

Typical applications

Power amplifier 57 - 67 GHz for use in:

- Short Range High Capacity Links,
- Mobile Terminals,
- Battery Operated Devices.

Features

Output power: $P_{SAT}=17$ dBm, $P_{1dB}=12$ dBm

Gain 14 dB

Peak PAE 16.4 %

Differential Inputs/Outputs

Internally Matched to 100 Ohm

Unconditionally stable

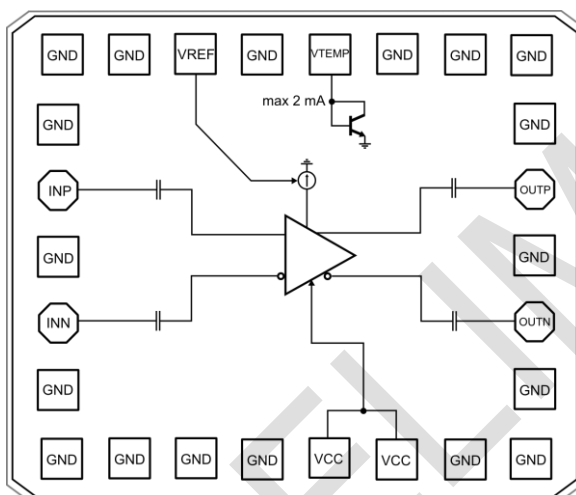
Supply voltage: +3.3 V

Die Size: $0.84 \times 0.72 \text{ mm}^2$

General description

The TS-PA1-60 is a Power Amplifier intended for use in 60 GHz applications. Differential inputs allow balun-less connection to mixer. Integrated diode connected BJT is placed near the output transistors, and allows temperature measurement for thermal protection.

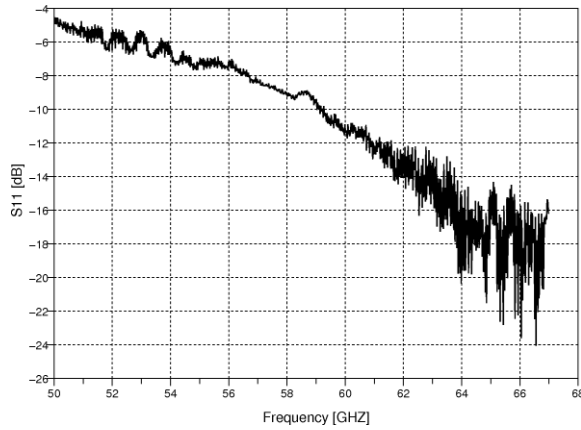
Functional diagram



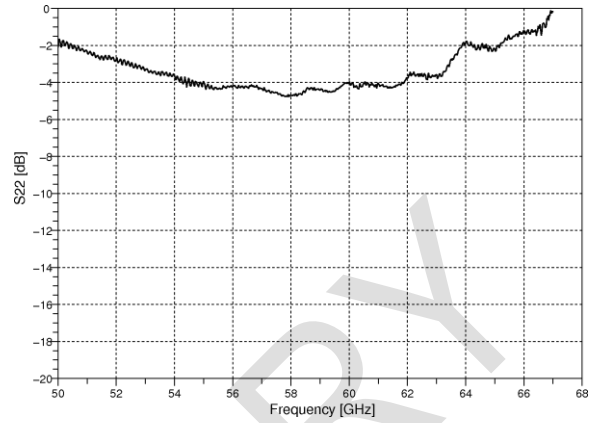
Electrical specifications, $T_A=25^\circ\text{C}$, 50 Ohm system, Measured with 1:2 Balun, $V_{CC}=3.3\text{V}$

Parameter	Min	Typ	Max	Units
Input return loss	-10			dB
Gain		14		dB
Output power (saturated)		17		dBm
Output power (1 dB compression)		12		dBm
Peak PAE		16.4		%
PAE at 1 dB compression point		6		%
Supply current		78		mA

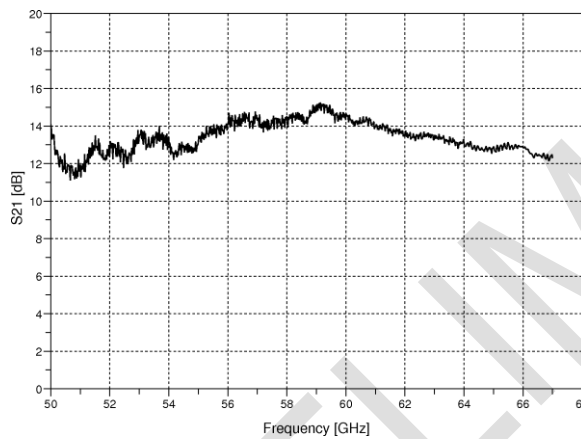
Input Return Loss



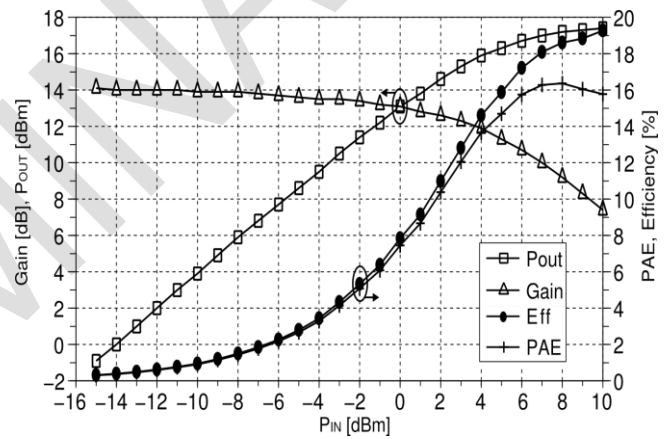
Output Return Loss



Gain



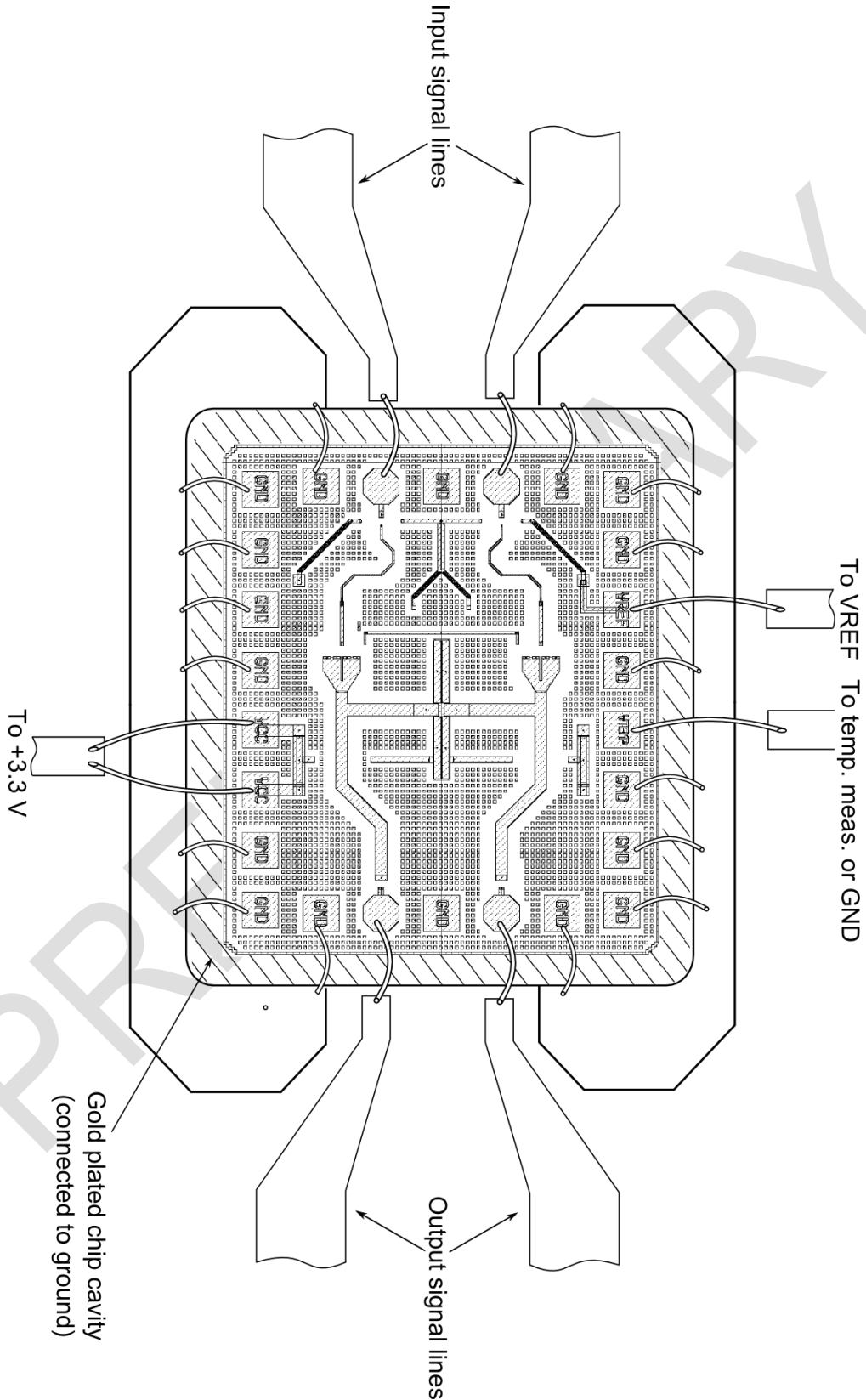
Power, Gain and PAE @ 61.5 GHz



Absolute Maximum Ratings

Parameter	Min	Typ	Max	Units
Supply voltage			3.5	V
Input Power			10	dBm
Operating Temperature	TBD		TBD	°C
Storage Temperature	-50		150	°C

Assembly Diagram



Revision information

Version	Change List
1.0	Preliminary data

PRELIMINARY

Notes:

PRELIMINARY

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