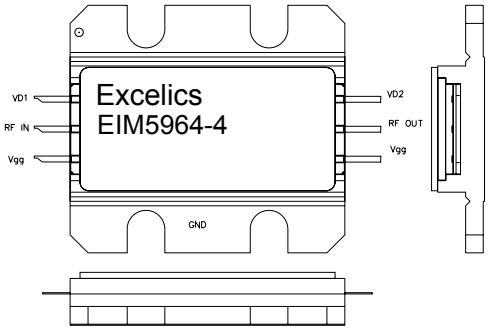
EIM5964-4

ISSUED 07/06/2007

5.9 – 6.4 GHz Multi-Stage Power Amplifier



FEATURES

- **5.9– 6.4GHz Operating Frequency Range**
- **35.5dBm Output Power at 1dB Compression**
- **29.0 dB Typical Power Gain @1dB gain compression**
- **-45dBc Typical OIM3@ each tone Pout 22.5dBm**
- **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	5.9		6.4	GHz
P1dB	Output Power at 1dB Gain Compression	34.5	35.5		dBm
G1dB	Gain @1dB gain compression	25	29		dB
OIMD3	Output 3rd Order Intermodulation Distortion @Δf=10MHz, Each Tone Pout 22.5dBm	-42	-45		dBc
Input RL	Input Return Loss		-12	-8	dB
Output RL	Output Return Loss		-15	-10	dB
VD1	Drain Supply Voltage 1		7		V
VD2	Drain Supply Voltage 2		10		V
I_{DQ1}	Quiescent Drain Current 1		800		mA
I_{DQ2}	Quiescent Drain Current 2		1100	1300	mA
Vgg	Gate Supply Voltage		-5		V
Rth	Thermal Resistance		4.2		°C/W
Tb	Operating Base Plate Temperature	- 30		+ 80	ºC

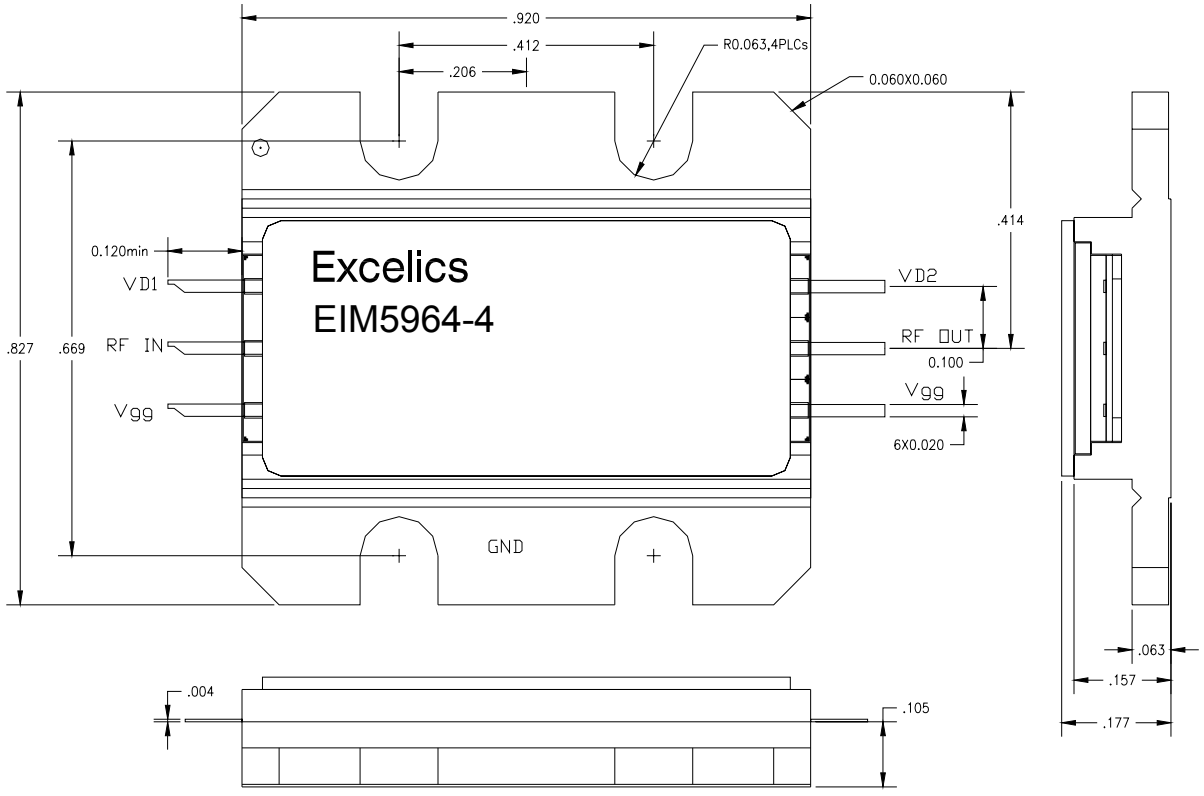
Note: Turn on/off sequence is required: ---to turn on: apply -5V on both Vgg first, then +7V and +10V.
---to turn off: turn +7V and +10V off first, then turn -5V off

MAXIMUM RATINGS @25°C[1,2]

SYMBOL	CHARACTERISTIC	ABSOLUTE	CONTINUOUS [1,2]
V_{D1}	Drain Supply Voltage 1	12V	8V
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	17dBm	@ 3dB compression
T_{CH}	Channel Temperature	175°C	150°C
T_{STG}	Storage Temperature	-65/175°C	-65/150°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 Vdd*Idd < (T_{CH} –Tb)/R_{TH}

Package Dimension and Pin Assignment



Dimensions are in inches

ISSUED 07/06/2007

DISCLAIMER

EXCELICS SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. EXCELICS DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN.

LIFE SUPPORT POLICY

EXCELICS SEMICONDUCTOR PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF EXCELICS SEMICONDUCTOR, INC.

AS HERE IN:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, or (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.
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.