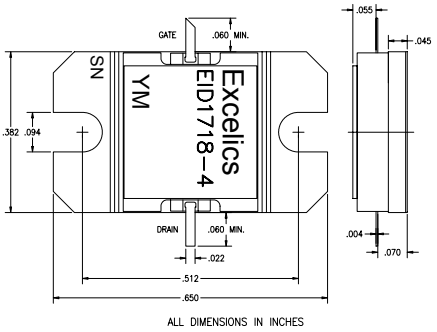
EID1718-4

17.30-18.10 GHz 4-Watt Internally-Matched Power FET

Issued Date: 12/16/03

FEATURES

- **17.30-18.10 GHz Bandwidth**
- **Input/Output Impedance Matched to 50 Ohms**
- **+36.0 dBm Output Power at 1dB Compression**
- **6.0 dB Power Gain at 1dB Compression**
- **25% Power Added Efficiency**
- **Hermetic Metal Flange Package**



ELECTRICAL CHARACTERISTICS (T_a = 25°C)

SYMBOL	PARAMETERS/TEST CONDITIONS[1]	MIN	TYP	MAX	UNITS
P_{1dB}	Output Power at 1dB Compression f = 17.30-18.10GHz V_{DS} = 10 V, I_{DSQ} ≈ 1200mA	35.5	36.0		dBm
G_{1dB}	Gain at 1dB Compression f = 17.30-18.10GHz V_{DS} = 10 V, I_{DSQ} ≈ 1200mA	5.0	6.0		dB
ΔG	Gain Flatness f = 17.30-18.10GHz V_{DS} = 10 V, I_{DSQ} ≈ 1200mA			±0.6	dB
PAE	Power Added Efficiency at 1dB Compression V_{DS} = 10 V, I_{DSQ} ≈ 1200mA f = 17.30-18.10GHz		25		%
Id_{1dB}	Drain Current at 1dB Compression f = 17.30-18.10GHz		1300	1800	mA
IM3	Output 3rd Order Intermodulation Distortion Δf = 5 MHz 2-Tone Test; Pout = 30.0 dBm S.C.L[2] V_{DS} = 10 V, I_{DSQ} ≈ 65% I_{DSS} f =18.10GHz	-29.0	-34.0		dBc
I_{DSS}	Saturated Drain Current V_{DS} = 3 V, V_{GS} = 0 V		2080	2880	mA
V_P	Pinch-off Voltage V_{DS} = 3 V, I_{DS} = 20 mA		-2.5	-4.0	V
R_{TH}	Thermal Resistance[3]		4.5	5.5	°C/W

1. Tested with 100 Ohm gate resistor.
2. S.C.L. = Single Carrier Level.
3. Overall Rth 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	40 mA
P_{IN}	Input Power	@ 3dB compression
P_T	Total Power Dissipation	23.0 W
T_{CH}	Channel Temperature	150°C
T_{STG}	Storage Temperature	-65/+150°C

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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