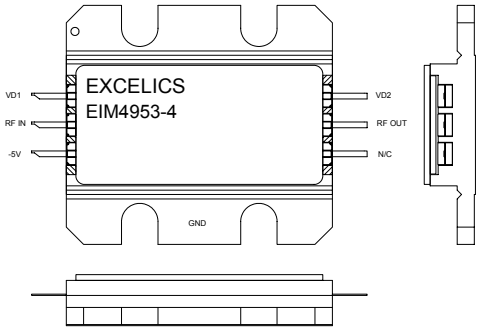
EIM4953-4

ISSUED 02/12/2008

4.9-5.3 GHz Multi-Stage Power Amplifier

FEATURES

- **4.9-5.3GHz 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	4.9		5.3	GHz
P1dB	Output Power at 1dB Gain Compression	34.5	35.5		dBm
G1dB	Gain @1dB gain compression	27	30		dB
OIMD3	Output 3rd 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		-15	-10	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

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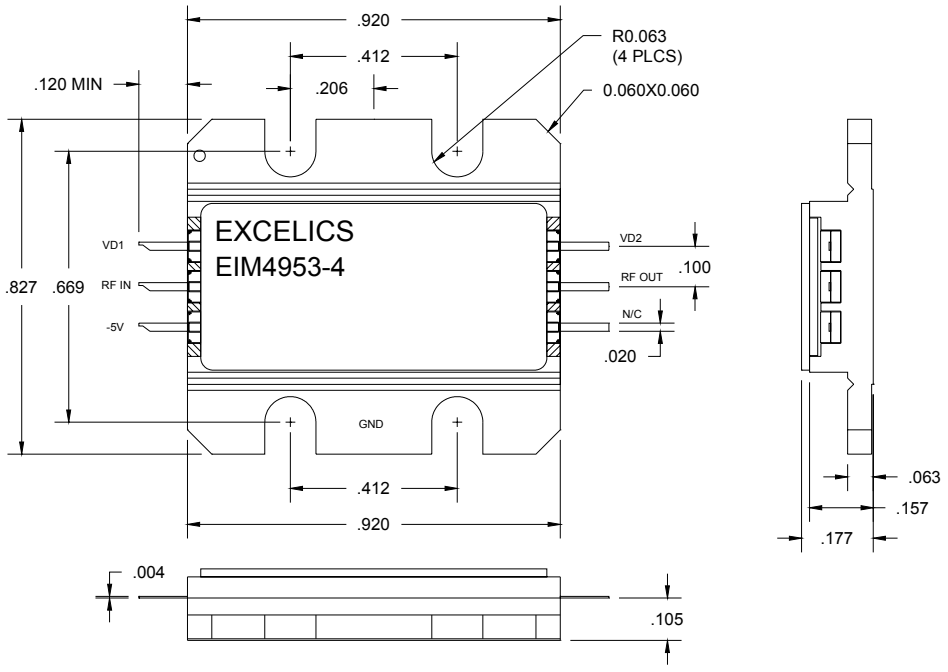
MAXIMUM RATINGS @25°C[1,2]

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 Vdd*Idd < (T_{CH} –Tb)/R_{TH}

Package Dimension and Pin Assignment



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

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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.