

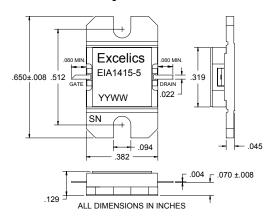
EIA1415-5

UPDATED 11/17/2006

14.40-15.35GHz 5-Watt Internally Matched Power FET

FEATURES

- 14.40–15.35GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +36.5 dBm Output Power at 1dB Compression
- 7.0 dB Power Gain at 1dB Compression
- 33% Power Added Efficiency
- Hermetic Metal Flange Package
- 100% Tested for DC, RF, and R_{TH}



ELECTRICAL CHARACTERISTICS (Ta = 25°C)



Caution! ESD sensitive device.

SYMBOL	PARAMETERS/TEST CONDITIONS ¹		TYP	MAX	UNITS
P _{1dB}	Output Power at 1dB Compression f = 14.40-5.35GHz V_{DS} = 8 V, I_{DSQ} ≈ 1400mA	35.5	36.5		dBm
G _{1dB}	Gain at 1dB Compression $f = 14.40-15.35GHz$ $V_{DS} = 8 \text{ V}, I_{DSQ} \approx 1400\text{mA}$	6.0	7.0		dB
ΔG	Gain Flatness $f = 14.40-15.35GHz$ $V_{DS} = 8 \text{ V}, I_{DSQ} \approx 1400\text{mA}$			±0.6	dB
PAE	Power Added Efficiency at 1dB Compression $V_{DS} = 8 \text{ V}, I_{DSQ} \approx 1400 \text{mA}$ f = 14.40-15.35GHz		33		%
Id _{1dB}	Drain Current at 1dB Compression f =14.40-15.35GHz		1700	2000	mA
I _{DSS}	Saturated Drain Current $V_{DS} = 3 \text{ V}, V_{GS} = 0 \text{ V}$		2880	3600	mA
V_P	Pinch-off Voltage $V_{DS} = 3 \text{ V}, I_{DS} = 29 \text{ mA}$		-1.0	-2.5	V
R _{TH}	Thermal Resistance ²		5.5	6.0	°C/W

Note: 1) Tested with 100 Ohm gate resistor.

ABSOLUTE MAXIMUM RATING^{1,2}

ASSOCIATE MAXIMUM RATING						
SYMBOLS	PARAMETERS	ABSOLUTE ¹	CONTINUOUS ²			
V _{DS}	Drain-Source Voltage	10	8V			
V_{GS}	Gate-Source Voltage	-5	-3V			
lgf	Forward Gate Current	43.2mA	14.4mA			
lgr	Reverse Gate Current	-7.2mA	-2.4mA			
Pin	Input Power	35.5dBm	@ 3dB Compression			
Tch	Channel Temperature	175 °C	175 °C			
Tstg	Storage Temperature	-65 to +175 °C	-65 to +175 °C			
Pt	Total Power Dissipation	25W	25W			

Note: 1) Exceeding any of the above ratings may result in permanent damage.

²⁾ Overall Rth depends on case mounting.

²⁾ Exceeding any of the above ratings may reduce MTTF below design goals.



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