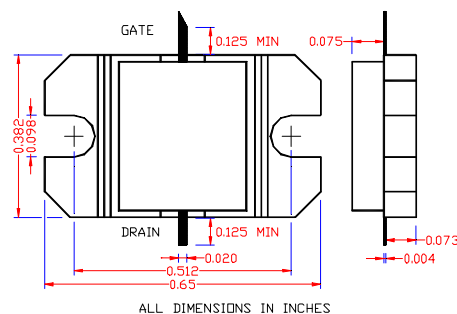


PRELIMINARY DATA SHEET Internally Matched Power FET

13.0-14.5 GHz: 4Watt

- 13.0-14.5GHz BANDWIDTH AND INPUT/OUTPUT IMPEDANCE MATCHED TO 50 OHM
- FEATURES HIGH PAE (27% TYPICAL)
- +36.0dBm TYPICAL P_{1dB} OUTPUT POWER
- 8.5dB TYPICAL G_{1dB} POWER GAIN
- NON-HERMETIC METAL FLANGE PACKAGE

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



SYMBOLS	PARAMETERS/TEST CONDITIONS	EIA1314A-4P						UNIT
		MIN	TYP	MAX				
P_{1dB}	Output Power at 1dB Compression $f=13.0-14.5\text{GHz}$ $V_{ds}=8\text{V}$, $I_{dsq}=0.5 I_{dss}$	35.0	36.0					dBm
G_{1dB}	Gain at 1dB Compression $f=13.0-14.5\text{GHz}$ $V_{ds}=8\text{V}$, $I_{dsq}=0.5 I_{dss}$	7.5	8.5					dB
PAE	Power Added Efficiency at 1dB compression $f=13.0-14.5\text{GHz}$ $V_{ds}=8\text{V}$, $I_{dsq}=0.5 I_{dss}$		27					%
I_{d1dB}	Drain Current at 1dB Compression		1760					mA
IP3	Output 3 rd Order Intercept Point $f=13.0-14.5\text{GHz}$ $V_{ds}=8\text{V}$, $I_{dsq}=0.5 I_{dss}$		43					dBm
I_{dss}	Saturated Drain Current $V_{ds}=3\text{V}$, $V_{gs}=0\text{V}$	2200	2880	3400				mA
G_m	Transconductance $V_{ds}=3\text{V}$, $V_{gs}=0\text{V}$		3000					mS
V_p	Pinch-off Voltage $V_{ds}=3\text{V}$, $I_{ds}=24\text{mA}$		-1.0	-2.5				V
BV_{gd}	Drain Breakdown Voltage $I_{gd}=9.6\text{mA}$	-13	-15					V
R_{th}	Thermal Resistance (Au-Sn Eutectic Attach)		4.5					$^\circ\text{C/W}$

MAXIMUM RATINGS AT 25°C

SYMBOLS	PARAMETERS	ABSOLUTE ¹	CONTINUOUS ²
V_{ds}	Drain-Source Voltage	12V	8V
V_{gs}	Gate-Source Voltage	-8V	-3V
I_{ds}	Drain Current	I_{dss}	3120mA
I_{gsf}	Forward Gate Current	360mA	60mA
P_{in}	Input Power	35dBm	@ 3dB Compression
T_{ch}	Channel Temperature	175 $^\circ\text{C}$	150 $^\circ\text{C}$
T_{stg}	Storage Temperature	-65/175 $^\circ\text{C}$	-65/150 $^\circ\text{C}$
P_t	Total Power Dissipation	30W	25W

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., 2908 Scott Blvd., Santa Clara, CA 95054

Phone: (408) 970-8664 Fax: (408) 970-8998 Web Site: www.excelics.com