



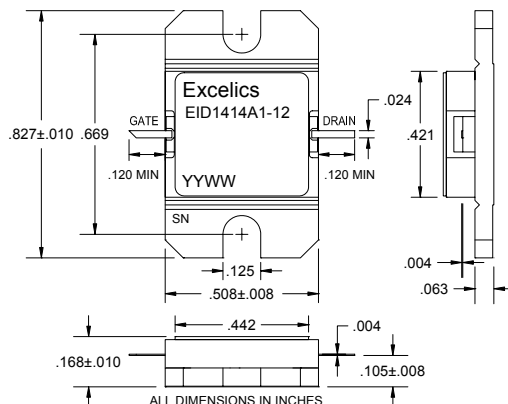
EID1414A1-12

UPDATED 07/12/2007

14.00-14.50 GHz 12-Watt Internally Matched Power FET

FEATURES

- 14.00-14.50 GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +41.0 dBm Output Power at 1dB Compression
- 6.0 dB Power Gain at 1dB Compression
- 23% 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 ¹	MIN	TYP	MAX	UNITS
P_{1dB}	Output Power at 1dB Compression $f = 14.00-14.50\text{GHz}$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 3200\text{mA}$	40.0	41.0		dBm
G_{1dB}	Gain at 1dB Compression $f = 14.00-14.50\text{GHz}$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 3200\text{mA}$	5.0	6.0		dB
ΔG	Gain Flatness $f = 14.00-14.50\text{GHz}$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 3200\text{mA}$			± 0.6	dB
PAE	Power Added Efficiency at 1dB Compression $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 3200\text{mA}$ $f = 14.00-14.50\text{GHz}$		23		%
I_{d1dB}	Drain Current at 1dB Compression $f = 14.00-14.50\text{GHz}$		3960	5100	mA
I_{DSS}	Saturated Drain Current $V_{DS} = 3\text{ V}$, $V_{GS} = 0\text{ V}$		5900	8200	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 ²		2.5	3.5	$^\circ\text{C/W}$

Notes:

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

ABSOLUTE MAXIMUM RATINGS FOR CONTINUOUS OPERATION^{1,2}

SYMBOL	CHARACTERISTIC	VALUE
V_{DS}	Drain to Source Voltage	10 V
V_{GS}	Gate to Source Voltage	-4.5 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	35 W
T_{CH}	Channel Temperature	150 $^\circ\text{C}$
T_{STG}	Storage Temperature	-65/+150 $^\circ\text{C}$

- 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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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness

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