## LNPA2731-150-260

150-260W, 2.7-2.9GHz, GaN MMIC, Power Amplifier

## Description

Ampli GaN

LNPA2731-350 is a gallium nitride high electron mobility transistor (GaN HEMT). It is a high-power internally matched power transistor that can operate in pulse mode at saturated power. It is used in standard communication and radar frequency bands in  $50\Omega$  systems. Provides optimal power and gain performance.

### Features

- Coverable working frequency band range: 2.7~2.9GHz
- Good  $50\Omega$  impedance matching, easy to use in cascade
- Metal ceramic shell sealed package
- Available in screw-on flange package or welded pill package

## **Limit parameters**

- Source-drain voltage Vds: +120V
- Gate-source voltage Vgs: -10V
- Dissipated power (Tc=25°C): 239W
- Storage temperature: -55°C~+125°C
- Operating temperature: -40°C~+75°C

## Electrical performance table

Working cor	nditions: 50Ω test	system, TA = +25°	C, VDS=+50	)V, IDS=7	0mA, pulse	width: 100u	s, 10% duty	cycle
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Parameter	Test Conditions		Min.	Тур.	Max.	Units
Saturation power	Saturation power Freq.=2.7GHz~2.9GHz   power gain VGS=-3.0~4.0V   vDS=+50V VDS=+50V   power added IDsq=70mA   power flatness IDsq=70mA		54.2	-	-	dBm
power gain			-	15.2	-	dB
power added efficiency			64.2	-	-	%
power flatness			-	-	0.3	dB
Pinch-off voltage	VDS=6V	IDS≤100mA	-8	-	-4	v
Gate-source reverse current	VDS=0V	VGS=-10V	-	-	5	uA

Products with similar power specifications, higher efficiency and wider frequency bands can be customized.





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### **Indicator test**

Test conditions: TA = +25°C, VDS=+50V, IDS=70mA, pulse width: 100us, 10% duty cycle

Frequency	input power (dBm)	Output Power (dBm)	Gain ( <b>dB</b> )	Efficiency (%)
2.7	39.5	54.5	15	66.31
2.8	39	54.2	15	70.14
2.9	39	54.2	15.2	70.05

## **Dimensional drawing**

The unit in the figure is millimeters (mm), polarity: chamfered end - gate; square end - drain.



## **Recommended application circuit diagram**



C7,C8,C9,C10	10pF	0805
C3, C4	1000pF	0805
C2, C5	10nF	0805
C1,C6	4.7µF	0805
C11	47 µ F	
C12	470 µ F	
R	20 Ω	0805



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#### **Recommended installation**

1. After tightening the tube casing with screws, the height between the tube casing pins and the printed board should be  $\geq 0.1$ mm. The tube casing should be installed in the middle. The slot width should be  $\geq 17.65$ mm. Ensure that the clearance between input and output end faces is >0.1mm, otherwise it may cause Pins come off. Can also be soldered.

2. It is recommended to use M2.0 screws, use 0.6N·m torque for assembly, and take anti-loosening measures such as spring washers, thread fasteners or nail cap dispensing.

3. When the device is working, the tube and shell temperature does not exceed 75°C.

#### Precautions

1. This device is an internal matching device with an input and output impedance of  $50\Omega$ .

2. When powering up, please strictly follow the order of first negative pressure and then positive pressure; when powering on, add the gate voltage first, then add the leakage voltage; when powering off, first reduce the leakage voltage, then reduce the grid voltage.

3. Pay attention to heat dissipation during use. The lower the temperature of the tube and shell, the longer the service life of the device.

4. During use, instruments, equipment, etc. should be well grounded; this product is an electrostatic sensitive device, so pay attention to anti-static when storing and using it.

Please select the power supply reasonably according to the specific modulation method and corresponding requirements.



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