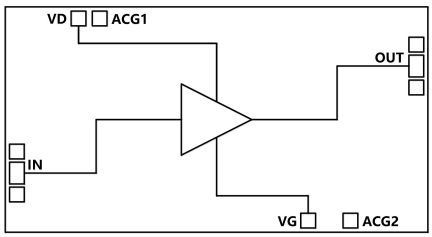
TFLN0026-B
DC~26 GHz GaAs MMIC Low Noise Amplifier

★1.Product Features

- Frequency range: DC ~ 26 GHz
- Gain: 15 dB
- Noise figure: 2 dB
- Input return loss: 21 dB
- Output return loss: 17 dB
- Output P1dB: 15 dBm
- Single-supply operation: +8 V @ 60 mA
- Chip size: 3.0 mm × 1.6 mm × 0.1 mm

Functional Block Diagram



★2.Product Introduction

TFLN0026-B is a GaAs MMIC low noise amplifier chip whose operating frequency range covers DC ~ 26 GHz. It provides 15 dB gain and a typical in-band noise figure of 2 dB, and operates from a +8 V single supply.

★3.Electrical Characteristics

TA=+25℃, Vd=+8V, VG=-0.7V

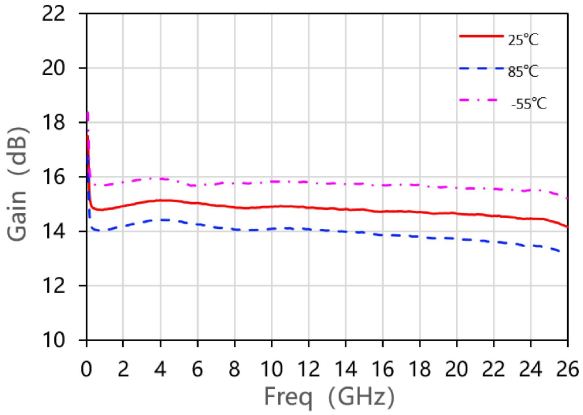
Parameter	Min	Typ	Max	Unit
Operating Frequency	—	DC ~ 26	—	GHz
Gain	14.2	15	—	dB
Gain Flatness	—	±0.4	—	dB
Noise Figure	—	2	4.2	dB
Reverse Isolation	—	40	—	dB
Output P1dB	13	15	—	dBm
Saturated Output Power	17	18	—	dBm
OIP3	—	26.5	—	dBm
Input Return Loss	—	21	—	dB
Output Return Loss	—	17	—	dB

Email: ttf@ttfelectronic.com
Website:ttfelectronic.com
Address: Building 16, Area C, Entrepreneurship and R&D Park, Xi'an High-tech Industrial Development Zone, China

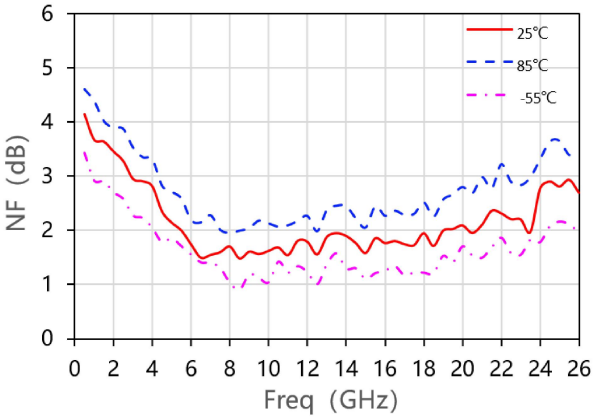
★4.Typical Test Curve

The ACG1/ACG2 pads are not externally bypassed in the measurements below.

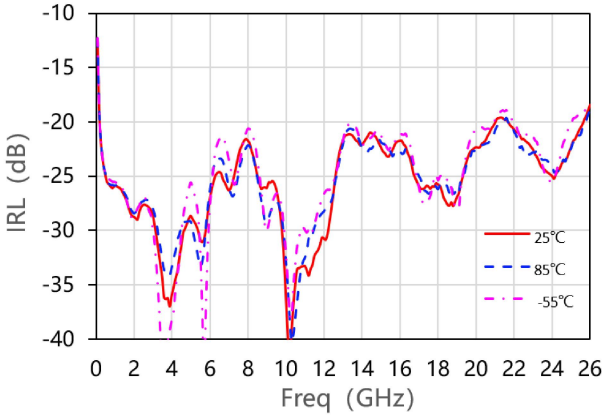
Gain vs. Temperature



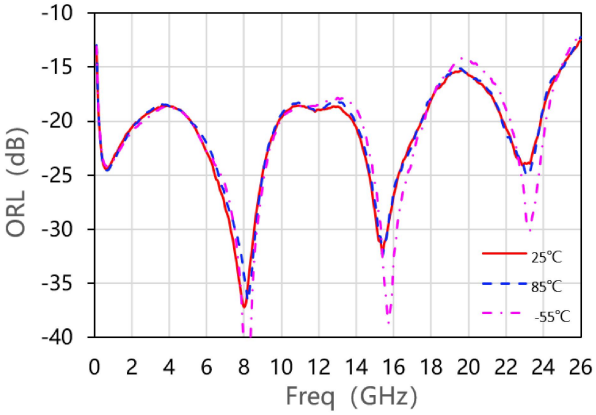
Noise Figure vs. Temperature



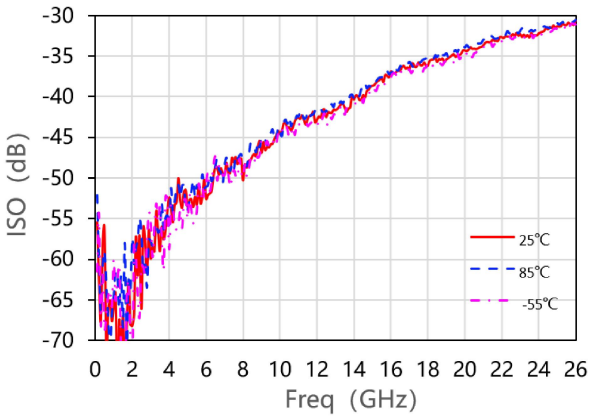
Input Return Loss vs. Temperature



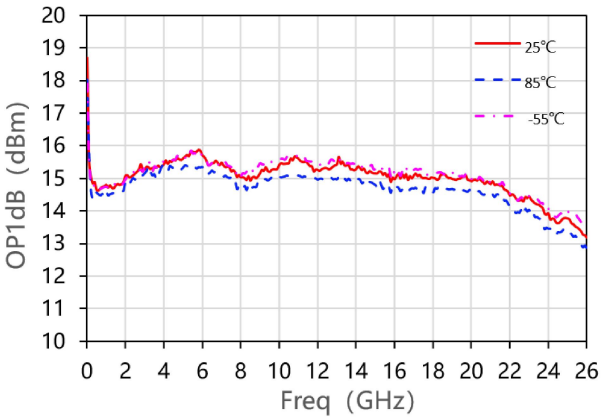
Output Return Loss vs. Temperature



Reverse Isolation vs. Temperature

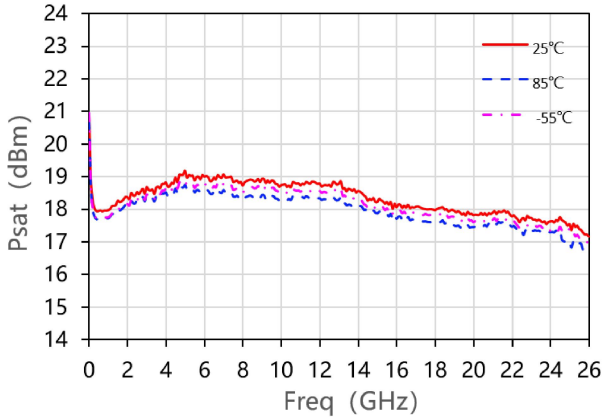


Output P-1dB vs. Temperature

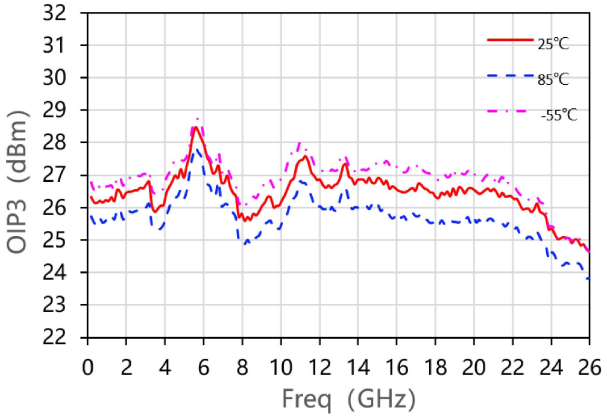


Email: ttf@ttfelectronic.com
Website:ttfelectronic.com
Address: Building 16, Area C, Entrepreneurship and R&D Park, Xi'an High-tech Industrial Development Zone, China

Saturated Output Power vs. Temperature



Output IP3 vs. Temperature



★5.Outline Dimensions



Notes:
1. Unit: μm
2. Outline dimension tolerance: ± 50 μm

★6.Bonding Pressure Point Definition

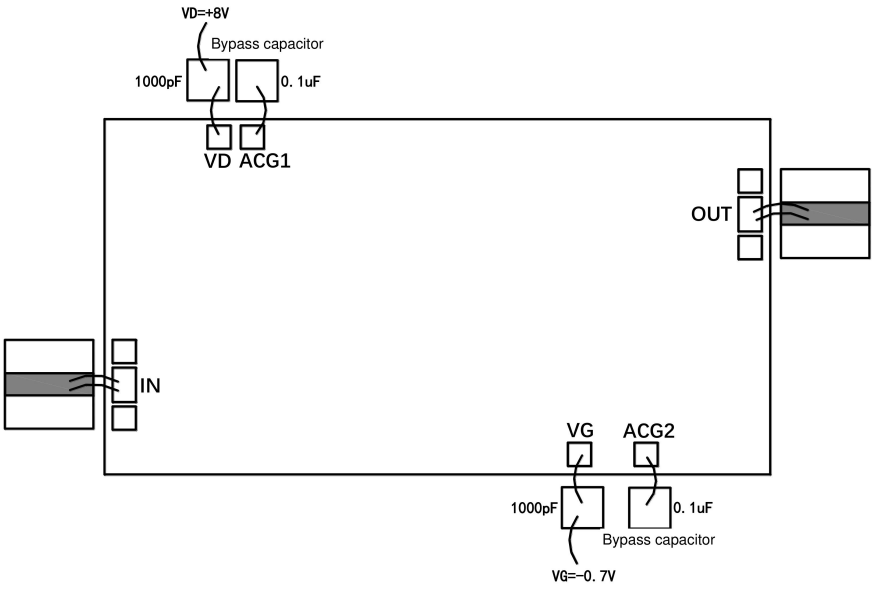
Pad	Function Description
IN	RF signal input; no internal DC-blocking capacitor
VD	Drain voltage, typical +8 V
OUT	RF signal output; no internal DC-blocking capacitor
VG	Gate voltage, typical -0.7 V
ACG1/ACG2	Low-frequency signal filter pad; an external 0.1 μF bypass capacitor is required

★7.Precautions

Parameter	Limit Value
Maximum Input Power	+18 dBm
Maximum Drain Voltage	+9 V
Storage Temperature	-65 ℃ ~ +150 ℃
Operating Temperature	-55 ℃ ~ +85 ℃

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★8.Suggested Assembly Drawing



Instructions for Use:

1. The chip shall be stored in a dry and clean N_2 environment.
2. This product is an ESD-sensitive device; ESD precautions shall be strictly observed to avoid electrostatic damage to the bare die.
3. Good grounding of the chip shall be ensured during use.
4. Gold wire bonding with a diameter of 25 μm is recommended.
5. Reverse connection of the supply is prohibited, as it may cause permanent damage to the device.