EIC4953-8

ISSUED 02/28/2008

4.90-5.30 GHz 8-Watt Internally Matched Power FET

FEATURES

- 4.90–5.30GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +39.5 dBm Output Power at 1dB Compression
- 10.5 dB Power Gain at 1dB Compression
- 35% Power Added Efficiency
- -46 dBc IM3 at PO = 28.5 dBm SCL
- 100% Tested for DC, RF, and R_{TH}

Caution! ESD sensitive device.

ELECTRICAL CHARACTERISTICS (T_a = 25°C)

SYMBOL	PARAMETERS/TEST CONDITIONS[1]	MIN	TYP	MAX	UNITS
P_{1dB}	Output Power at 1dB Compression f = 4.90-5.30GHz V_{DS} = 10 V, I_{DSQ} ≈ 2200mA	38.5	39.5		dBm
G_{1dB}	Gain at 1dB Compression f = 4.90-5.30GHz V_{DS} = 10 V, I_{DSQ} ≈ 2200mA	9.5	10.5		dB
ΔG	Gain Flatness f = 4.90-5.30GHz V_{DS} = 10 V, I_{DSQ} ≈ 2200mA			±0.6	dB
PAE	Power Added Efficiency at 1dB Compression V_{DS} = 10 V, I_{DSQ} ≈ 2200mA f = 4.90-5.30GHz		35		%
Id_{1dB}	Drain Current at 1dB Compression f = 4.90-5.30GHz		2300	2600	mA
IM3	Output 3rd Order Intermodulation Distortion Δf=10MHz 2-Tone Test. Pout=28.5 dBm S.C.L Vds = 10 V, I_{DSQ} ≈ 65% I_{DSS} f = 5.30GHz	-43	-46		dBc
I_{DSS}	Saturated Drain Current V_{DS} = 3 V, V_{GS} = 0 V		4000	5000	mA
V_P	Pinch-off Voltage V_{DS} = 3 V, I_{DS} = 40 mA		-2.5	-4.0	V
R_{TH}	Thermal Resistance[3]		3.5	4.0	°C/W

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

ABSOLUTE MAXIMUM RATING[1,2]

SYMBOLS	PARAMETERS	ABSOLUTE[1]	CONTINUOUS[2]
Vds	Drain-Source Voltage	15	10V
Vgs	Gate-Source Voltage	-5	-4.5V
Igsf	Forward Gate Current	86.4mA	28.8mA
Igsr	Reverse Gate Current	-14.4mA	-4.8mA
Pin	Input Power	38.5dBm	@ 3dB Compression
Tch	Channel Temperature	175 °C	175 °C
Tstg	Storage Temperature	-65 to +175 °C	-65 to +175 °C
Pt	Total Power Dissipation	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.

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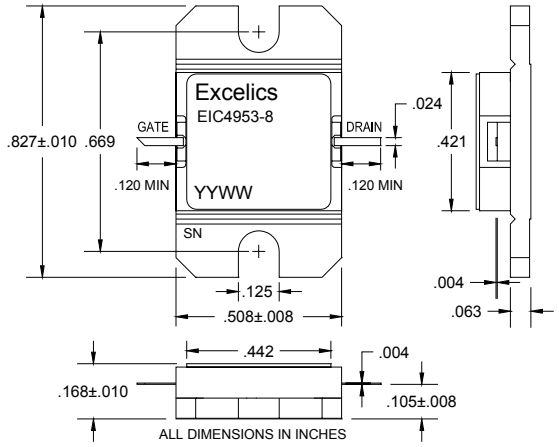
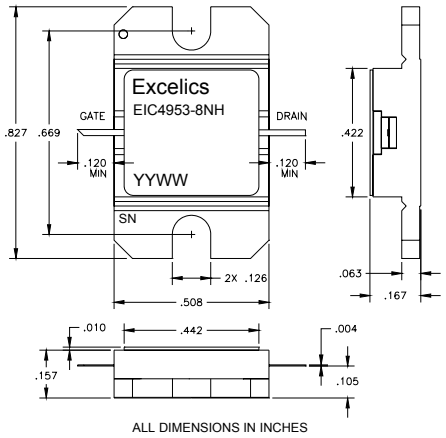
PACKAGES OUTLINE

Dimensions in inches, Tolerance ± .005 unless otherwise specified

EIC4953-8 (Hermetic)



EIC4953-8NH (Non-Hermetic)



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ORDERING INFORMATION

Part Number	Packages	Grade[1]	f_{Test} (GHz)	P_{1dB} (min)	IM_3 (min)[2]
EIC4953-8	Hermetic	Industrial	4.90-5.30GHz	38.5	-43
EIC4953-8NH	Non-Hermetic	Industrial	4.90-5.30GHz	38.5	-43

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

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