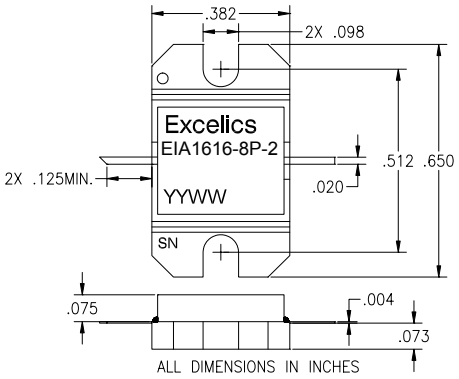
EIA1616-8P-2

UPDATED 11/09/06

16.2-16.4GHz 8-Watt Internally Matched Power FET

FEATURES

- **16.2– 16.4GHz Bandwidth**
- **Input/Output Impedance Matched to 50 Ohms**
- **+39.0 dBm Output Power at 1dB Compression**
- **6.0 dB Min. Power Gain at 1dB Compression**
- **30% Power Added Efficiency**
- **Non-Hermetic Metal Flange Package**
- **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 = 16.2-16.4GHz V_{DS} = 8 V, I_{DSQ} ≈ 2200mA	38.0	39.0		dBm
G_{1dB}	Gain at 1dB Compression f = 16.2-16.4GHz V_{DS} = 8 V, I_{DSQ} ≈ 2200mA	6.0	7.0		dB
ΔG	Gain Flatness f = 16.2-16.4GHz V_{DS} = 8 V, I_{DSQ} ≈ 2200mA			±0.6	dB
PAE	Power Added Efficiency at 1dB Compression V_{DS} = 8 V, I_{DSQ} ≈ 2200mA f = 16.2-16.4GHz		30		%
Id_{1dB}	Drain Current at 1dB Compression f = 16.2-16.4GHz		2600	3200	mA
I_{DSS}	Saturated Drain Current V_{DS} = 3 V, V_{GS} = 0 V		4000	6000	mA
V_P	Pinch-off Voltage V_{DS} = 3 V, I_{DS} = 40 mA		-1.0	-2.5	V
R_{TH}	Thermal Resistance[2]		3.5	4.0	°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]
Vds	Drain-Source Voltage	10V	8V
Vgs	Gate-Source Voltage	-5V	-3V
Igf	Forward Gate Current	86.4mA	28.8mA
Igr	Reverse Gate Current	-14.4mA	-4.8mA
Pin	Input Power	38 dBm	@ 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

Notes:
1. Operating the device beyond any of the above ratings may result in permanent damage or reduction of MTTF.
2. Bias conditions must also satisfy the following equation $P_T < (T_{CH} - T_{PKG})/R_{TH}$; where T_{PKG} = temperature of package, and $P_T = (V_{DS} * I_{DS}) - (P_{OUT} - P_{IN})$.

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