MCNI2731-P55

S-Band Internally Matched GaN Device

Key Features

- Operating Frequency: 2.70-3.10 GHz
- Saturated Output Power (Psat): ≥55 dBm
- Power Gain(Gp): ≥12 dB
- Work Efficiency (η): = 55%(Type)
- Port Matching: Zin/Zout = 50 Ω

Product Description

The MCNI2731-P55 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 2.70-3.10 GHz. 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）

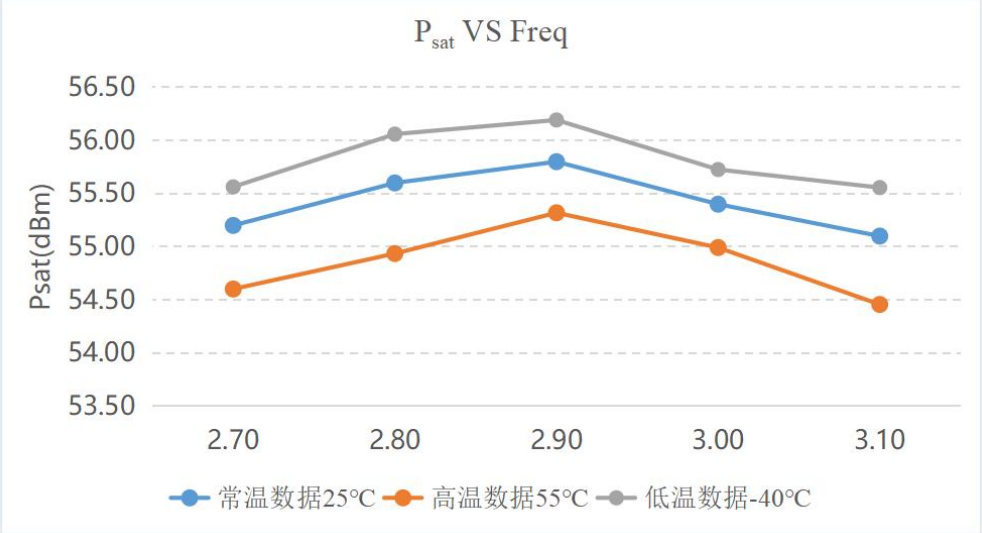
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	-5	V
Storage Temperature	T_{stg}	-65 ~ +150	℃
Channel Temperature	T_{ch}	150	℃

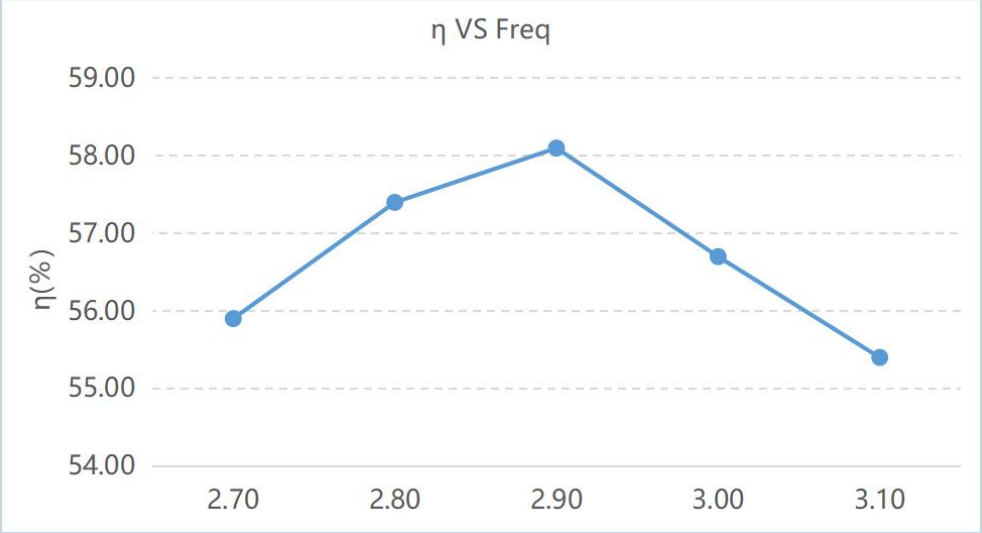
***Not recommended to work under these conditions.**

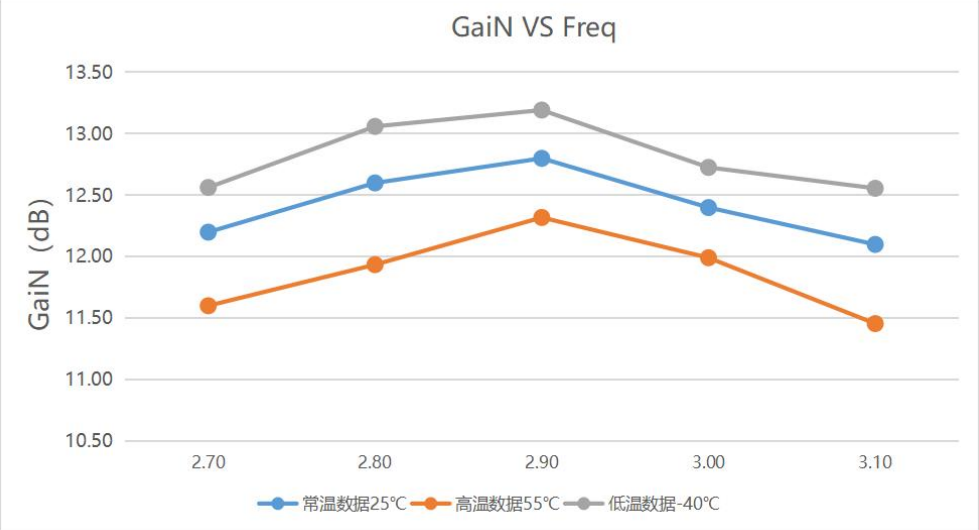
Microwave Electrical Characteristics

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Drain Current	I_{dsr}	VDS:50V Pulse T=1ms,Duty=10% Pin：43dBm Freq：2.7~3.1GHZ	-	11.5	-	A
Saturated Output Power	P_{sat}		55	-	-	dBm
Power Gain	G_p		12	-	-	dB
Work Efficiency	η		-	55	-	%
Gain Flatness	ΔG		-0.8	-	0.8	dB

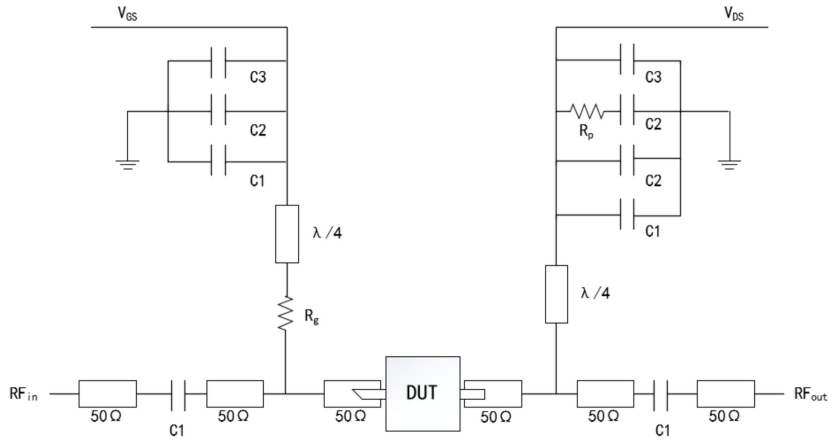
Typical Curves







Recommended Application Circuit



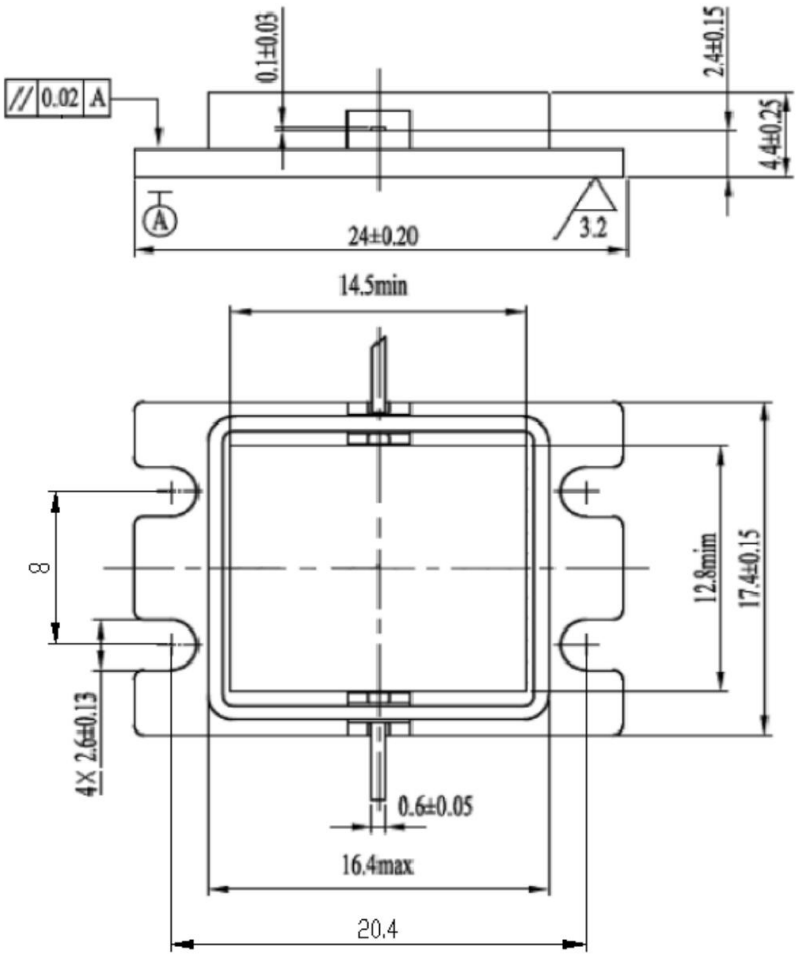
DUT: Device Under Test

C1:8pF	Rp:51Ω
C2:1000pF	Rg:15Ω
C3:100uF	

ESD Level

ESD	Class III	2000V

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.