

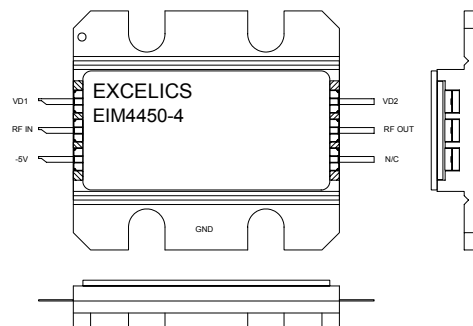
4.4-5.0 GHz Multi-Stage Power Amplifier

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
IDQ1	Quiescent Drain Current 1		800		mA
IDQ2	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

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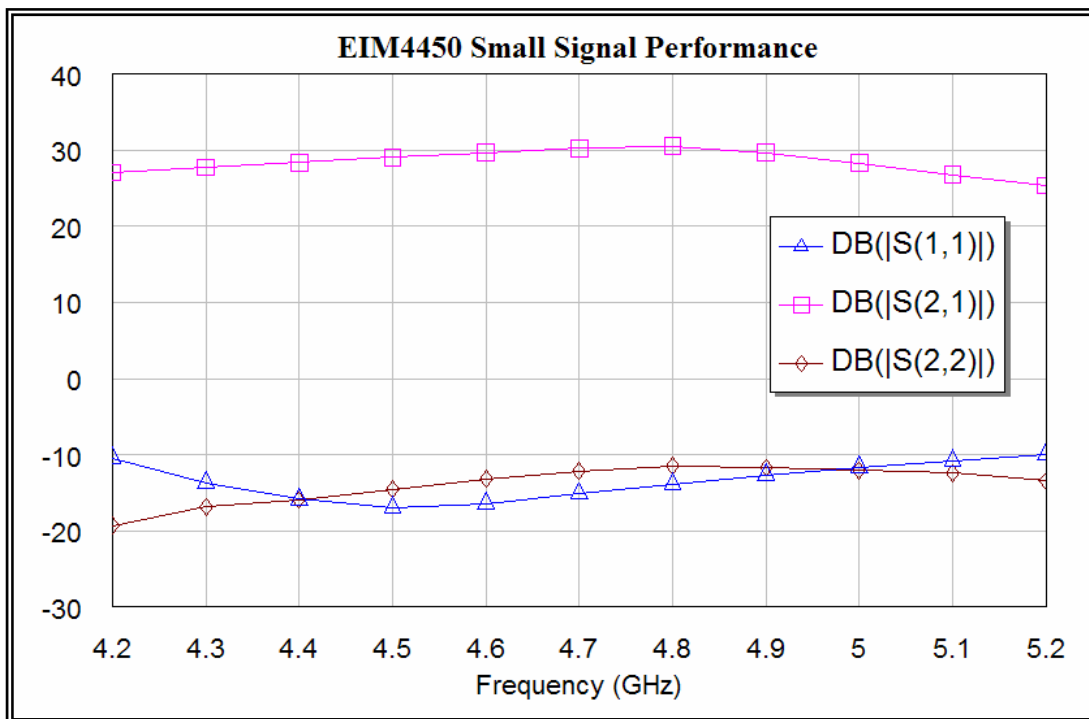
MAXIMUM RATINGS @25°C^{1,2}

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.

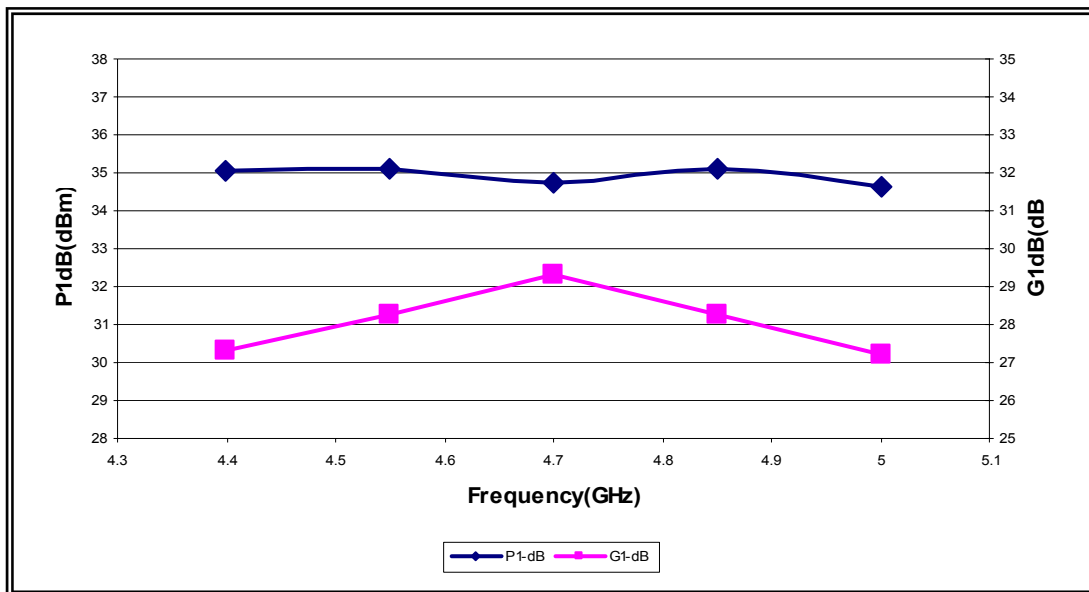
Excelics Semiconductor, Inc. 310 De Guigne Drive, Sunnyvale, CA 94085
Phone: 408-737-1711 Fax: 408-737-1868 Web: www.excelics.com

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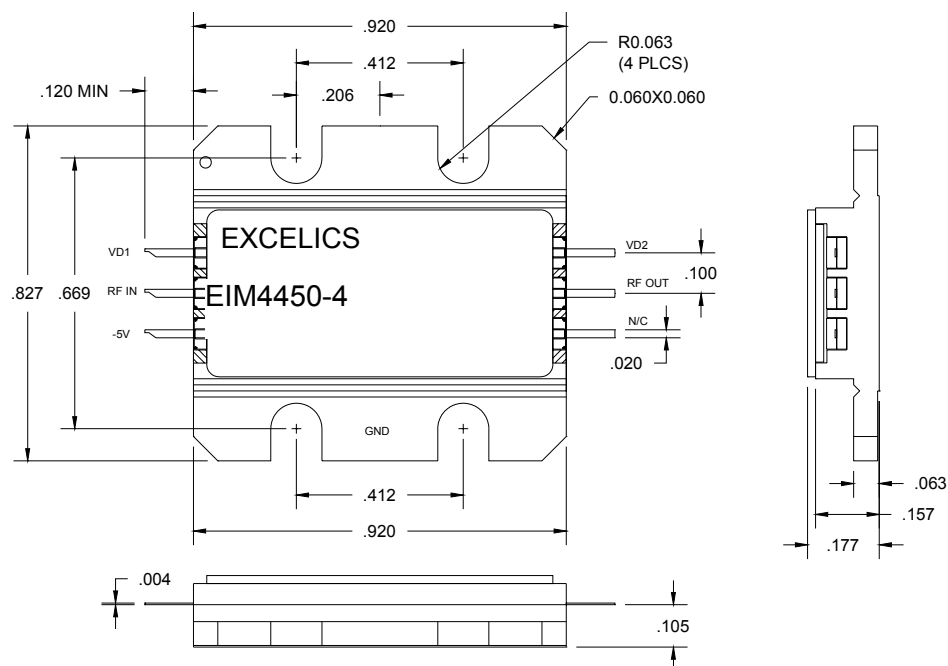
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2. P1-dB & G1-dB (@V_{d1} = 7V, V_{d2} = 10V, I_{d1} = 800mA, I_{d2} = 1100mA)



Package Dimension and Pin Assignment



Dimensions are in inches
 * NC: No connection inside the package

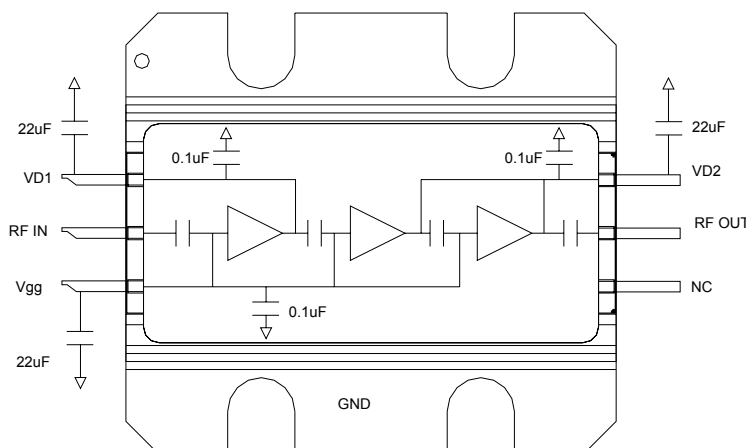
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Application Note

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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