EMP104A

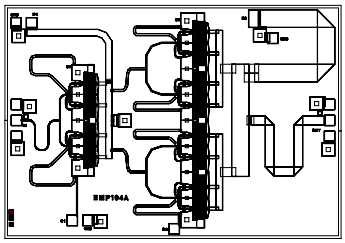
DATA SHEET

ISSUED DATE: 02-24-04

5.0 – 6.5 GHz Power Amplifier MMIC

FEATURES

- **5.0 – 6.5 GHz Bandwidth**
- **33dBm Output Power at 1dB Compression**
- **17 dB Typical Power Gain**



Dimension: 3230um X 2200um

APPLICATIONS

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

ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

SYMBOL	PARAMETER/TEST CONDITIONS	MIN	TYP	MAX	UNITS
F	Operating Frequency Range	5.0		6.5	GHz
P_{1dB}	Output Power at 1dB Gain Compression		33		dBm
Gss	Small Signal Gain	15	17		dB
IP3	Third Order Intercept		43		dBm
Input RL	Input Return Loss	6	8		dB
Output RL	Output Return Loss		6		dB
Idd	Power Supply Current		950		mA
Vdd	Power Supply Voltage		10		V
Rth	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	Idss
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 $V_{DS}*I_{DS} < (T_{CH} - T_{HS})/R_{TH}$; 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

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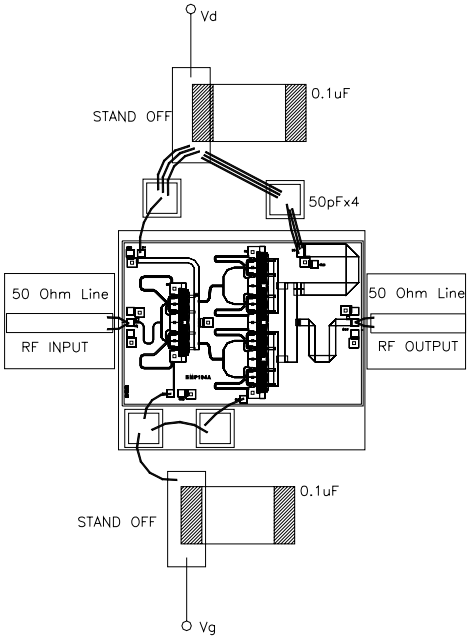
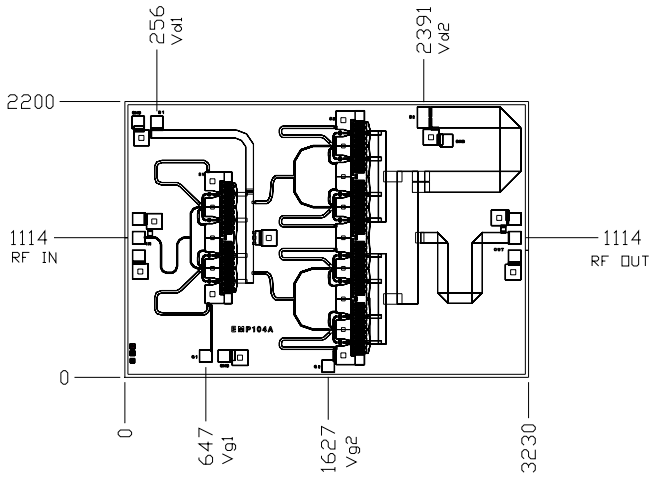
ASSEMBLY DRAWING

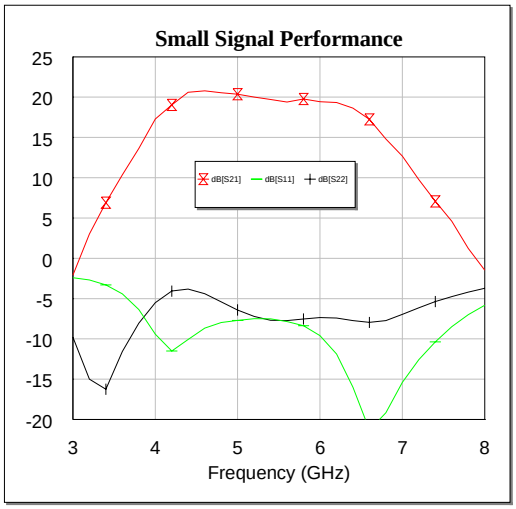


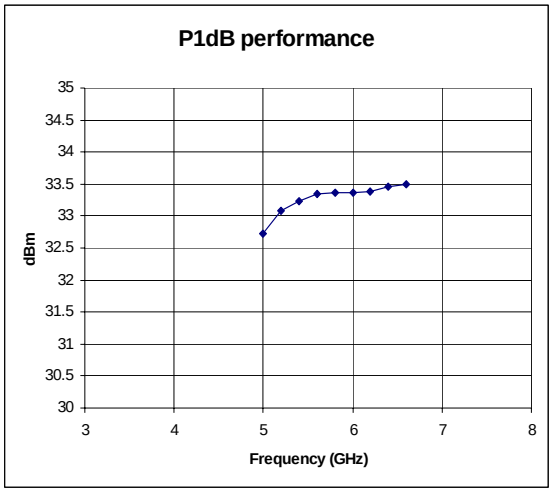
CHIP OUTLINE



Chip size: 3230X2200 microns
Chip thickness: 75 ± 13 microns
All Dimensions in Microns

TYPICAL PERFORMANCE





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

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