

FEATURES

- 14.0-16.0GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +39.5 dBm Output Power at 1dB Compression
- 6.0 dB Power Gain at 1dB Compression
- 27% Power Added Efficiency
- 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 $f = 14.0\text{-}16.0\text{GHz}$ $V_{DS} = 10\text{V}$, $I_{DSQ} \approx 2200\text{mA}$	38.5	39.5		dBm
G_{1dB}	Gain at 1dB Compression $f = 14.0\text{-}16.0\text{GHz}$ $V_{DS} = 10\text{V}$, $I_{DSQ} \approx 2200\text{mA}$	5.0	6.0		dB
ΔG	Gain Flatness $f = 14.0\text{-}16.0\text{GHz}$ $V_{DS} = 10\text{V}$, $I_{DSQ} \approx 2200\text{mA}$			± 0.6	dB
PAE	Power Added Efficiency at 1dB Compression $V_{DS} = 10\text{V}$, $I_{DSQ} \approx 2200\text{mA}$ $f = 14.0\text{-}16.0\text{GHz}$		27		%
I_{d1dB}	Drain Current at 1dB Compression $f = 14.0\text{-}16.0\text{GHz}$		2800	3600	mA
I_{DSS}	Saturated Drain Current $V_{DS} = 3\text{V}$, $V_{GS} = 0\text{V}$		4200	5760	mA
V_P	Pinch-off Voltage $V_{DS} = 3\text{V}$, $I_{DS} = 40\text{mA}$		-1.2	-2.5	V
R_{TH}	Thermal Resistance ²		3.5	4.0	$^\circ\text{C/W}$

Note: 1. Tested with 100 Ohm gate resistor.
2. S.C.L. = Single Carrier Level.
3. Overall R_{th} depends on case mounting.

ABSOLUTE MAXIMUM RATING FOR EFE

SYMBOLS	PARAMETERS	ABSOLUTE ¹	CONTINUOUS ²
Vds	Drain-Source Voltage	15V	10V
Vgs	Gate-Source Voltage	-5V	-4V
Igf	Forward Gate Current	96mA	28.8mA
Igr	Reverse Gate Current	-19.2mA	-4.8mA
Pin	Input Power	38.5dBm	@ 3dB Compression
Tch	Channel Temperature	175C	175C
Tstg	Storage Temperature	-65C to +175C	-65C to +175C
Pt	Total Power Dissipation	38W	38W

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.



EID1416A1-8

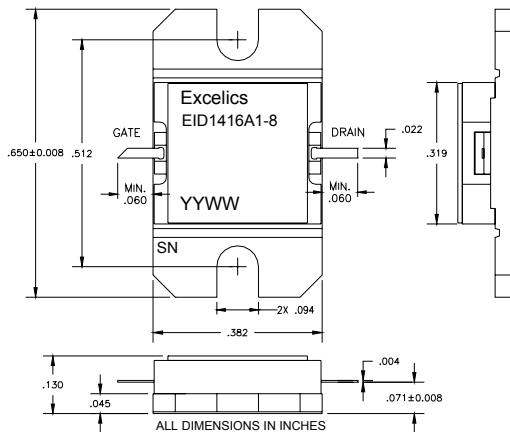
UPDATED 09/20/2007

14.0-16.0GHz 8-Watt Internally-Matched Power FET

PACKAGES OUTLINE

Dimensions in inches, Tolerance $\pm .005$ unless otherwise specified

EID1416A1-8 (Hermetic)



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ORDERING INFORMATION

Part Number	Packages	Grade ¹	f _{Test} (GHz)	P _{1dB} (min)
EID1416S1-8	Hermetic	Industrial	14.0-16.0GHz	38.5

- Notes:
1. Contact factory for military and hi-rel grades.
 2. Exact test conditions are specified in "Electrical Characteristics" table.

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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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