

GaAs monolithic integrated multi-function chip

8.0~12GHz

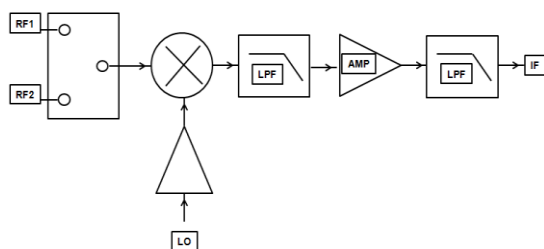
Key indicator

- RF frequency band: 8.0~12GHz
- LO frequency band: 10.8~14.8GHz
- IF frequency band: 2.8GHz
- Conversion gain: 5dB
- Input 1dB compression point: 18dBm
- Local oscillator power: -3dBm
- DC power consumption: 110mA@5V

Typical application

- Radar and electronic countermeasures
- RF/Microwave Circuit
- Military and aerospace
- Test instrument
- Instrumentation

Functional block diagram



Product Introduction

AY1460 Integrate into on/off, mixing, frequency mixing, low-pass filter filter and amplifier Big implements and other functions. The RF frequency of the chip covers 8.0~12GHz, The local oscillator frequency covers 10.8~14.8GHz, the intermediate frequency is 2.8GHz, Under 5V voltage, the conversion gain is greater than 5dB, and the intermediate frequency output is 1dB The compression point is greater than 18dBm. The typical local oscillator input power is -3dBm, and the DC power consumption is less than 110mA.

Electrical properties

($T_A=25^\circ\text{C}$, $LO=-3\text{dBm}$, $IF=2.8\text{GHz}$, $V_D=+5\text{V}$, $V_S=5\text{V}$)

Index	Minimum	Typical value	Max	Unit
RF frequency	8.0~12			GHz
Local frequency	10.8~14.8			GHz
IF frequency	2.8			GHz
Conversion gain	—	5	—	dB
Output 1dB compression point	—	18	—	dBm
RF end return loss	—	-17	—	dB
IF end return loss	—	-22	—	dB
Local Oscillator-RF Isolation	-14	—	—	dB
Local Oscillator-Intermediate Frequency Isolation	-48	—	—	dB
RF-IF isolation	-57	—	—	dB
RF-Local Oscillator Isolation	-52	—	—	dB
RF1-RF2 isolation	—	-42	—	dB
LO end return loss	—	-15	—	dB
Working current	—	110	—	mA

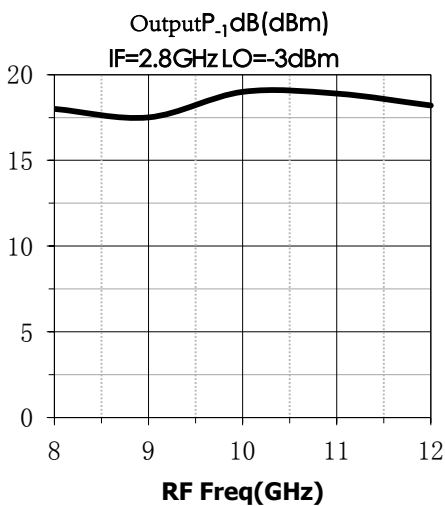
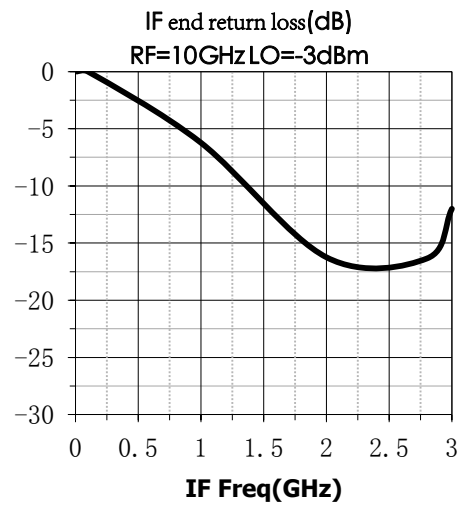
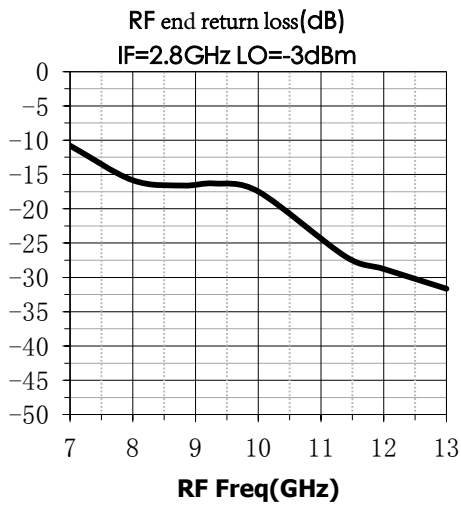
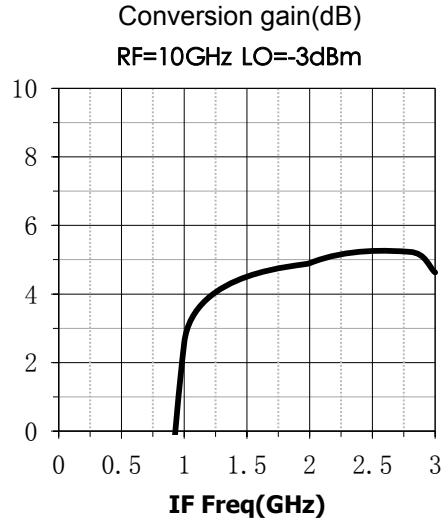
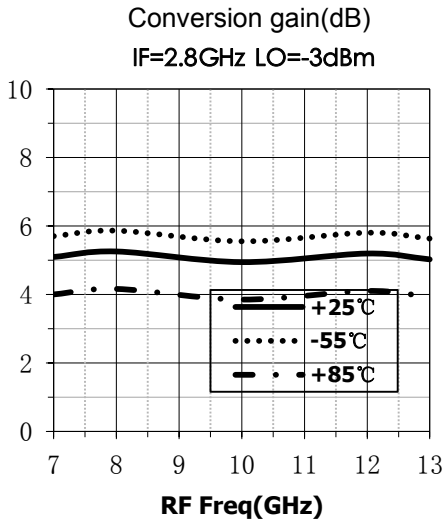
Absolute maximum rating

RF maximum input power	+10dBm	Maximum power supply voltage	+8V
Maximum input power of local oscillator	+10dBm	Storage temperature	-65~+150°C
Recommended local oscillator power range	-4~-2dBm	Operating temperature	-55~+85°C

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Typical test curve ($T_A=25^\circ\text{C}$, $LO=-3\text{dBm}$, $IF=2.8\text{GHz}$, $V_D=+5\text{V}$, $V_S=-5\text{V}$)



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