



EMP105A

DATA SHEET

ISSUED DATE: 02-24-04

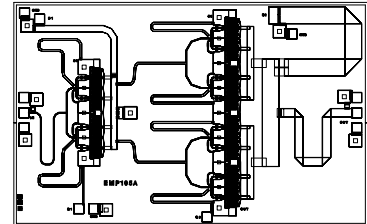
4.0 – 5.5 GHz Power Amplifier MMIC

FEATURES

- 4.0 – 5.5 GHz Bandwidth
- 32.5dBm Output Power at 1dB Compression
- 17 dB Typical Power Gain

APPLICATIONS

- Point-to-point and point-to-multipoint radio



Dimension: 3530um X 2200um

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

SYMBOL	PARAMETER/TEST CONDITIONS	MIN	TYP	MAX	UNITS
F	Operating Frequency Range	4.0		5.5	GHz
P _{1dB}	Output Power at 1dB Gain Compression		32.5		dBm
G _{ss}	Small Signal Gain	16	18		dB
IP3	Third Order Intercept		42.5		dBm
Input RL	Input Return Loss	8	11		dB
Output RL	Output Return Loss		6		dB
I _{dd}	Power Supply Current		950		mA
V _{dd}	Power Supply Voltage		10		V
R _{th}	Thermal Resistance (Au-Sn Eutectic Attach)		7		°C/W

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 V
I _{DD}	Drain Current	I _{dss}
I _{GSF}	Forward Gate Current	35mA
P _{IN}	Input Power	@ 3dB compression
T _{CH}	Channel Temperature	150°C
T _{STG}	Storage Temperature	-65/150°C
P _T	Total Power Dissipation	17W

1. Operating the device beyond any of the above rating may result in permanent damage.

2. Bias conditions must also satisfy the following equation $V_{DS} \cdot I_{DS} < (T_{CH} - T_{HS})/R_{TH}$; where T_{HS} = ambient temperature

Excelics Semiconductor, Inc. 310 De Guigne Drive, Sunnyvale, CA 94085

Phone: 408-737-1711 Fax: 408-737-1868 Web: www.excelics.com



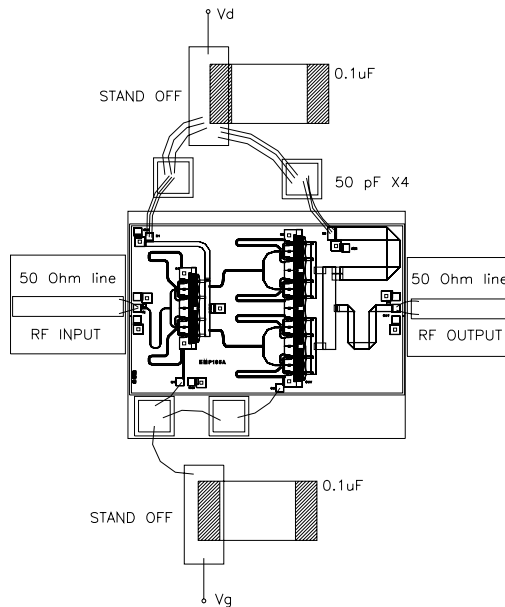
EMP105A

DATA SHEET

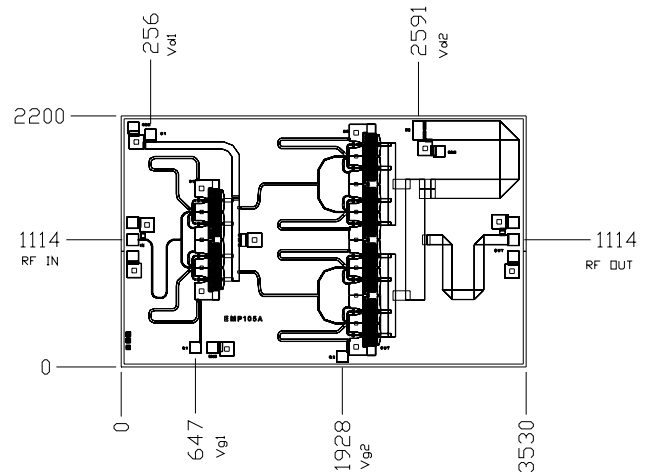
ISSUED DATE: 02-24-04

4.0 – 5.5 GHz Power Amplifier MMIC

ASSEMBLY DRAWING

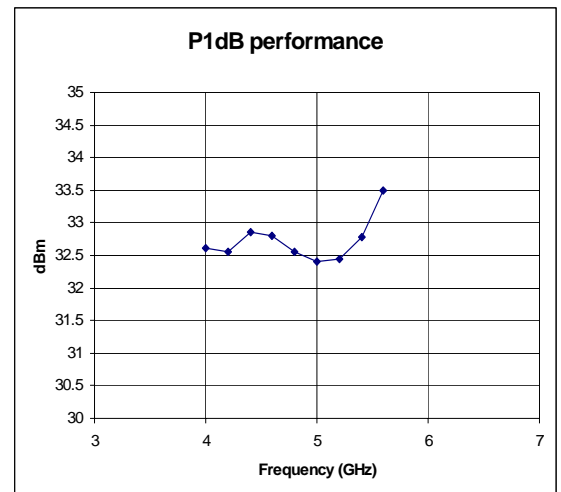
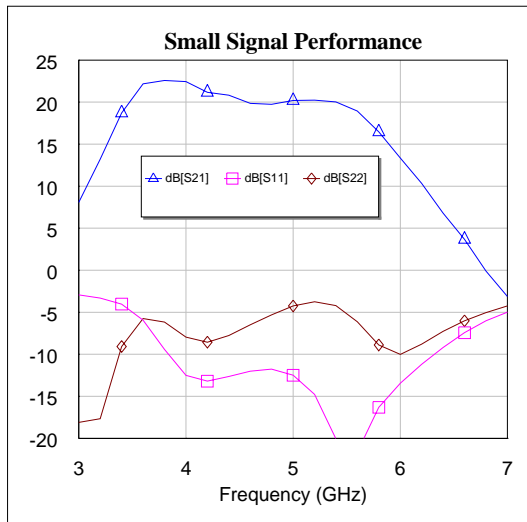


CHIP OUTLINE



Chip size: 3530 X 2200 microns
Chip thickness: 75 ± 13 microns
All dimensions in microns

TYPICAL PERFORMANCE



Data measured @ Vd=10V, Ids=950mA