

### Key Features

- Operating Frequency: 8.50-9.60 GHz
- Saturated Output Power (Psat):  $\geq 40$  dBm
- Power Gain(Gp):  $\geq 8$  dB
- Power-Added Efficiency ( $\eta$ ):  $\geq 36\%$
- Port Matching:  $Z_{in}/Z_{out} = 50 \Omega$



### Product Description

The MCNI8596-P40 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 (Tc=25°C)

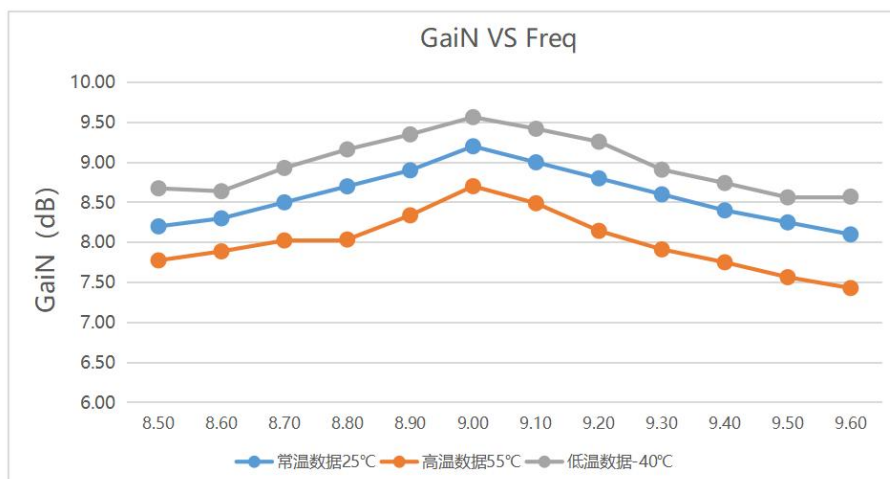
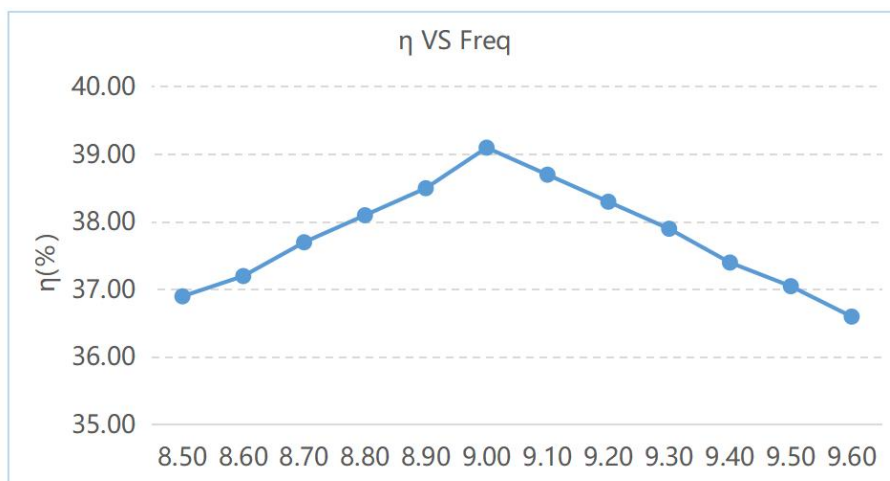
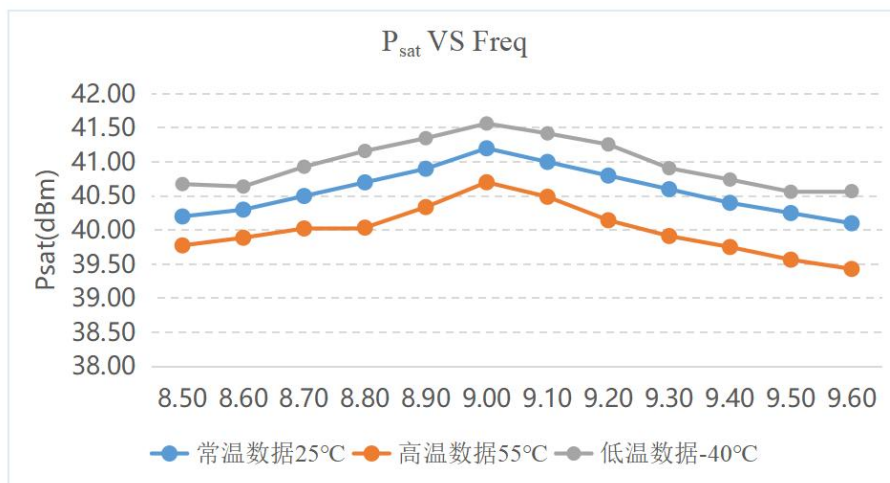
Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	40	V
Gate-Source Voltage	$V_{GS}$	-5	V
Storage Temperature	$T_{stg}$	-65 ~ +150	°C
Channel Temperature	$T_{ch}$	150	°C

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

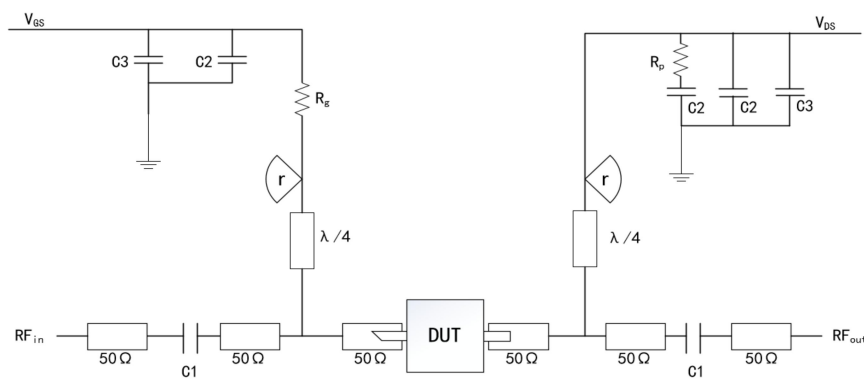
### Microwave Electrical Characteristics

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Drain Current	$I_{dsr}$	VDS:28V CW Pin: 32dBm Freq: 8.5~9.6GHZ	-	1	-	A
Saturated Output Power	$P_{sat}$		40	-	-	dBm
Power Gain	$G_p$		8	-	-	dB
Power-Added Efficiency	$\eta$		36	-	-	%
Gain Flatness	$\Delta G$		-0.8	-	0.8	dB

## Typical Curves



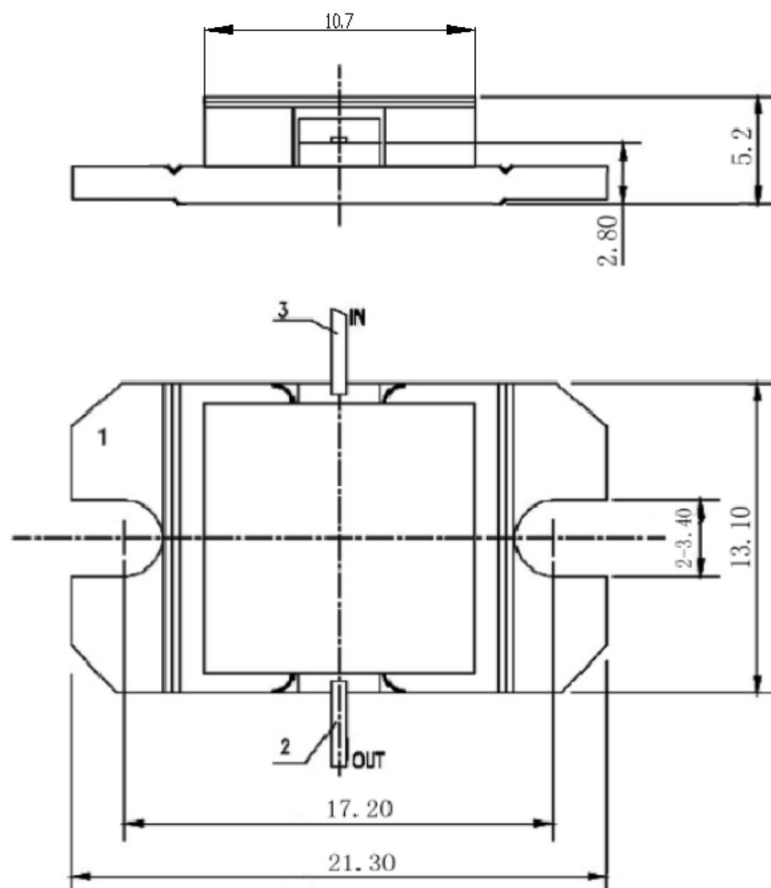
### Recommended Application Circuit



### 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.