

GaAs IC AGC Amplifier For Optical Communication

GaAs Monolithic IC For Fiber Optic System

The HS6906 is a gain controlable amplifier for fiber optic system.
 It achieves a maximum gain (17 dB), gain dynamic range (30 dB)
 and very wide bandwidth (DC–2GHz).

Features

- Band width ; 2.4 GHz
- Maximum gain ; 17 dB
- Gain dynamic range ; 30 dB
- 50 Ω line driving capability.
- Single power supply of –6.0 V.
- 32pin package containing internal decupling capacitors and input termination registers of 50 Ω.

Pin Descriptions

Pin No.	Function
1	Vp (Peaking Control)
2	Vss
3	(Bias Moniter)
4	(Bias Moniter)
5	Vss
6	No Contact
7	No Contact
8	Vss
9	GND
10	GND
11	Vin
12	GND
13	Vss
14	GND
15	Vin
16	GND

Pin No.	Function
17	Vss
18	Bias Moniter
19	GND
20	No Contact
21	Vagc
22	Bias Moniter
23	Vss
24	GND
25	No Contact
26	GND
27	Vss
28	GND
29	Vout
30	GND
31	Vout
32	GND

Absolute Maximum Ratings

Item	Symbol	Rating	Unit	Remarks
Supply Voltage	V _{ss}	+0.5 to 7.5	V	
Input Voltage	V _{inH}	0	V	
Input Voltage	V _{inL}	V _{ss}	V	
Supply Current	I _{ss}	500	mA	
Power	P _r	1.0	W	
Storage Temperature	T _{stg}	-65 to +150	°C	
Operating Temperature	T _{opr}	-10 to +80	°C	

Recommended Operating Condition

Item	Symbol	Min	Typ	Max	Unit	Remarks
Supply Voltage	V _{ss}	-6.30	-6.00	-5.70	V	
Input Voltage	V _{in}	6.0	—	180	mV _{pp}	

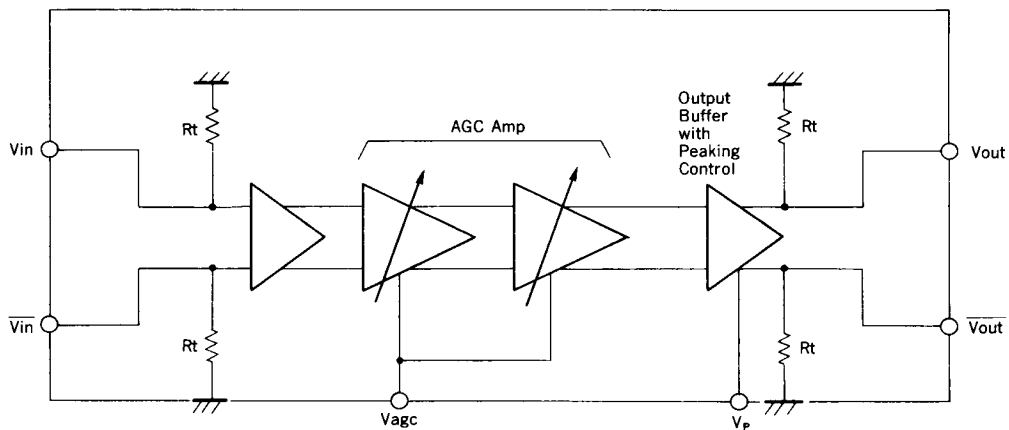
Electrical Characteristics**DC Characteristics**

Item	Symbol	Test Conditions	Max	Typ	Min	Unit
Input Voltage	V _{in}	V _{ss} = - 6.0V ± 5%	-120	-150	-190	mV
Output Voltage	V _{out}	T _a = -10°C to 80°C	-1.2	-1.0	-0.75	V
AGC Voltage	V _{agc}		-3.5	-3.3	-3.0	V
Power supply current	I _{ss}			140		mA

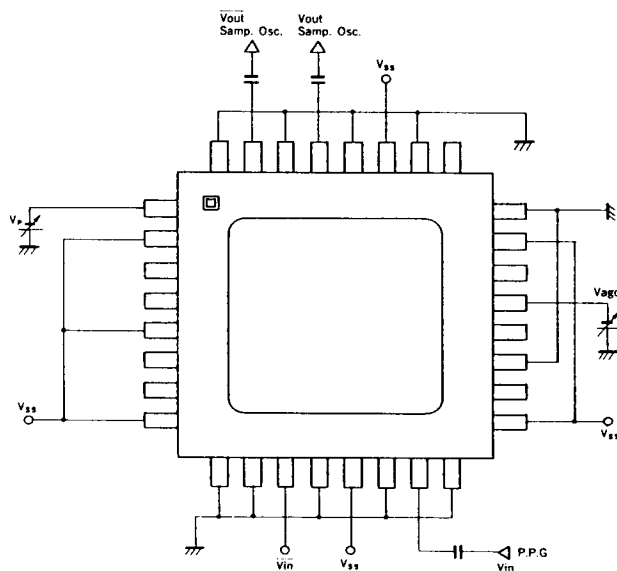
AC Characteristics

Item	Symbol	Test Conditions	Max	Typ	Min	Unit
Band Width	f _b	V _{in} = 6mV _{pp}		2.4		GHz
Gain	G _{max}			17		dB
Dynamic Range	D _{ran}			30		dB

Functional Blocks



Test Circuit



Precautions

The GaAs IC could be damaged or destroyed if charged with high static electricity. Please have all equipments discharged before connecting the device.

This production contains GaAs, Only a few GaAs are still very harm for human. Don't decompose or process into powder or vapor.