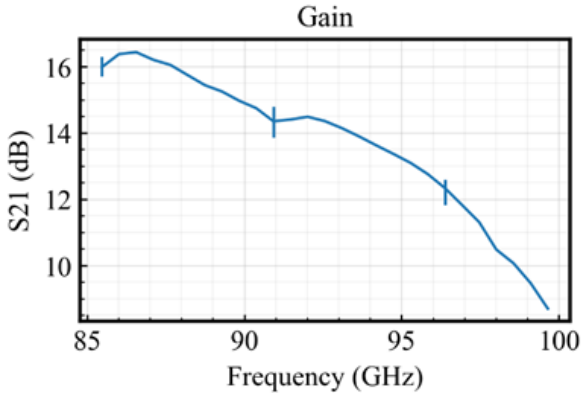
Product Features

- Frequency: 90-96GHz
- Gain: 14dB
- Output Power: 27dBm
- Bias: 12V, 315mA
- Chip dimensions: 3640 x 1300 x 50 um



Primary application

- Radar and imaging
- Point-to-point communication
- Instrumentation

General Description

The P-G94-PA-T3L is a bare-die, three-stage W-band power amplifier fabricated in HRL's GaN-on-SiC T3L HEMT process. It is ideal for radar, high-resolution imaging, W-band datalinks, and general W-band front-end modules. Front-side bond pads (RF and DC) and backside metallization are Ti/Au, providing compatibility with standard wire-bond, ribbon-bond, and die-attach processes.

The P-G94-PA-T3L typically provides 27dBm output power with 14 dB linear gain and a PAE of 8%, using a nominal bias of 12V, 315mA.

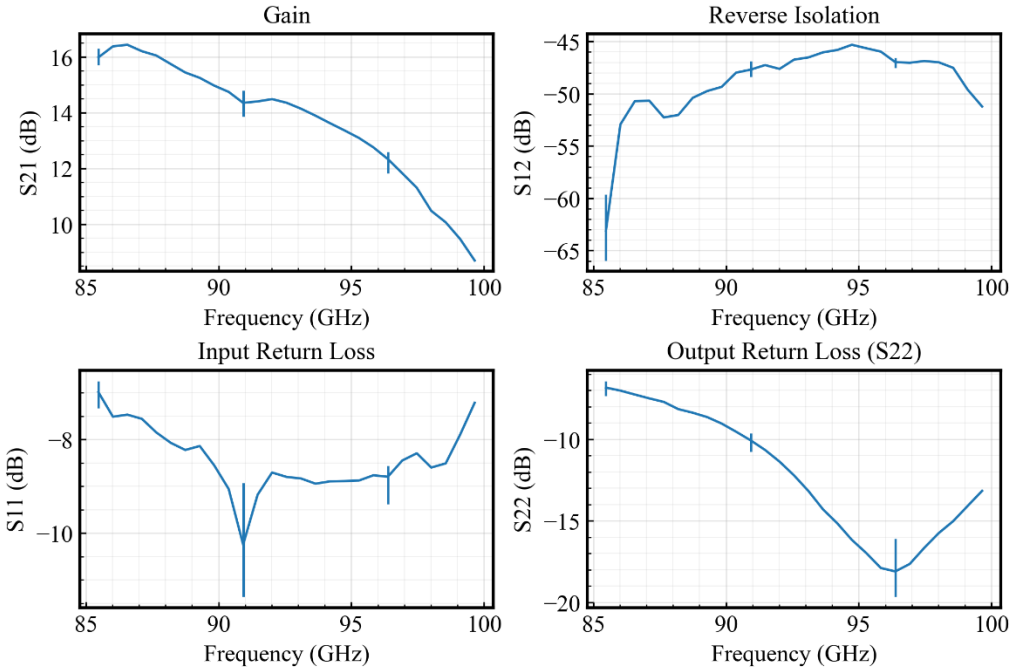
Electrical Specifications

Performance ratings at backside temperature +25C, nominal bias

Parameter	Min	Typ	Max	Unit
Frequency Range	90		96	GHz
Gain		14		dB
Pout at 17dBm	26.5	27	28	dBm
Input Return Loss		-8		
Output Return Loss		-8		
Nominal Bias	Vd=12V, Id=315mA			

Typical Performance @ +25C, Vd=12V, Id=315mA

In band: Small signal gain, reverse isolation, input return loss, output return loss



Power vs Frequency: Pout at 17dBm and Linear Gain