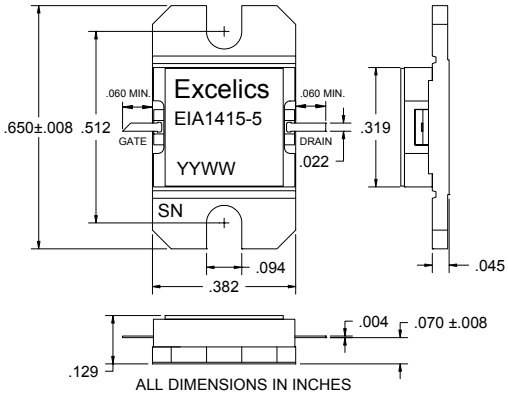
EIA1415-5

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 (T_a = 25°C)

Caution! ESD sensitive device.

SYMBOL	PARAMETERS/TEST CONDITIONS[1]	MIN	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 V, I_{DSQ} ≈ 1400mA	6.0	7.0		dB
ΔG	Gain Flatness f =14.40-15.35GHz V_{DS} = 8 V, I_{DSQ} ≈ 1400mA			±0.6	dB
PAE	Power Added Efficiency at 1dB Compression V_{DS} = 8 V, I_{DSQ} ≈ 1400mA 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 V, V_{GS} = 0 V		2880	3600	mA
V_P	Pinch-off Voltage V_{DS} = 3 V, I_{DS} = 29 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.
2) Overall Rth depends on case mounting.

ABSOLUTE MAXIMUM RATING[1,2]

SYMBOLS	PARAMETERS	ABSOLUTE[1]	CONTINUOUS[2]
V_{DS}	Drain-Source Voltage	10	8V
V_{GS}	Gate-Source Voltage	-5	-3V
Igf	Forward Gate Current	43.2mA	14.4mA
Igr	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) Exceeding any of the above ratings may reduce MTTF below design goals.

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