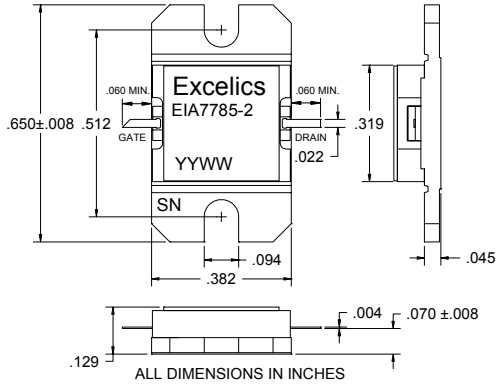
EIA7785-2

UPDATED 11/16/2006

7.70-8.50GHz 2-Watt Internally Matched Power FET

FEATURES

- **7.70– 8.50GHz Bandwidth**
- **Input/Output Impedance Matched to 50 Ohms**
- **+34 dBm Output Power at 1dB Compression**
- **12.5 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 = 7.70-8.50GHz V_{DS} = 8V, I_{DSQ} ≈ 800mA	33.0	34.0		dBm
G_{1dB}	Gain at 1dB Compression f = 7.70-8.50GHz V_{DS} = 8V, I_{DSQ} ≈ 800mA	11.5	12.5		dB
ΔG	Gain Flatness f = 7.70-8.50GHz V_{DS} = 8V, I_{DSQ} ≈ 800mA			±0.6	dB
PAE	Power Added Efficiency at 1dB Compression V_{DS} = 8V, I_{DSQ} ≈ 800mA f = 7.70-8.50GHz		33		%
Id_{1dB}	Drain Current at 1dB Compression f = 7.70-8.50GHz		900	1100	mA
I_{DSS}	Saturated Drain Current V_{DS} = 3 V, V_{GS} = 0 V		1400	1800	mA
V_P	Pinch-off Voltage V_{DS} = 3 V, I_{DS} = 14 mA		-1.0	-2.5	V
R_{TH}	Thermal Resistance[2]		10	11	°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	12	8V
V_{GS}	Gate-Source Voltage	-5	-3V
Igsf	Forward Gate Current	21.6mA	7.2mA
Igsr	Reverse Gate Current	-3.6mA	-1.2mA
Pin	Input Power	33dBm	@ 3dB Compression
Tch	Channel Temperature	175 °C	175 °C
Tstg	Storage Temperature	-65 to +175 °C	-65 to +175 °C
Pt	Total Power Dissipation	13W	13W

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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