at 1dB Compression
- 28% Power Added Efficiency
- Hermetic Metal Flange Package
- 100% Tested for DC, RF, and  $R_{TH}$



### ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )



Caution! ESD sensitive device.

SYMBOL	PARAMETERS/TEST CONDITIONS <sup>1</sup>	MIN	TYP	MAX	UNITS
$P_{1dB}$	Output Power at 1dB Compression $V_{DS} = 10\text{ V}$ , $I_{DSQ} \approx 3200\text{mA}$ $f = 9.50\text{-}10.50\text{GHz}$	40	41		dBm
$G_{1dB}$	Gain at 1dB Compression $V_{DS} = 10\text{ V}$ , $I_{DSQ} \approx 3200\text{mA}$ $f = 9.50\text{-}10.50\text{GHz}$	7.0	8.0		dB
$\Delta G$	Gain Flatness $V_{DS} = 10\text{ V}$ , $I_{DSQ} \approx 3200\text{mA}$ $f = 9.50\text{-}10.50\text{GHz}$			$\pm 0.6$	dB
PAE	Power Added Efficiency at 1dB Compression $V_{DS} = 10\text{ V}$ , $I_{DSQ} \approx 3200\text{mA}$ $f = 9.50\text{-}10.50\text{GHz}$		28		%
$I_{d1dB}$	Drain Current at 1dB Compression $f = 9.50\text{-}10.50\text{GHz}$		3800	4300	mA
$I_{DSS}$	Saturated Drain Current $V_{DS} = 3\text{ V}$ , $V_{GS} = 0\text{ V}$		6400	8000	mA
$V_P$	Pinch-off Voltage $V_{DS} = 3\text{ V}$ , $I_{DS} = 64\text{ mA}$		-1.2	-2.5	V
$R_{TH}$	Thermal Resistance <sup>2</sup>		2.5	3.0	$^\circ\text{C/W}$

Notes:

1. Tested with 50 Ohm gate resistor.
2. Overall  $R_{th}$  depends on case mounting.

### ABSOLUTE MAXIMUM RATING<sup>1,2</sup>

SYMBOL	CHARACTERISTIC	VALUE
$V_{DS}$	Drain to Source Voltage	10 V
$V_{GS}$	Gate to Source Voltage	-3.0 V
$I_{DS}$	Drain Current	$I_{DSS}$
$I_{GSF}$	Forward Gate Current	220 mA
$P_{IN}$	Input Power	@ 3dB compression
$P_T$	Total Power Dissipation	50 W
$T_{CH}$	Channel Temperature	175 $^\circ\text{C}$
$T_{STG}$	Storage Temperature	-65/+175 $^\circ\text{C}$

- Notes: 1. Exceeding any of the above ratings may result in permanent damage.  
2. Exceeding any of the above ratings may reduce MTTF below design goals.

Specifications are subject to change without notice.

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