



EMP108-P1

ISSUED DATE: 07-01-04

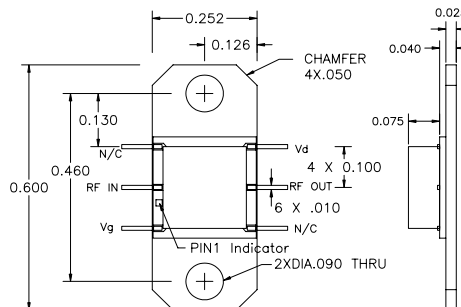
7.0 – 9.5 GHz Power Amplifier MMIC

FEATURES

- 7.0 – 9.5 GHz Operating Frequency Range
- 24.0dBm Output Power at 1dB Compression
- 19.0 dB Typical Small Signal Gain
- -40dBc OIMD3 @Each Tone Pout 14dBm

APPLICATIONS

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



Optional Packaging solutions are available contact the Excelics sales team for details.



Caution! ESD sensitive device.

ELECTRICAL CHARACTERISTICS (T_a = 25 °C, 50 ohm, VDD= 7 V, IDQ= 200 mA)

SYMBOL	PARAMETER/TEST CONDITIONS	MIN	TYP	MAX	UNITS
F	Operating Frequency Range	7.0		9.5	GHz
P1dB	Output Power at 1dB Gain Compression	22.5	24.0		dBm
G _{ss}	Small Signal Gain	16.0	19.0		dB
OIMD3	Output 3 rd Order Intermodulation Distortion @Δf=10MHz, Each Tone Pout 14dBm		-40		dBc
Input RL	Input Return Loss		-12		dB
Output RL	Output Return Loss		-6		dB
I _{dss}	Saturate Drain Current V _{DS} =3V, V _{GS} =0V	244	305	366	mA
V _{DD}	Power Supply Voltage		7	8	V
R _{th}	Thermal Resistance (Au-Sn Eutectic Attach)		30		°C/W
T _b	Operating Base Plate Temperature	- 35		+ 85	°C

ABSOLUTE MAXIMUM RATINGS FOR CONTINUOUS OPERATION^{1,2}

SYMBOL	CHARACTERISTIC	VALUE
V _{DS}	Drain to Source Voltage	8 V
V _{GS}	Gate to Source Voltage	- 4 V
I _{DD}	Drain Current	I _{dss}
I _{GSF}	Forward Gate Current	4.5 mA
P _{IN}	Input Power	@ 3dB compression
T _{CH}	Channel Temperature	150°C
T _{STG}	Storage Temperature	-65/150°C
P _T	Total Power Dissipation	3.8W

1. Operating the device beyond any of the above rating may result in permanent damage.
 2. Bias conditions must also satisfy the following equation $V_{DS} \cdot I_{DS} < (T_{CH} - T_{HS}) / R_{TH}$; where T_{HS} = ambient temperature

Specifications are subject to change without notice.

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