



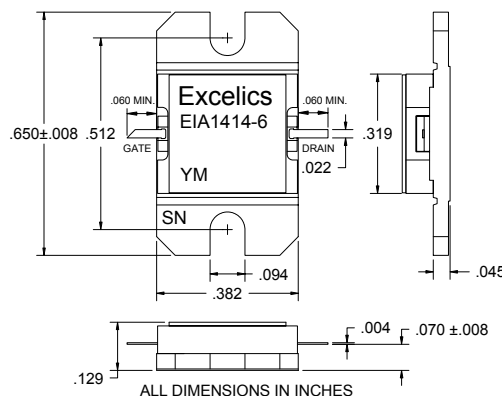
EIA1414-6

UPDATED 12/5/2005

14.00-14.50 GHz 6-Watt Internally Matched Power FET

FEATURES

- 14.00– 14.50GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +37.5 dBm Output Power at 1dB Compression
- 8.0 dB Power Gain at 1dB Compression
- 33% 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 $f = 14.00\text{-}14.50\text{GHz}$ $V_{DS} = 8\text{ V}$, $I_{DSQ} \approx 1600\text{mA}$	36.5	37.5		dBm
G_{1dB}	Gain at 1dB Compression $f = 14.00\text{-}14.50\text{GHz}$ $V_{DS} = 8\text{ V}$, $I_{DSQ} \approx 1600\text{mA}$	7.0	8.0		dB
ΔG	Gain Flatness $f = 14.00\text{-}14.50\text{GHz}$ $V_{DS} = 8\text{ V}$, $I_{DSQ} \approx 1600\text{mA}$			± 0.6	dB
PAE	Power Added Efficiency at 1dB Compression $f = 14.00\text{-}14.50\text{GHz}$ $V_{DS} = 8\text{ V}$, $I_{DSQ} \approx 1600\text{mA}$		33		%
I_{d1dB}	Drain Current at 1dB Compression $f = 14.00\text{-}14.50\text{GHz}$		1800	2100	mA
I_{DSS}	Saturated Drain Current $V_{DS} = 3\text{ V}$, $V_{GS} = 0\text{ V}$		2800	3500	mA
V_P	Pinch-off Voltage $V_{DS} = 3\text{ V}$, $I_{DS} = 28\text{mA}$		-1.0	-2.5	V
R_{TH}	Thermal Resistance ³		4.5	5.0	$^\circ\text{C/W}$

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^{1,2}

SYMBOLS	PARAMETERS	ABSOLUTE ¹	CONTINUOUS ²
V_{ds}	Drain-Source Voltage	12	8V
V_{gs}	Gate-Source Voltage	-5	-3V
I_{ds}	Drain Current	I_{DSS}	3.5A
I_{gsf}	Forward Gate Current	43.2mA	14.4mA
I_{gsr}	Reverse Gate Current	-7.2mA	-2.4mA
P_{in}	Input Power	36.5dBm	@ 3dB Compression
T_{ch}	Channel Temperature	175 $^\circ\text{C}$	175 $^\circ\text{C}$
T_{stg}	Storage Temperature	-65 to +175 $^\circ\text{C}$	-65 to +175 $^\circ\text{C}$
P_t	Total Power Dissipation	30W	30W

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.

Specifications are subject to change without notice.

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page 1 of 1

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