



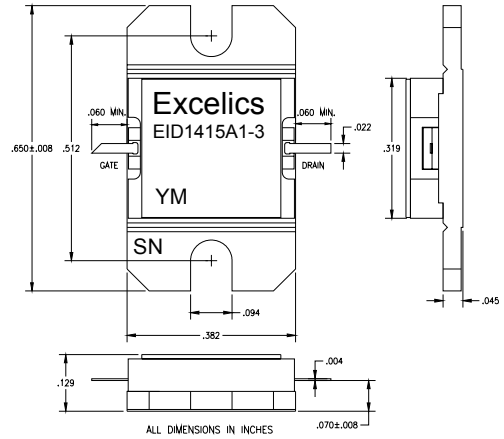
EID1415A1-3

ISSUED: 02/19/2009

14.40-15.35GHz, 3-Watt Internally-Matched Power FET

FEATURES

- 14.40-15.35GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +34.5 dBm Output Power at 1dB Compression
- 8.0 dB Power Gain at 1dB Compression
- 30% Power Added Efficiency
- Hermetic Metal Flange Package



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 $f = 14.40\text{-}15.35\text{GHz}$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 700\text{ mA}$	33.5	34.5		dBm
G_{1dB}	Gain at 1dB Compression $f = 14.40\text{-}15.35\text{GHz}$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 700\text{ mA}$	7.0	8.0		dB
ΔG	Gain Flatness $f = 14.40\text{-}15.35\text{GHz}$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 700\text{ mA}$			± 0.6	dB
PAE	Power Added Efficiency at 1dB Compression $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 700\text{ mA}$ $f = 14.40\text{-}15.35\text{GHz}$		30		%
I_{d1dB}	Drain Current at 1dB Compression $f = 14.40\text{-}15.35\text{GHz}$		750	900	mA
I_{DSS}	Saturated Drain Current $V_{DS} = 3\text{ V}$, $V_{GS} = 0\text{ V}$		1040	1440	mA
V_P	Pinch-off Voltage $V_{DS} = 3\text{ V}$, $I_{DS} = 10\text{ mA}$		-1.2	-2.5	V
R_{TH}	Thermal Resistance ³		11.0	12.0	$^\circ\text{C/W}$

Notes:

1. Tested with 100 Ohm gate resistor. 2. S.C.L. = Single Carrier Level. 3. 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	-3 V
I_{DS}	Drain Current	I_{DSS}
I_{GSF}	Forward Gate Current	20 mA
P_{IN}	Input Power	@ 3dB compression
P_T	Total Power Dissipation	10 W
T_{CH}	Channel Temperature	150 $^\circ\text{C}$
T_{STG}	Storage Temperature	-65/+150 $^\circ\text{C}$

Notes:

- Operating the device beyond any of the above ratings may result in permanent damage or reduction of MTTF.
- Bias conditions must also satisfy the following equation $P_T < (T_{CH} - T_{PKG})/R_{TH}$, where T_{PKG} = temperature of package, and $P_T = (V_{DS} * I_{DS}) - (P_{OUT} - P_{IN})$.

Specifications are subject to change without notice.

Excelics Semiconductor, Inc. 310 De Guigne Drive, Sunnyvale, CA 94085
Phone: 408-737-1711 Fax: 408-737-1868 Web: www.excelics.com

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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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