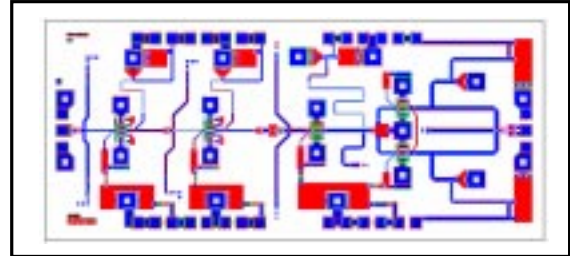


## 17 – 24 GHz GaAs Power Amplifier/Driver MMIC

- 4 Stage Monolithic Microwave Integrated Circuit (MMIC) Amplifier
- Input/Output matched (incl. bond wires)
- Frequency range: 17 GHz to 24 GHz
- High Isolation > 50 dB
- Gain > 22 dB
- $P_{-1dB} > 23$  dBm,  $P_{sat} > 24$  dBm



chip size: 4.2 mm x 1.8 mm

**ESD: Electrical discharge sensitive device, observe handling precautions!**

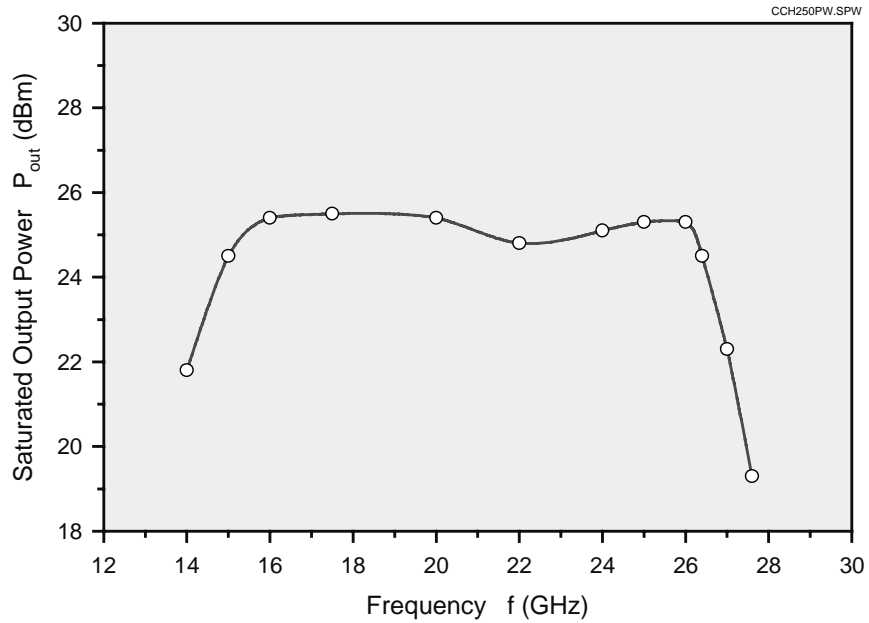
### Description:

This 4 stage GaAs MMIC power amplifier is intended for use in radio link applications. It provides an output power of 23 dBm at 1 dB gain compression. The device is fabricated with a 0.18 micron Pseudomorphic InGaAs/AlGaAs/GaAs High Electron Mobility Transistor processing technology.

Type	Ordering Code	Package
Chip T458B	tbd	Chip

**Electrical Specifications:** ( $V_D = 5 - 6$  V,  $I_D = 300$  mA)

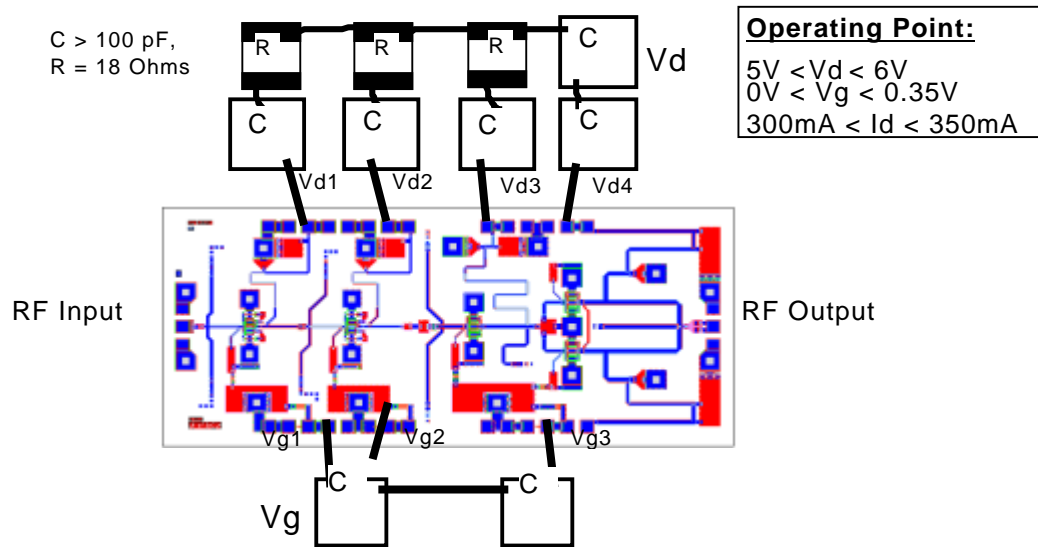
Parameter	Min	Typ	Max	Unit
Frequency Range	17		24	GHz
$P_{-1dB}$		23		dBm
Gain		22		dB
$P_{sat}$		24		dBm
PAE		15		%
Input Return Loss (incl. bond wire)		- 6		dB
Output Return Loss (incl. bond wire)		- 3		dB

**Measured data:** (on chip measurements)**Application Circuit:**

tbd.

**Technology data:**

Chip thickness	95 $\mu$ m
Chip size	4,2 mm * 1,8 mm
Bond pads	100 $\mu$ m * 100 $\mu$ m
Bond pad material	Au (plated gold)
Chip passivation	SiN (silicon nitride)

**Suggested measurement setup:**

**Recommendation of Bonding Conditions:**

	Thermocompression Nailhead, without ultrasonic	Wedge Bonding	Bond Pull Test Mil 883, >2 g
<b>Table Temp.</b>	250°C	250°C	1: 2,5 g 2: 3,1 g 3: 3,2 g 4: 3,0 g 5: 2,8 g
<b>Tool Temp.</b>	180°C	150°C	
<b>Scrub</b>	100 Hz		
<b>Bond Force</b>	50 g	25 g	
<b>Wire Diameter</b>	25 $\mu$ m	17 $\mu$ m	

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