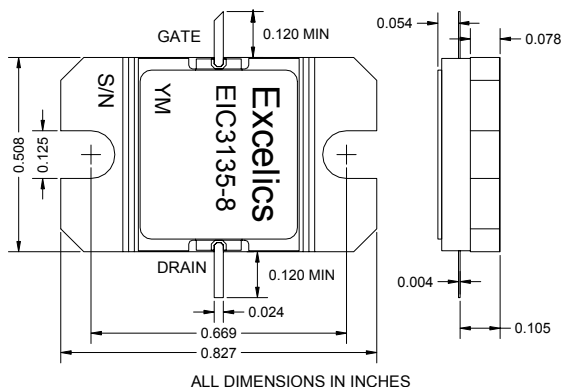


UPDATED 01/10/2005

3.10-3.50 GHz 8W Internally Matched Power FET

FEATURES

- 3.10-3.50 GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +39.5 dBm Output Power at 1dB Compression
- 13.0 dB Power Gain at 1dB Compression
- 37% Power Added Efficiency
- -46 dBc IM3 at $P_o = 28.5$ dBm SCL
- 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 $f = 3.10\text{-}3.50\text{GHz}$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 2200\text{mA}$	38.5	39.5		dBm
G_{1dB}	Gain at 1dB Compression $f = 3.10\text{-}3.50\text{GHz}$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 2200\text{mA}$	12.0	13.0		dB
ΔG	Gain Flatness $f = 3.10\text{-}3.50\text{GHz}$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 2200\text{mA}$			± 0.6	dB
PAE	Power Added Efficiency at 1dB Compression $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 2200\text{mA}$ $f = 3.10\text{-}3.50\text{GHz}$		37		%
I_{d1dB}	Drain Current at 1dB Compression $f = 3.10\text{-}3.50\text{GHz}$		2300	2800	mA
IM3	Output 3rd Order Intermodulation Distortion $\Delta f = 10\text{ MHz}$ 2-Tone Test; $P_{out} = 28.5\text{ dBm S.C.L}^2$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 65\% IDSS$ $f = 3.50\text{GHz}$	-43	-46		dBc
I_{DSS}	Saturated Drain Current $V_{DS} = 3\text{ V}$, $V_{GS} = 0\text{ V}$		4000	5000	mA
V_P	Pinch-off Voltage $V_{DS} = 3\text{ V}$, $I_{DS} = 40\text{ mA}$		-2.5	-4.0	V
R_{TH}	Thermal Resistance ³		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 RATINGS FOR CONTINUOUS OPERATION^{1,2}

SYMBOL	CHARACTERISTIC	VALUE
V_{DS}	Drain to Source Voltage	10 V
V_{GS}	Gate to Source Voltage	-4.5 V
I_{DS}	Drain Current	$IDSS$
I_{GSF}	Forward Gate Current	80 mA
P_{IN}	Input Power	@ 3dB compression
P_T	Total Power Dissipation	32 W
T_{CH}	Channel Temperature	150 $^\circ\text{C}$
T_{STG}	Storage Temperature	-65/+150 $^\circ\text{C}$

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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