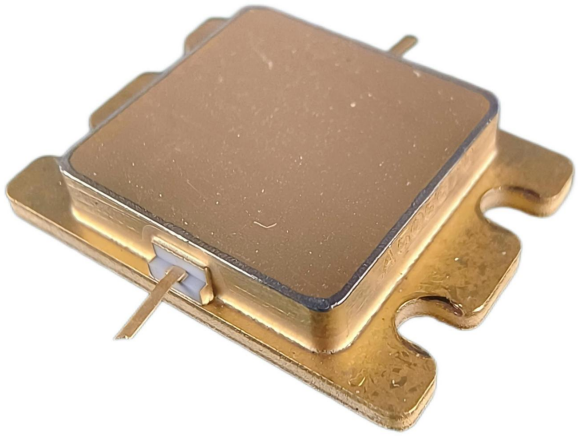
MCNI2737-P52

S-Band Internally Matched Power Transistor

Key Features

- Operating Frequency: 2.70-3.70 GHz
- Saturated Output Power (Psat): ≥ 52 dBm
- Power Gain: ≥12dB
- Power-Added Efficiency (η): ≥ 50%
- Port Matching: Zin/Zout = 50 Ω



Product Description

The MCNI2737-P52 is a gallium nitride (GaN) internally matched power transistor. Utilizing advanced planar internal matching synthesis technology and mature thin-film hybrid integration processes, it operates in the 2.7–3.7 GHz frequency band. The device delivers high power, exceptional efficiency, and robust environmental adaptability (e.g., temperature stability), making it suitable for diverse RF/microwave systems.

Absolute Maximum Ratings（Tc=25°C）

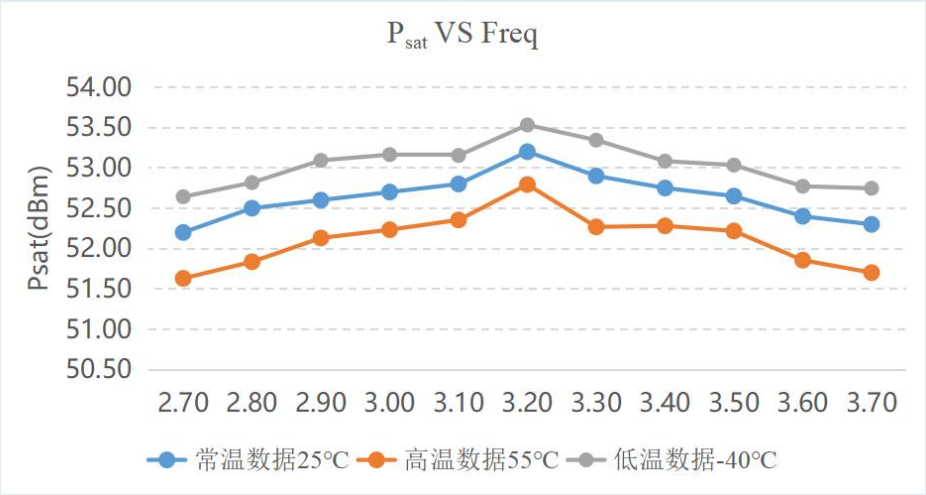
Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{\_DS}$	40	V
Gate-Source Voltage	V_{GS}	-5	V
Storage Temperature	T_{stg}	-65 to +150	℃
Channel Temperature	T_{ch}	150	℃

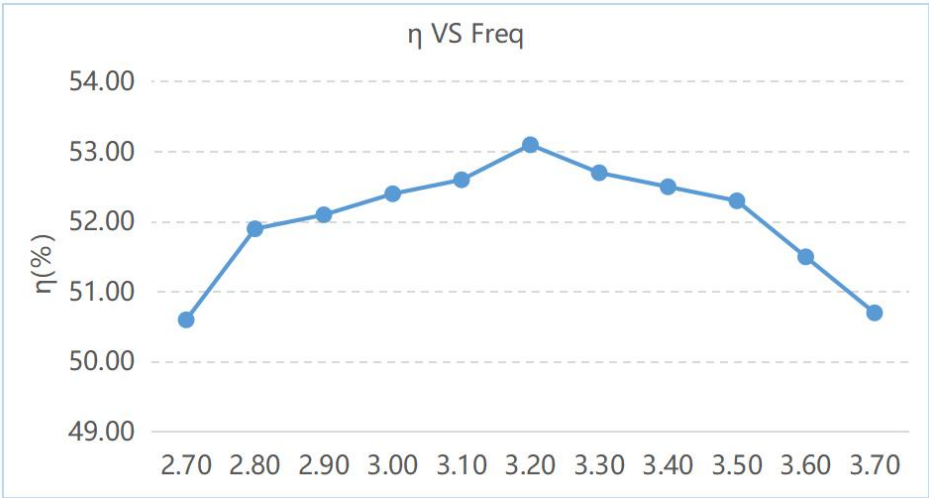
***operation under these conditions is not recommended**

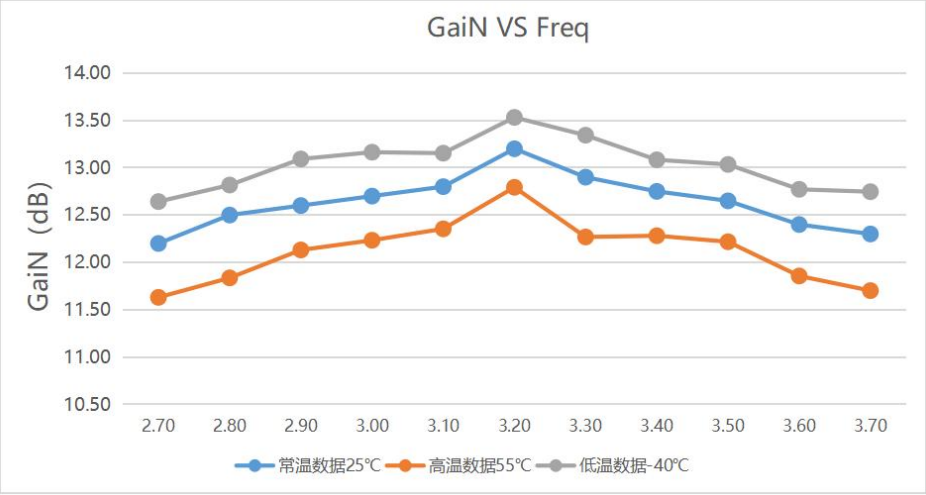
Microwave Electrical Characteristics

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Drain Current	I_{dsr}	VDS:32V Pulse Operation T=1ms,Duty=10% Pin：49dBm Freq：2.7~3.7GHZ	-	9.9	-	A
Saturated Output Power	P_{sat}		52	-	-	dBm
Power Gain	G_p		12	-	-	dB
Power-Added Efficiency	η		50	-	-	%
Gain Flatness	ΔG		-0.8	-	0.8	dB

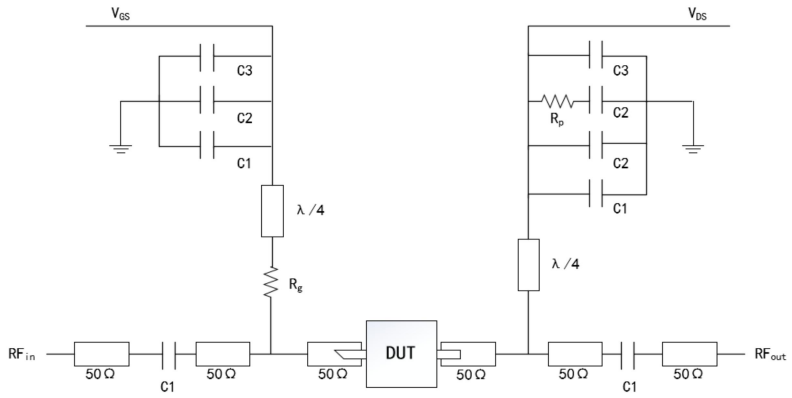
Typical curves







Recommended application circuit



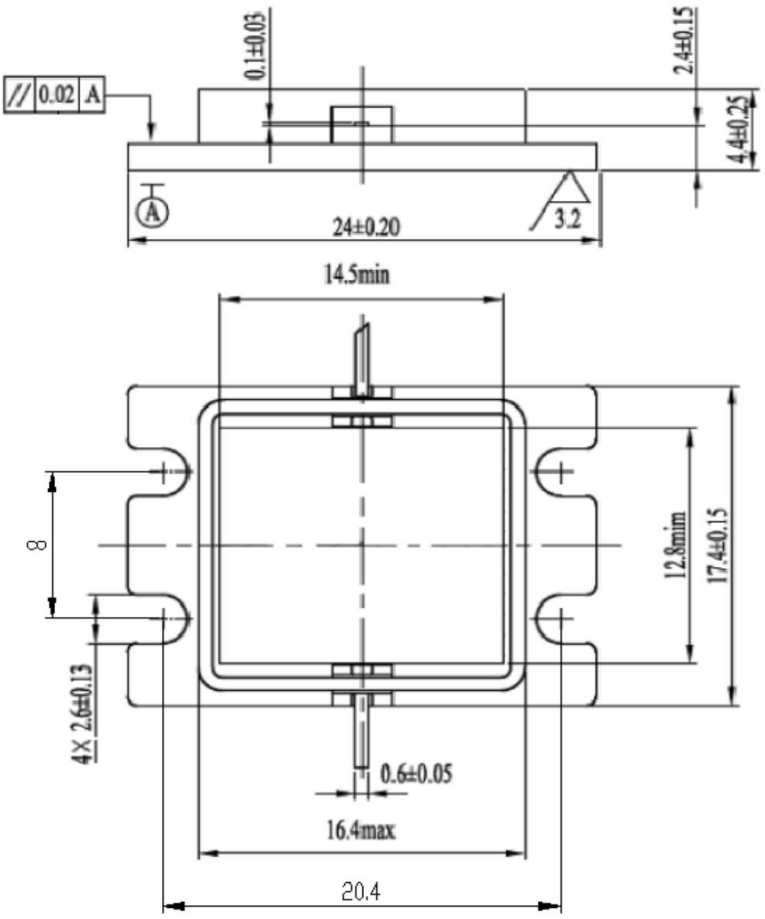
DUT: Device Under Test

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

Electrostatic protection 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.