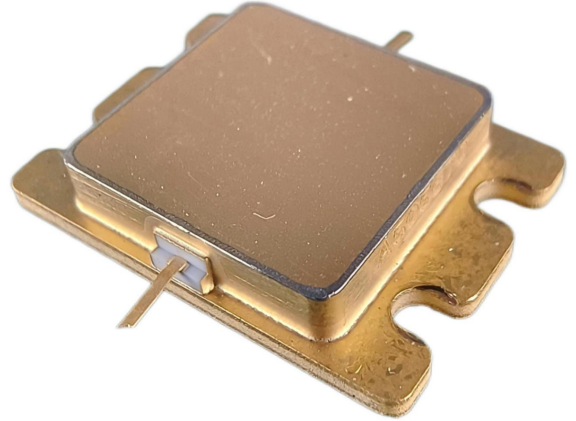


Key Features

- Operating Frequency: 8.50-9.60 GHz
- Saturated Output Power (P_{sat}): ≥ 52 dBm
- Power Gain(G_p): ≥8dB
- Work Efficiency (η): ≥ 36%
- Port Matching: Z_{in}/Z_{out} = 50 Ω



Product Description

The MCNI8596-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 8.50-9.60GHz. 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_c=25°C)

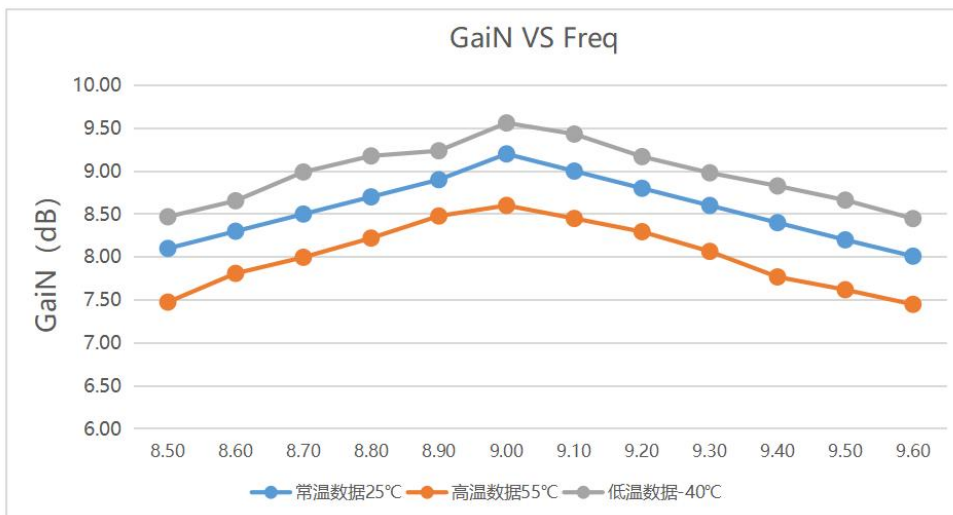
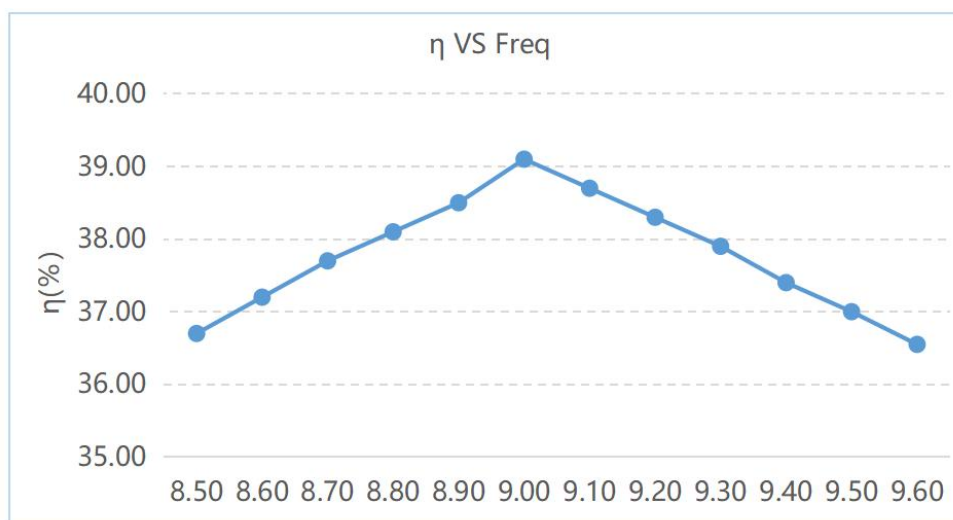
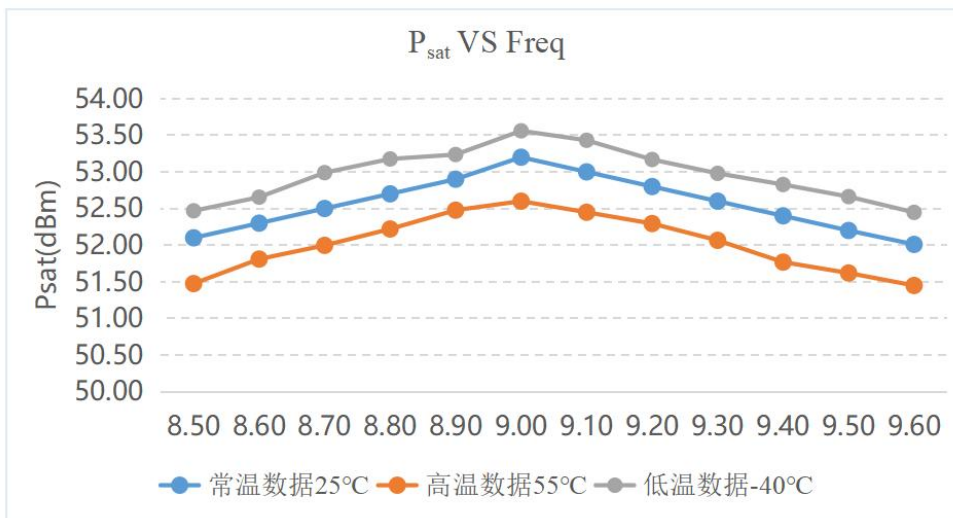
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	40	V
Gate-Source Voltage	V _{GS}	-5	V
Storage Temperature	T _{stg}	-65 to +150	°C
Channel Temperature	T _{ch}	150	°C

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

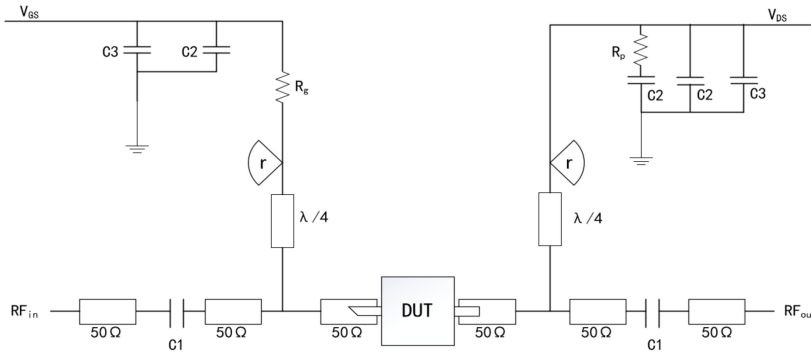
Microwave Electrical Characteristics

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Drain Current	I _{dsr}	VDS:28V Pulse Operation T=1ms,Duty=10% Pin: 44dBm Freq: 8.5~9.6GHZ	-	15.7	-	A
Saturated Output Power	P _{sat}		52	-	-	dBm
Power Gain	G _p		8	-	-	dB
Work Efficiency	η		36	-	-	%
Gain Flatness	ΔG		-0.8	-	0.8	dB

Typical Curves



Recommended Application Circuit



DUT: Device Under Test

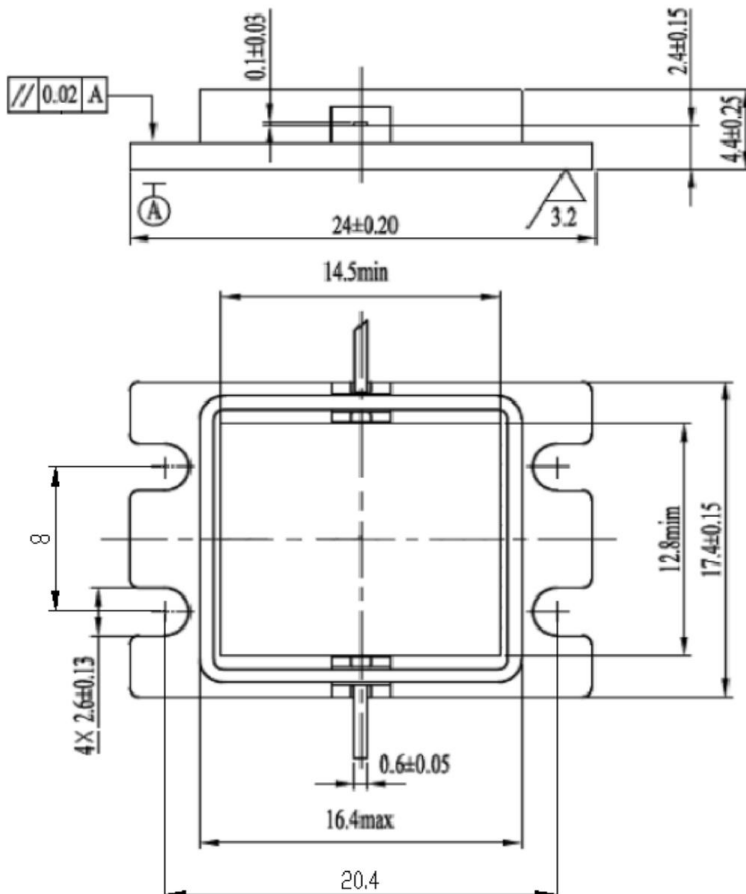
C1:1pF Rp:51Ω
C2:1000pF Rg:15Ω
C3:100uF

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.