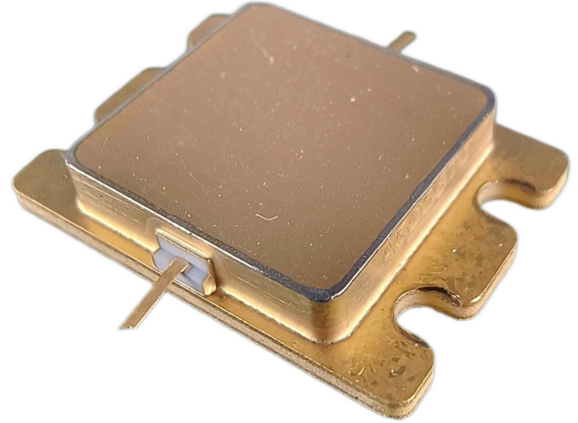


### Key Features

- Operating Frequency: 9.00-10.00 GHz
- Saturated Output Power (P<sub>sat</sub>): ≥ 52 dBm
- Power Gain(G<sub>p</sub>): ≥ 8 dB
- Work Efficiency (η): ≥ 35%
- Port Matching: Z<sub>in</sub>/Z<sub>out</sub> = 50 Ω



### Product Description

The MCNI90100-P52 is an internal matching GaN device, which adopts advanced co-planar internal matching MCM and thin film circuit technology. The typical working frequency range is 9.00-10.00GHz. This device can be used in different RF/Microwave system and subsystem. The high output power level, high efficiency and wide operating temperature range can make application very flexible.

### Absolute Maximum Ratings (T<sub>c</sub>=25°C)

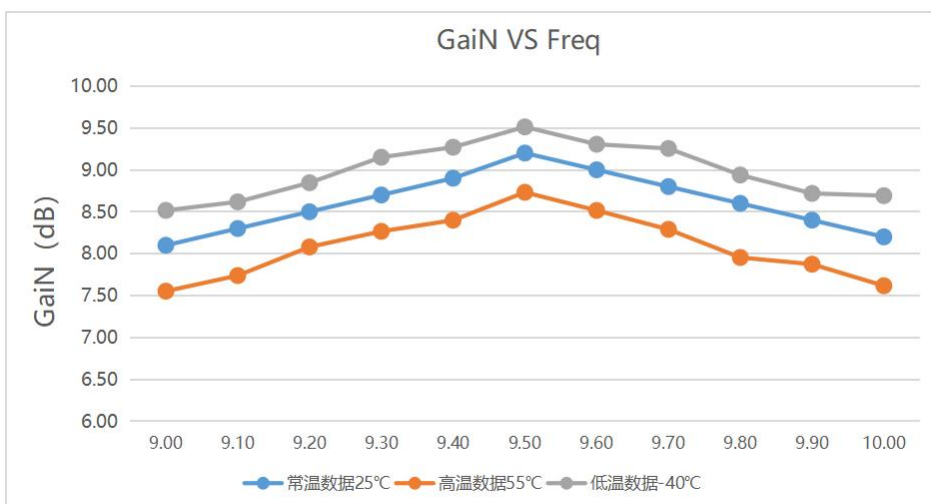
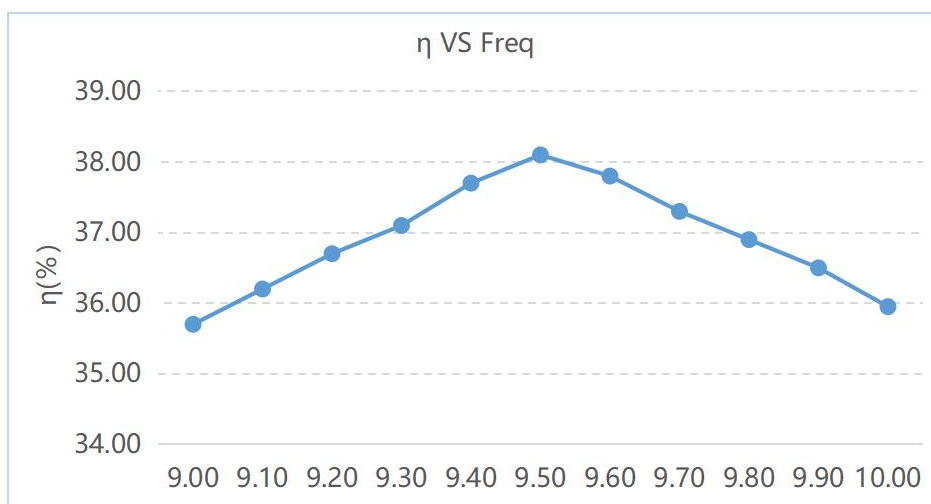
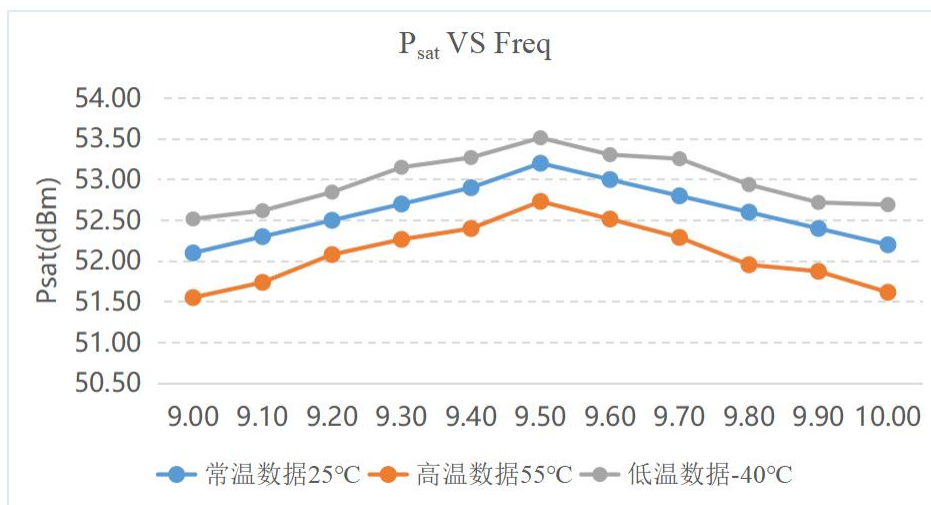
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V <sub>DS</sub>	40	V
Gate-Source Voltage	V <sub>GS</sub>	-5	V
Storage Temperature	T <sub>stg</sub>	-65 ~ +150	°C
Channel Temperature	T <sub>ch</sub>	150	°C

**\*Not recommended to work under these conditions.**

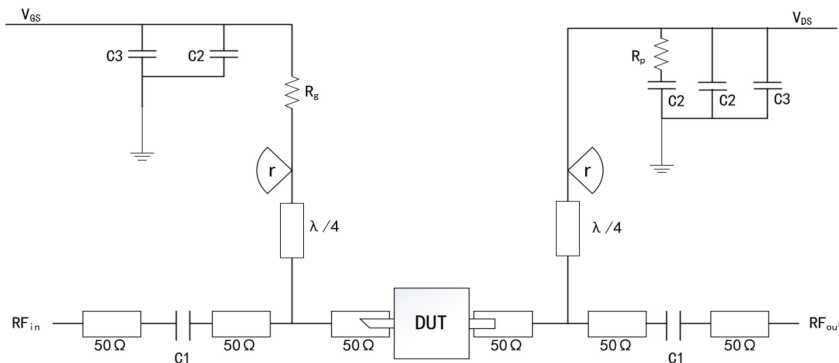
### Microwave Electrical Characteristics

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Drain Current	I <sub>dsr</sub>	VDS:28V Pulse T=1ms,Duty=10% Pin: 44dBm Freq: 9~10GHZ	-	16.2	-	A
Saturated Output Power	P <sub>sat</sub>		52	-	-	dBm
Power Gain	G <sub>p</sub>		8	-	-	dB
Work Efficiency	η		35	-	-	%
Gain Flatness	ΔG		-0.8	-	0.8	dB

## Typical Curves



### Recommended Application Circuit



**DUT: Device Under Test**

C1:1pF                      Rp:51Ω

C2:1000pF                Rg:15Ω

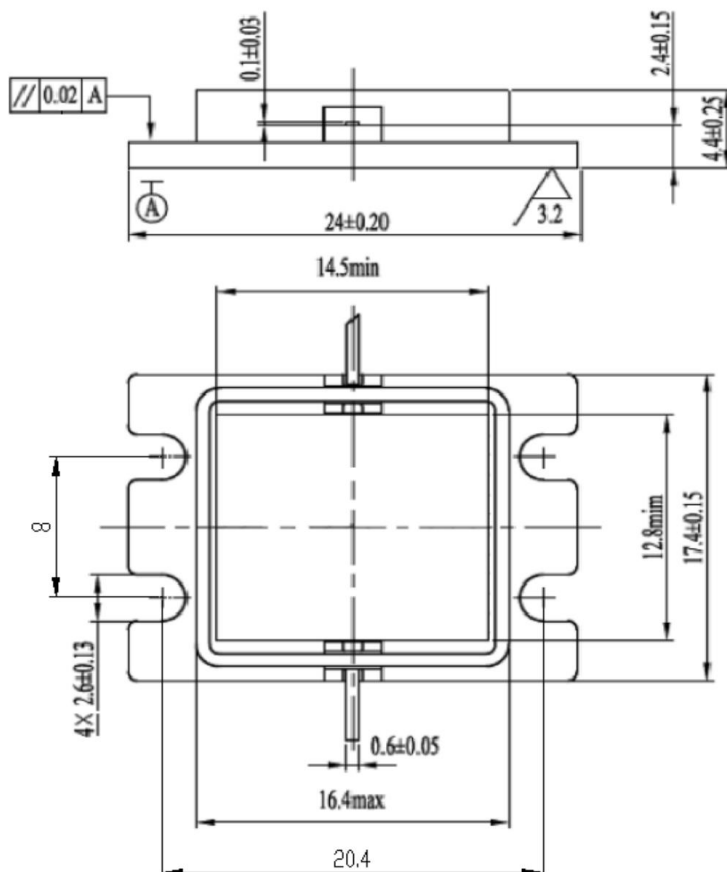
C3:100uF

Radius ≈ 3.5mm (Rogers 5880, 20 mil)

### ESD Level

ESD	Class III	2000V
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### Overall Dimensions



### Using Notes:

- During transportation and storage, ensure proper drying.
- During the use and assembly of the chip, take precautions against static electricity. Wear a grounded anti-static wristband.
- When powering on, apply gate voltage first, then apply leakage voltage.