

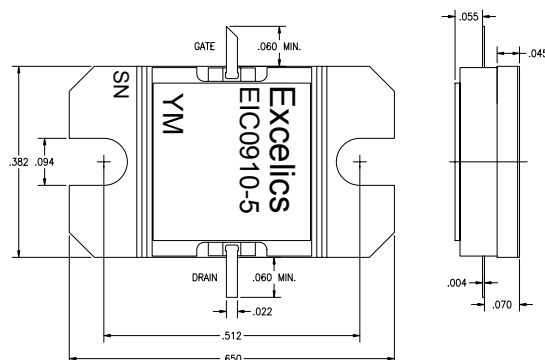


# EIC0910-5

ISSUED DATE: 04-19-04

## 9.50-10.50GHz, 5W Internally Matched Power FET

- 9.50-10.50 GHz BANDWIDTH AND INPUT/OUTPUT IMPEDANCE MATCHED TO 50 OHM
- HIGH PAE: 30% TYPICAL
- +37.5 dBm TYPICAL  $P_{1dB}$  OUTPUT POWER
- 7dB TYPICAL  $G_{1dB}$  POWER GAIN
- HERMETIC METAL FLANGE PACKAGE



### ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

SYMBOLS	PARAMETERS/TEST CONDITIONS	EIC0910-5			UNIT
		MIN	TYP	MAX	
$P_{1dB}$	Output Power at 1dB Compression $f=9.5\text{-}10.5\text{GHz}$ , $V_{ds}=10\text{V}$ , $I_{dsq}=1600\text{mA}$	36.5	37.5		dBm
$G_{1dB}$	Gain at 1dB Compression $f=9.5\text{-}10.5\text{GHz}$ , $V_{ds}=10\text{V}$ , $I_{dsq}=1600\text{mA}$	6	7		dB
$\Delta G$	Gain Flatness $f = 9.5\text{-}10.5\text{GHz}$ , $V_{ds} = 10\text{V}$ , $I_{dsq} = 1600\text{mA}$			$\pm 0.6$	dB
PAE	Power Added Efficiency at 1dB compression $f=9.5\text{-}10.5\text{GHz}$ , $V_{ds}=10\text{V}$ , $I_{dsq}=1600\text{mA}$		30		%
$I_{d1dB}$	Drain Current at 1dB Compression		1700	1900	mA
IM3	Output 3 <sup>rd</sup> Order Intermodulation Distortion $f=10.5\text{GHz}$ $\Delta f=10\text{MHz}$ 2-Tone Test. $P_{out}=26.5\text{ dBm S.C.L}$ $I_{ds}$ @ 65% $I_{dss}$	-43	-46		dBc
$I_{dss}$	Saturated Drain Current $V_{ds}=3\text{V}$ , $V_{gs}=0\text{V}$		2900	3500	mA
$V_p$	Pinch-off Voltage $V_{ds}=3\text{V}$ , $I_{ds}=30\text{mA}$		-2.5	-4	V
$R_{th}$	Thermal Resistance (Au-Sn Eutectic Attach)		5.0	5.5	$^\circ\text{C/W}$

### ABSOLUTE MAXIMUM RATINGS FOR CONTINUOUS OPERATION AT 25°C

SYMBOLS	PARAMETERS	CONTINUOUS <sup>1,2</sup>
$V_{ds}$	Drain-Source Voltage	10V
$V_{gs}$	Gate-Source Voltage	-4.5V
$I_{ds}$	Drain Current	$I_{dss}$
$I_{gsf}$	Forward Gate Current	60mA
$P_{in}$	Input Power	@ 3dB Compression
$T_{ch}$	Channel Temperature	150°C
$T_{stg}$	Storage Temperature	-65 to +150°C
$P_t$	Total Power Dissipation	23W

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.

Excelics Semiconductor, Inc. 310 De Guigne Drive, Sunnyvale, CA 94085  
Phone: 408-737-1711 Fax: 408-737-1868 Web: www.excelics.com