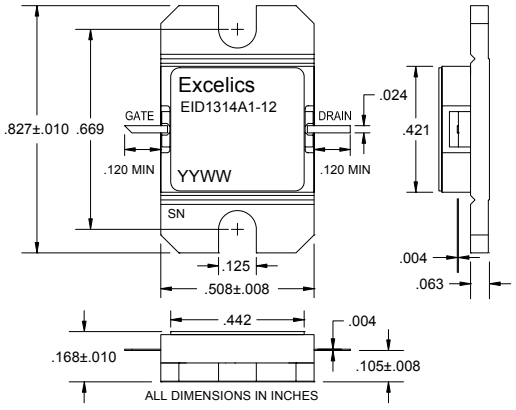
EID1314A1-12

UPDATED: 07/12/2007

13.75–14.50 GHz 12-Watt Internally Matched Power FET

FEATURES

- **13.75-14.50 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}**



Caution! ESD sensitive device.

ELECTRICAL CHARACTERISTICS (T_a = 25°C)

SYMBOL	PARAMETERS/TEST CONDITIONS[1]	MIN	TYP	MAX	UNITS
P_{1dB}	Output Power at 1dB Compression f = 13.75-14.50GHz V_{DS} = 10 V, I_{DSQ} ≈ 3200mA	40.0	41.0		dBm
G_{1dB}	Gain at 1dB Compression f = 13.75-14.50GHz V_{DS} = 10 V, I_{DSQ} ≈ 3200mA	5.0	6.0		dB
ΔG	Gain Flatness f = 13.75-14.50GHz V_{DS} = 10 V, I_{DSQ} ≈ 3200mA			±0.6	dB
PAE	Power Added Efficiency at 1dB Compression V_{DS} = 10 V, I_{DSQ} ≈ 3200mA f = 14.40-15.35GHz		23		%
Id_{1dB}	Drain Current at 1dB Compression f = 14.40-15.35GHz		3960	5100	mA
I_{DSS}	Saturated Drain Current V_{DS} = 3 V, V_{GS} = 0 V		5900	8200	mA
V_P	Pinch-off Voltage V_{DS} = 3 V, I_{DS} = 64 mA		-1.2	-2.5	V
R_{TH}	Thermal Resistance[2]		2.5	3.5	°C/W

Notes:
1. Tested with 50 Ohm gate resistor.
2. Overall Rth 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	IDSS
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°C
T_{STG}	Storage Temperature	-65/+150°C

Note: 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.

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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