

Key Features

- Operating Frequency: 9.00~10.00 GHz
- P1dB \geq 39 dBm
- Power Gain(G_p): \geq 7.0dB
- Efficiency (η): \geq 30%
- Port Matching: $Z_{in}/Z_{out} = 50 \Omega$



Product Description

The MCCI90100-P39-1 is a internal matching GaAs 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, high efficiency and wide temperature range can make application very flexible.

Absolute Maximum Ratings ($T_c=25^\circ\text{C}$)

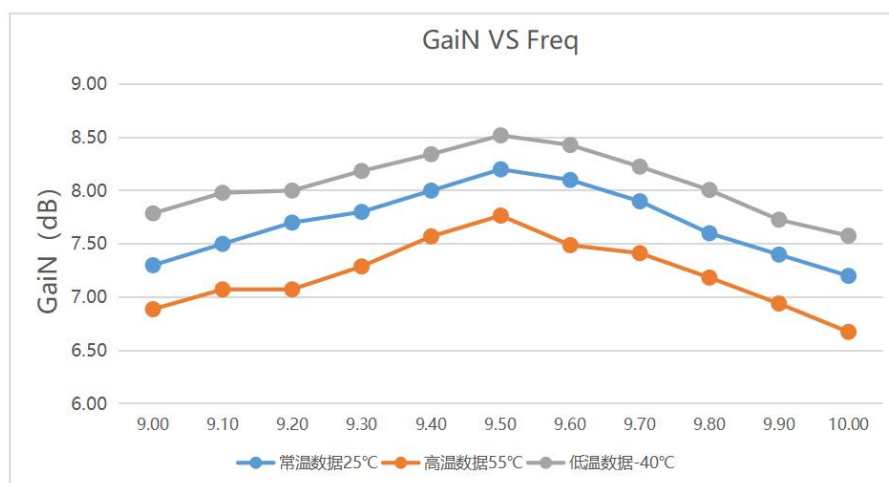
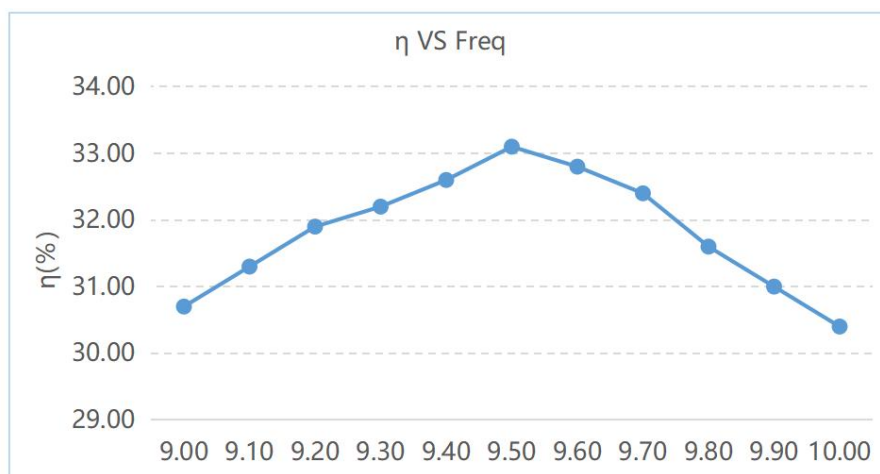
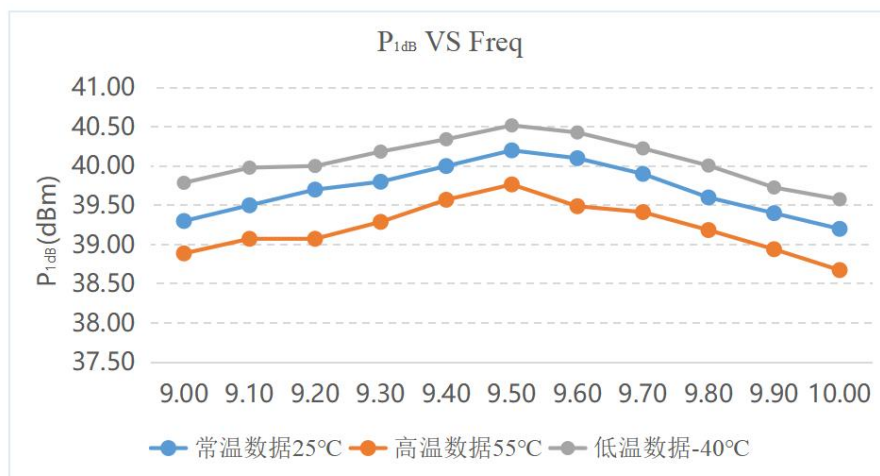
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	11	V
Gate-Source Voltage	V_{GS}	-5	V
Storage Temperature	T_{stg}	-65 ~ +150	$^\circ\text{C}$
Channel Temperature	T_{ch}	150	$^\circ\text{C}$

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

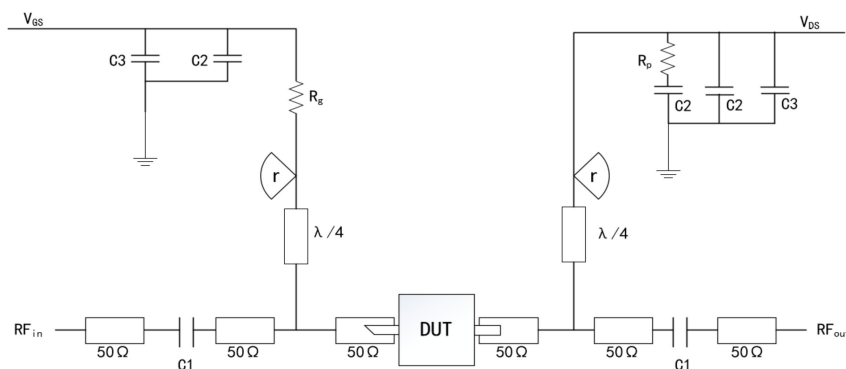
Microwave Electrical Characteristics

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Drain Current	I_{dsr}	VDS:10V CW Pin: 32dBm Freq: 9~10GHZ	-	2.6	-	A
Output Power at 1dB	P_{1dB}		39	-	-	dBm
Power Gain	G_p		7	-	-	dB
Work Efficiency	η		30	-	-	%
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

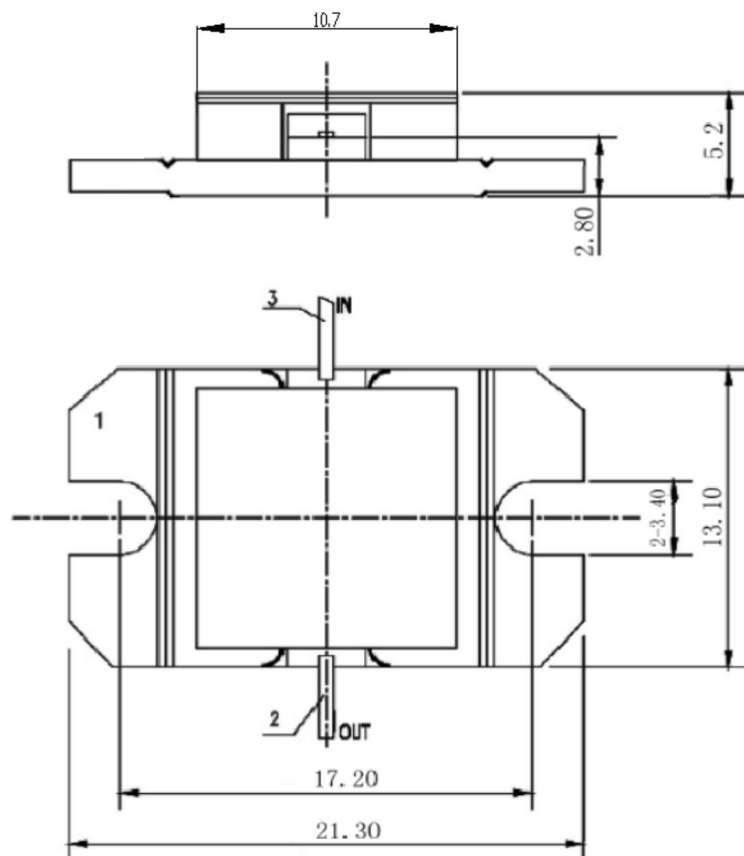
C3:100uF

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.