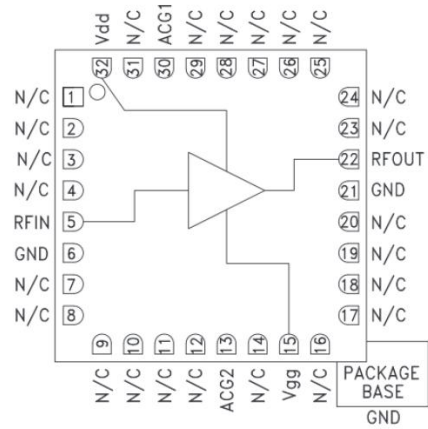## Performance Features

- Frequency band: DC~20GHz
- Gain: 12dB
- Noise factor: 2dB
- Output P1dB: 15dBm
- Output IP3: 30dBm
- Input/output return loss: 15dB
- power supply: +8V@70mA
- 5x5mm QFN Package

Functional Diagram

Overview

The CW460SP5 is a GaAs MMIC ultra-wideband low-noise amplifier with a frequency range covering DC~20GHz and a typical noise figure of 2.0dB across the band. The CW460SP5 is powered by a +8V supply.
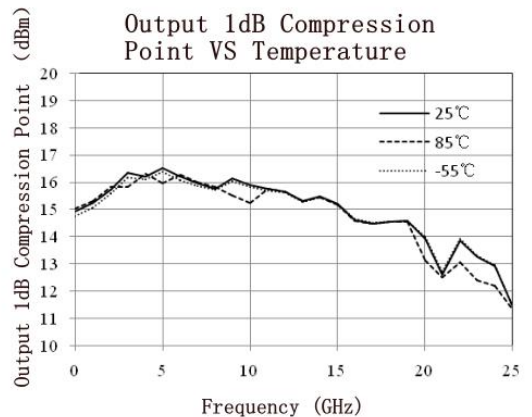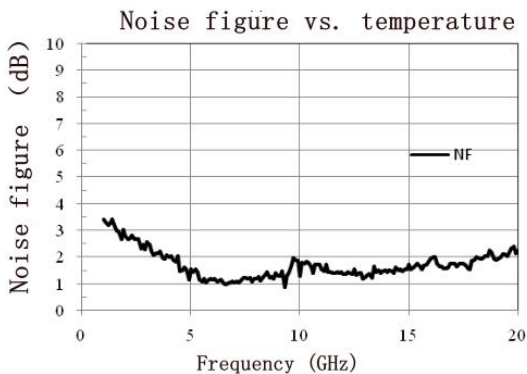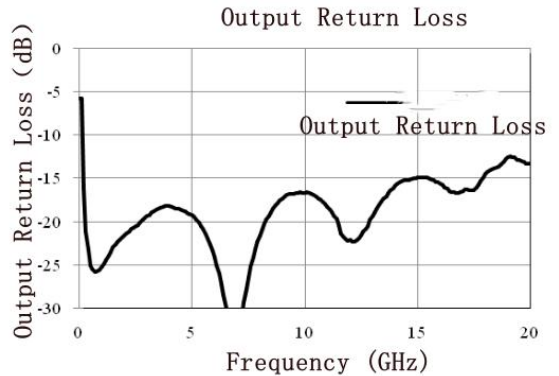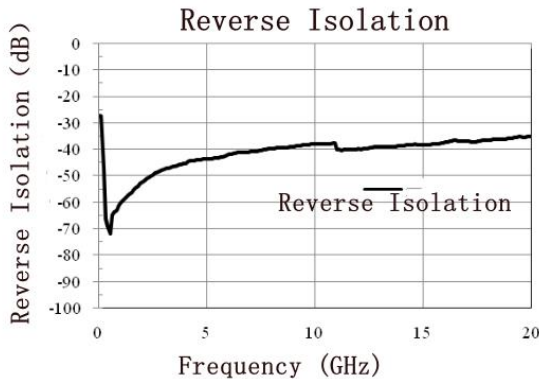
Electrical performance table (TA=+25℃，VD=+5V)

Indicators	Minimum value	Typical values	Maximum value	Unit
frequency range		DC~20		GHz
Gain	-	12	-	dB
Output P1dB	-	15	-	dBm
noise factor	-	2	-	dBm
Input Return Loss	-	15	-	dB
Output Return Loss	-	15	-	dB

Usage limitation parameters: (Exceeding any of the above maximum limits may result in permanent damage.)

Input power	+23dBm
Control voltage	+9V
Storage temperature	-65℃~150℃
Operating temperature	-55℃~125℃

C W

Amplifier Series

Typical curves:

Gain

Input Return Loss

Reverse Isolation

Output Return Loss

Noise figure vs. temperature

Output 1dB Compression Point VS Temperature

CW Amplifier Series

Typical curves:

Saturated output power vs. temperature

Output OIP3 (25℃)

Overall dimensions

TOP VIEW

BOTTOM VIEW

SIDE VIEW
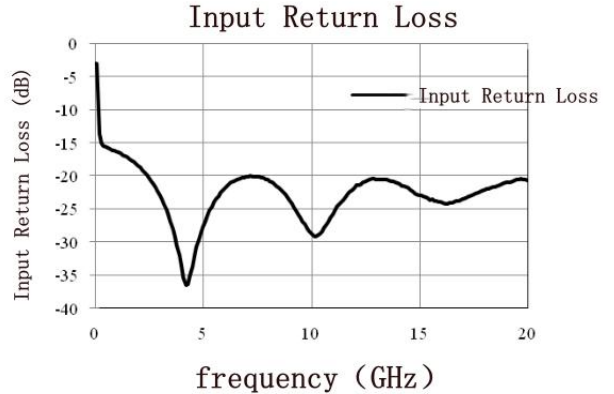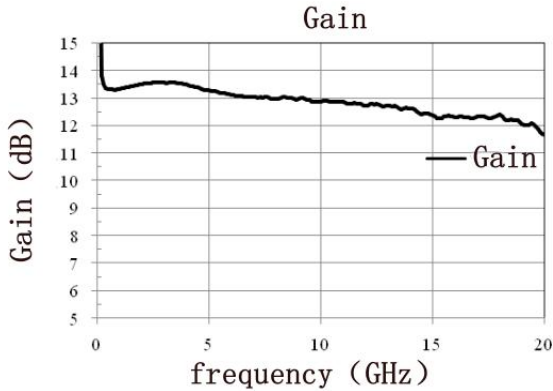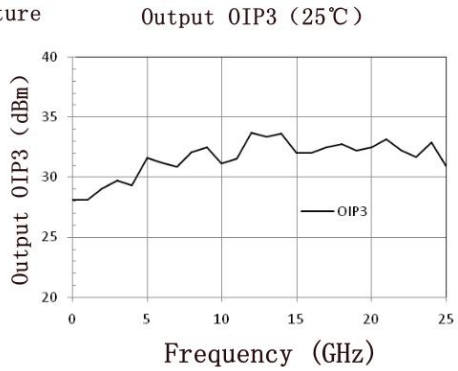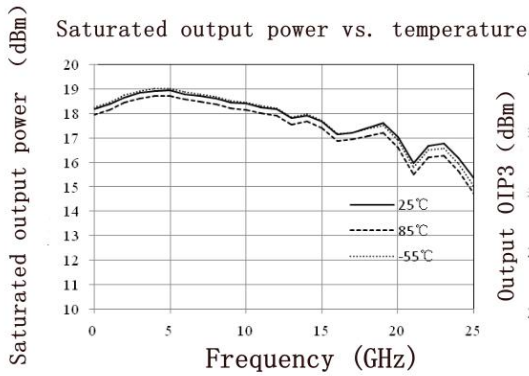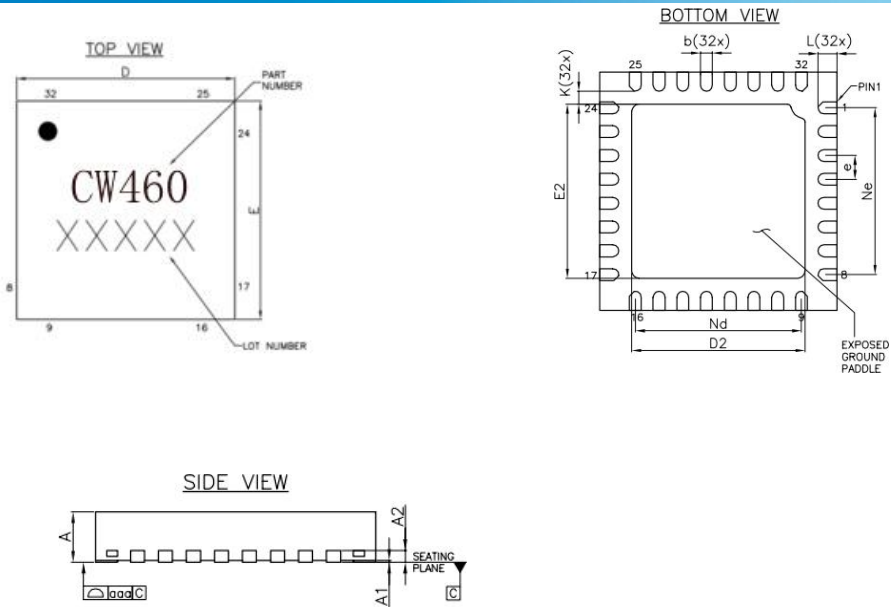
Description:

1. Unit: mm

2. Lead frame material: copper alloy

3. Package surface warpage: no more than 0.05mm

4. All ground pins should be connected to PCB RF ground.

C W

Amplifier　Series

Chengdu Cuiwei Electronic Co.,LTD
Address: No. 5, Gaopeng East Road, Gaoxin District, Chengdu, China
E-mail:sales@cdcwtec.com
Website: www.cdcwtec.com

Instructions for use:

Caution: Input and output have isolation capacitors

Storage: The chip must be placed in a container with electrostatic protection and stored in a nitrogen atmosphere.

Cleaning treatment: Bare chips must be operated and used in a purified environment, and it is prohibited to use liquid cleaners to clean the chips.

Electrostatic protection: Please strictly comply with ESD protection requirements to avoid electrostatic damage to the device.

Routine operation: Please use vacuum chuck or precision pointed tweezers to pick up the chips. Avoid touching the chip surface with tools or fingers during the operation.

Mounting operation: Chip mounting can be done using AuSn solder eutectic welding or conductive adhesive bonding process. The mounting surface must be clean and flat.

Bonding operation: 2 (25um diameter gold wire is recommended) bonding wires for each input and output, with a bonding wire length of less than 250um optimal. It is recommended to use the lowest possible ultrasonic energy. Bonding starts at the pressure point on the chip and ends at the package (or substrate).

C W

Amplifier   Series