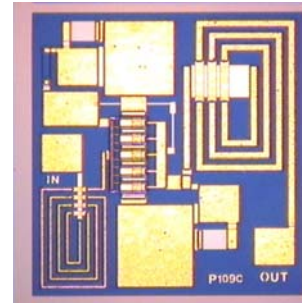


## 0.5 – 3.0 GHz High Linearity Power MMIC

### FEATURES

- 0.5 – 3.0 GHz BANDWIDTH
- 24.0dBm TYPICAL OUTPUT POWER
- -45dBc OIMD3 @ 14dBm EACH TONE Pout
- 11.0 dB TYPICAL POWER GAIN
- SINGLE BIAS SUPPLY
- 100% DC TESTED



Dimension: 760um X 700um

### ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25°C)



Caution! ESD sensitive device.

SYMBOL	PARAMETER/TEST CONDITIONS <sup>1</sup>	MIN	TYP	MAX	UNITS
F	Operating Frequency Range	0.5		3.0	GHz
P <sub>1dB</sub>	Power at 1dB Compression V <sub>DD</sub> = 8.0V, F = 2.4G	23.0	24.0		dBm
G <sub>SS</sub>	Small Signal Gain V <sub>DD</sub> = 8.0V, F = 2.4G	10.0	11.0		dB
IMD3	Output 3 <sup>rd</sup> Order Intermodulation Distortion @Δf=10MHz, Each Tone Pout 14dBm V <sub>DD</sub> = 8.0V, F = 2.4G		-45	-42	dBc
RL <sub>IN</sub>	Input Return Loss V <sub>DD</sub> = 8.0V		-12	-8	dB
RL <sub>OUT</sub>	Output Return Loss V <sub>DD</sub> = 8.0V		-12	-8	dB
I <sub>DD</sub>	Drain Current	90	120	150	mA
R <sub>TH</sub>	Thermal Resistance <sup>1</sup>		70		°C/W

Note: 1. Overall Rth depends on die attach.

### ABSOLUTE MAXIMUM RATINGS FOR CONTINUOUS OPERATION<sup>1,2</sup>

SYMBOL	CHARACTERISTIC	VALUE
V <sub>DD</sub>	Power Supply Voltage	8 V
V <sub>GG</sub>	Gate Voltage	-3 V
I <sub>DD</sub>	Drain Current	IDSS
I <sub>GSF</sub>	Forward Gate Current	10 mA
P <sub>IN</sub>	Input Power	@ 3dB compression
P <sub>T</sub>	Total Power Dissipation	1.4 W
T <sub>CH</sub>	Channel Temperature	150°C
T <sub>STG</sub>	Storage Temperature	-65/+150°C

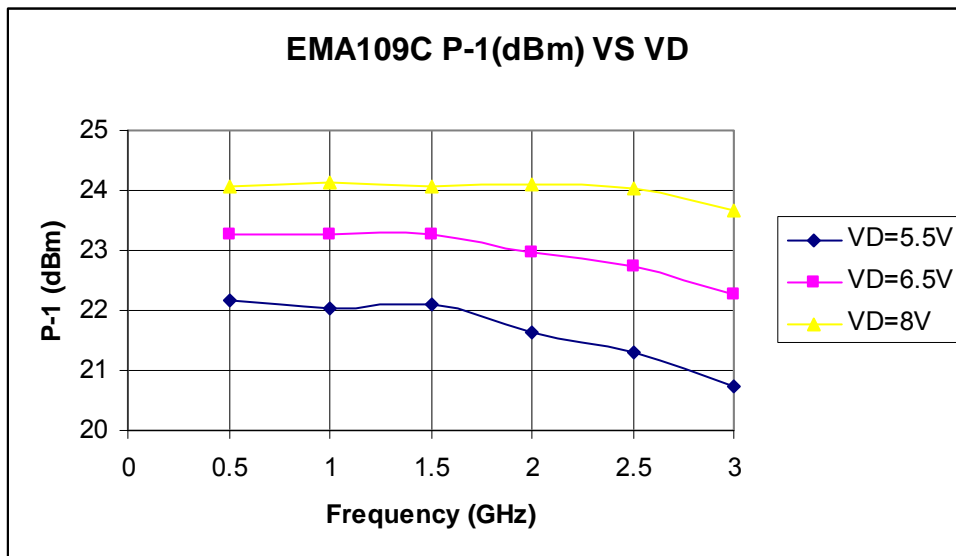
Notes: 1. Operating the device beyond any of the above ratings may result in permanent damage or reduction of MTTF.

2. Bias conditions must also satisfy the following equation  $P_T < (T_{CH} - T_{HS})/R_{TH}$ ; where T<sub>HS</sub> = temperature of heatsink, and  $P_T = (V_{DD} * I_{DD}) - (P_{OUT} - P_{IN})$ .

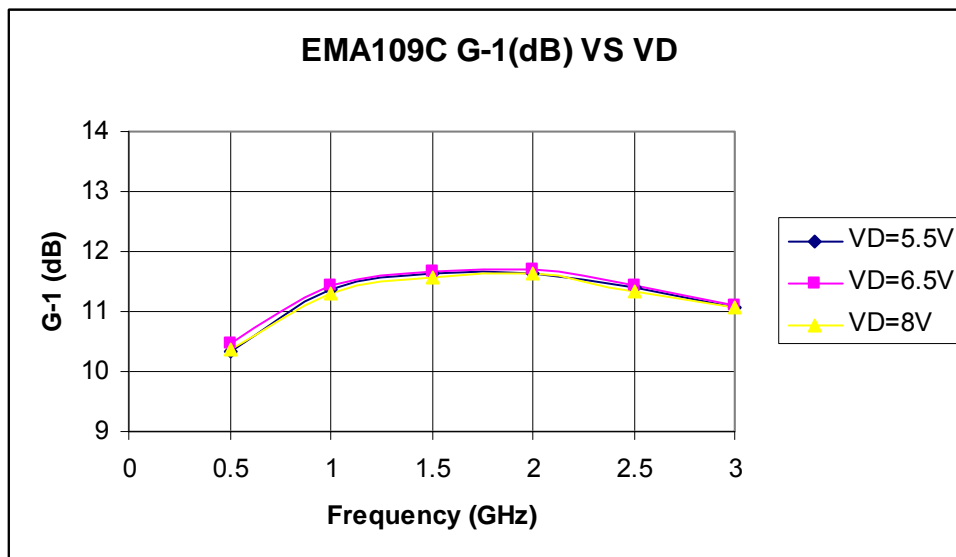
Specifications are subject to change without notice.

### Typical Performance:

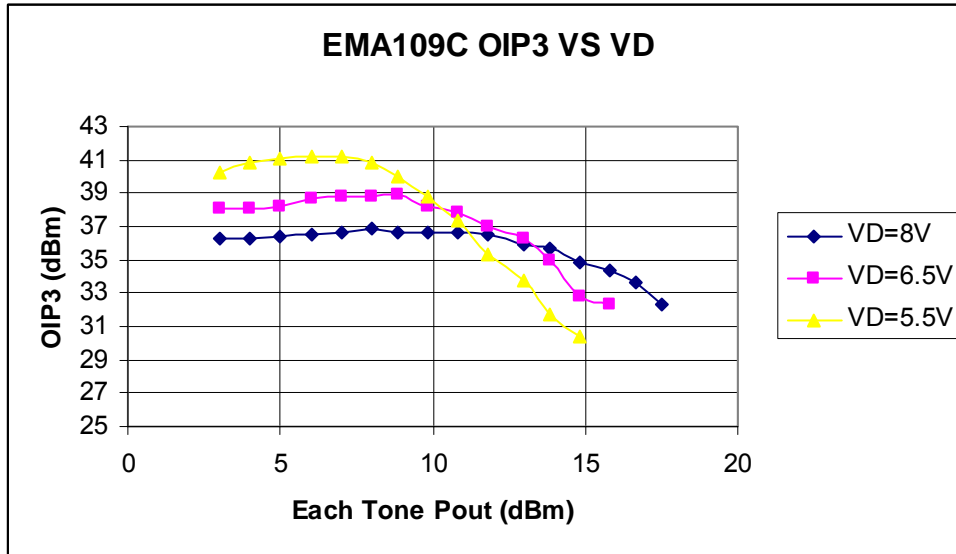
#### 1. P-1 VS VD



#### 2. G-1 VS VD



### Typical Performance: 3. OIP3 VS VD



### 4. Small Signal Performance

