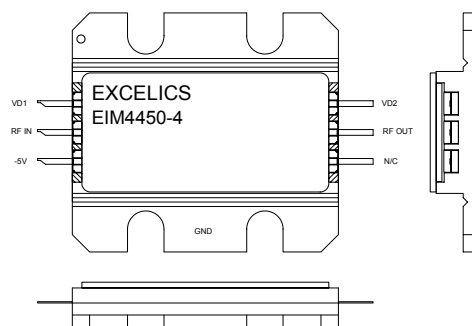


FEATURES

- 4.4-5.0GHz Operating Frequency Range
- 35.5dBm Output Power at 1dB Compression
- 30.0 dB Typical Power Gain @1dB gain compression
- -45.0Bc Typical OIM3@ each tone Pout 23.5dBm
- Non-Hermetic Metal Flange Package

APPLICATIONS

- Point-to-point and point-to-multipoint radio
- Military Radar Systems



Caution! ESD sensitive device.

ELECTRICAL CHARACTERISTICS (Tb = 25 °C, 50 ohm, VD1=7V, VD2=10V, Vgg=-5V)

SYMBOL	PARAMETER/TEST CONDITIONS	MIN	TYP	MAX	UNITS
F	Operating Frequency Range	4.4		5.0	GHz
P1dB	Output Power at 1dB Gain Compression	34.5	35.5		dBm
G1dB	Gain @1dB gain compression	27	30		dB
OIMD3	Output 3 rd Order Intermodulation Distortion @Δf=10MHz, Each Tone Pout 23.5dBm		-45		dBc
Input RL	Input Return Loss		-12	-10	dB
Output RL	Output Return Loss		-12	-8	dB
VD1	Drain Supply Voltage 1	7		9	V
VD2	Drain Supply Voltage 2		10		V
I_{DQ1}	Quiescent Drain Current 1		800		mA
I_{DQ2}	Quiescent Drain Current 2		1100		mA
Vgg	Gate Supply Voltage		-5		V
Rth	Thermal Resistance		4.2		°C/W
ΔTch	Channel Temperature Rise			80	°C

Note: Turn on/off sequence is required: ---to turn on: apply -5V on both Vgg first, then +7V and +10V.
 ---to turn off: turn +7V and +10V off first, then turn -5V off



EIM4450-4

UPDATED: 12/06/2007

4.4-5.0 GHz Multi-Stage Power Amplifier

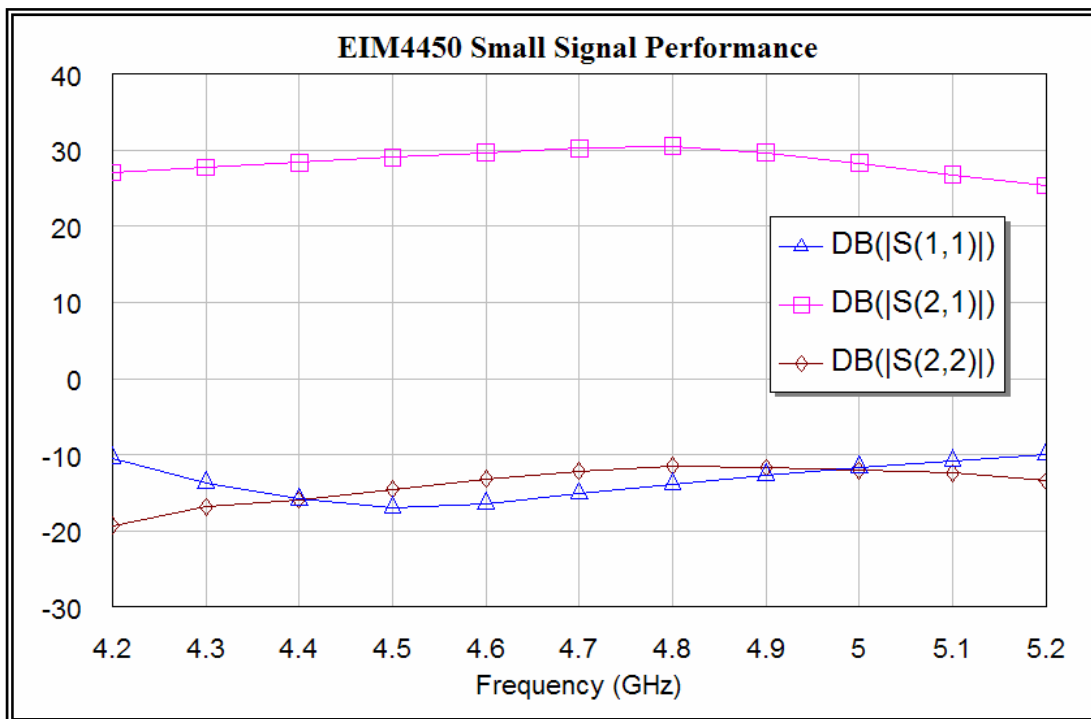
MAXIMUM RATINGS @25°C^{1,2}

SYMBOL	CHARACTERISTIC	ABSOLUTE	CONTINUOUS ^{1,2}
V _{D1}	Drain Supply Voltage 1	14V	9V
V _{D2}	Drain Supply Voltage 2	14V	10V
V _{gg}	Gate Supply Voltage	-10V	-6 V
I _{gg}	Gate Current	150mA	50 mA
P _{IN}	Input Power	20dBm	@ 3dB compression
T _{CH}	Channel Temperature	175°C	165°C
T _{STG}	Storage Temperature	-65/175°C	-65/175°C
P _T	Total Power Dissipation	29.8W	25W

Notes: 1. Operating the device beyond any of the above rating may reduce MTTF and cause permanent damage.
 2. Bias conditions must also satisfy the following equation $V_{dd} \cdot I_{dd} < (T_{CH} - T_b) / R_{TH}$

Typical Performance:

1. Small Signal Performance (@V_{d1} = 7V, V_{d2} = 10V, I_{d1} = 800mA, I_{d2} = 1100mA)



Specifications are subject to change without notice.

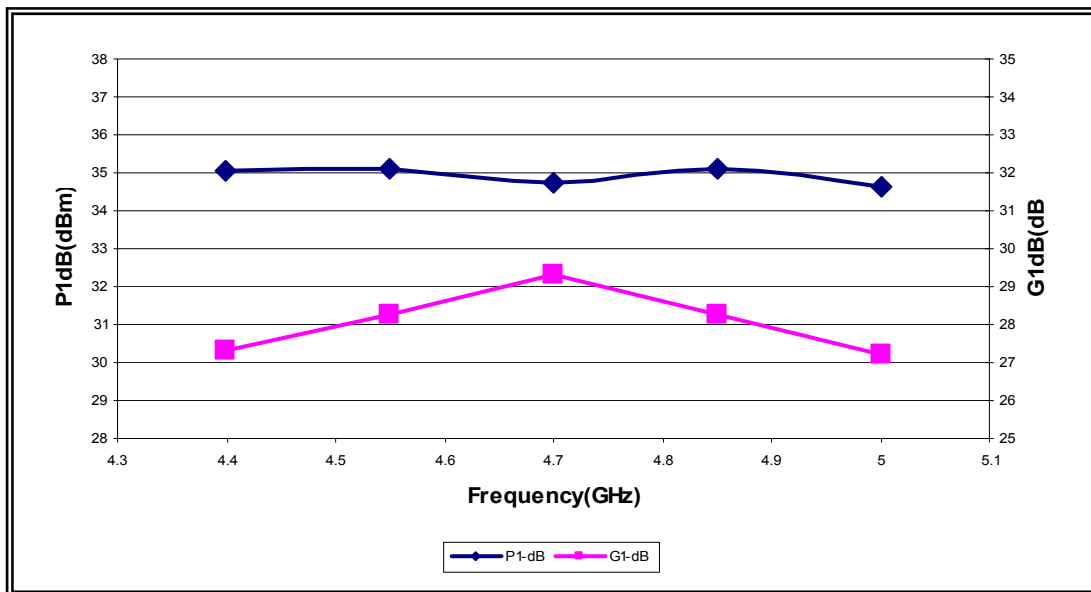
Excelics Semiconductor, Inc. 310 De Guigne Drive, Sunnyvale, CA 94085
 Phone: 408-737-1711 Fax: 408-737-1868 Web: www.excelics.com

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 Revised December 2007

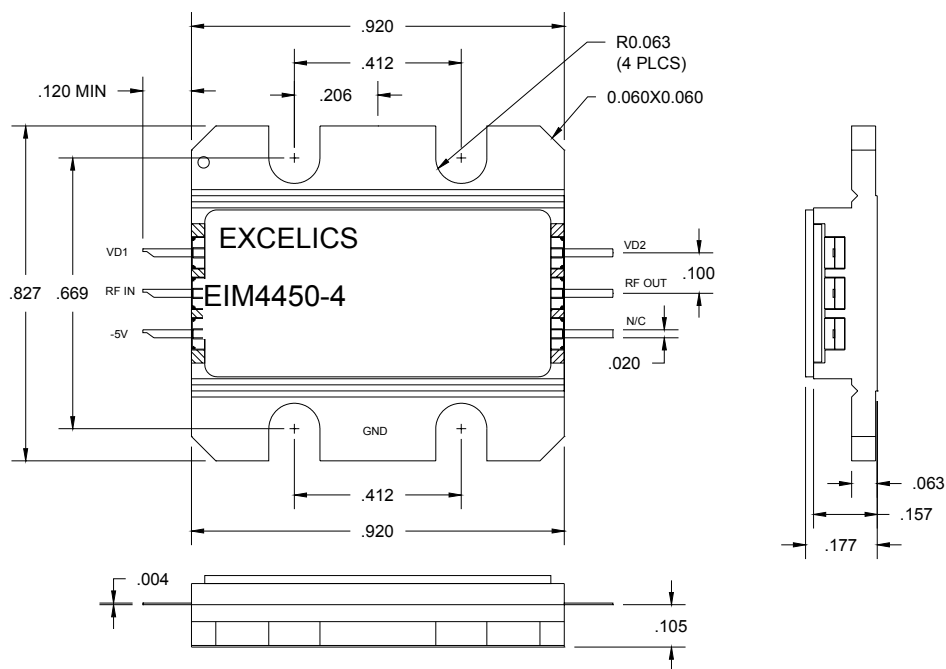
UPDATED: 12/06/2007

4.4-5.0 GHz Multi-Stage Power Amplifier

2. P1-dB & G1-dB (@V_{d1} = 7V, V_{d2} = 10V, I_{d1} = 800mA, I_{d2} = 1100mA)



Package Dimension and Pin Assignment



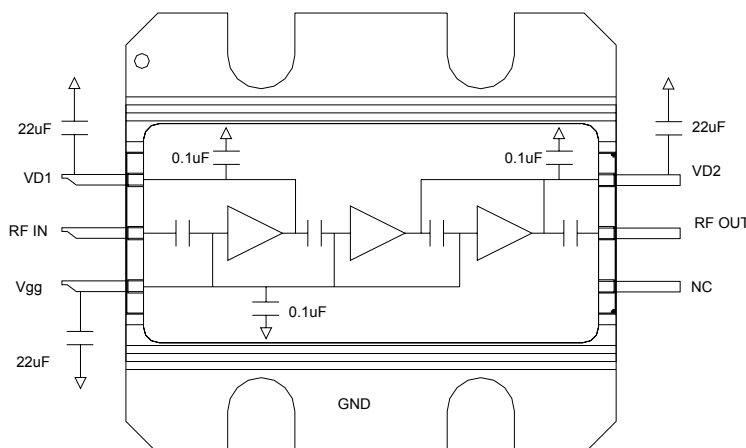
Dimensions are in inches

* NC: No connection inside the package

Specifications are subject to change without notice.

Application Note

1. The package should be screwed onto a good heat sink and ground
2. Turn on/off sequence is required:
 - to turn on: apply -5V first, then +7V and +10V.
 - to turn off: turn +7V and +10V off first, then turn -5V off
3. Recommended External Bias Circuit and Internal Block Diagram



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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.