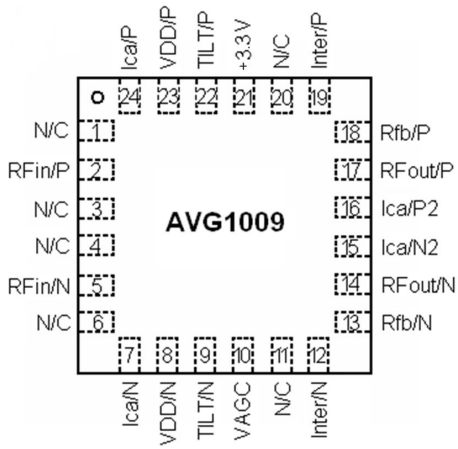
0.05-1.0 GHz Optical Node RF Amplifier

Product Features

- -15dBm to -5dBm Optical Input Range
- Single +5V Supply
- 29dB Gain at 55MHz；34dB Gain at 1000MHz
- 22dB Gain Control Range
- +24dBmV/ch Output at 550MHz
- Lead-free/RoHS compliant QFN4X4－24L package



Product Performance (T_a=25℃)

Symbol	Parameter[1]	Units	Frequency	Min.	Typ.	Max.
G	Trans-Impedance (Max. Gain State)	dB	0.05 GHz 0.87 GHz 1GHz	26.5 31.0 31.5	29.0 33.0 34.0	30.5 35.0 35.5
GT	Gain Tilt	dB			7	
G Range	Gain Control Range	dB	0.05 GHz 0.87 GHz 1GHz	25.5 23.0 24.0	29.0 26.0 27.0	32.0 29.0 30.0
VAGC	AGC Control Voltage Range	V		+3	-	0
RL	Output Return Loss	dB	0.05-1 GHz		-18	
EIN[2]	Equivalent Input Noise	pA/rtHz	0.05-1 GHz		3.2	
IDD	Attenuator Current	mA	VDD=+5V	160	170	180

1. All measurements in a 75 Ohm system, unless otherwise specified.
2. Specified at maximum gain(V_{AGC}=+3V).

Truth Lable

VAGC	State	Description
0V	Max. Gain	The minimum attenuation
+3V	Min. Gain	The maximum attenuation

Absolute Maximum Rating

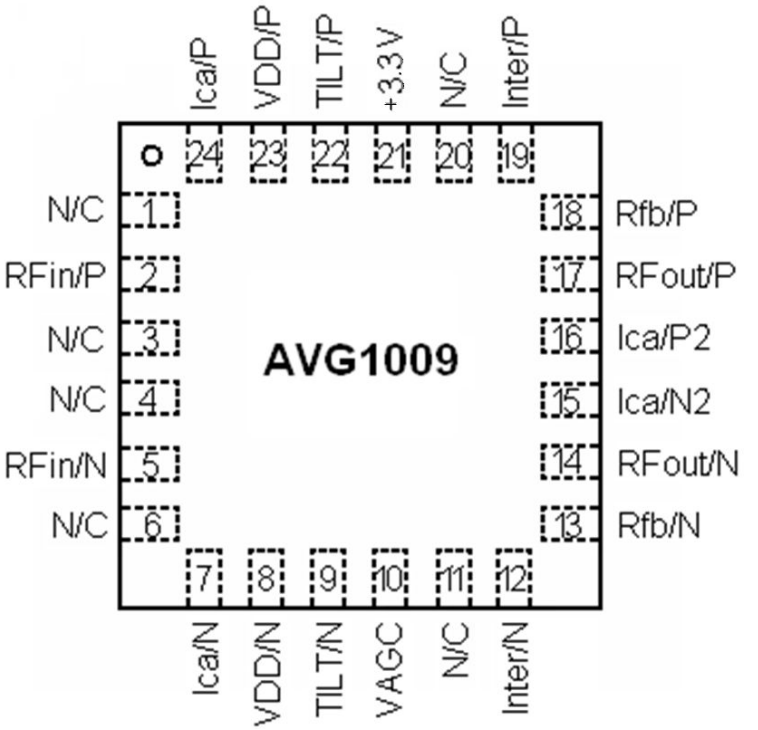
Parameter	Absolute Limit
Supply Voltage(VDD)	+6V
Operating Temperature	-40℃ to +85℃
Storage Temperature	-65℃ to +150℃
Maximum Input Power	+3 dBm
MSL	Level 2
Operation of this device above any one of these parameters may cause permanent damage.	

ESD Class 1A

ELECTROSTATIC SENSITIVE DEVICE OBSERVE HANDLING PRECAUTIONS

RoHS

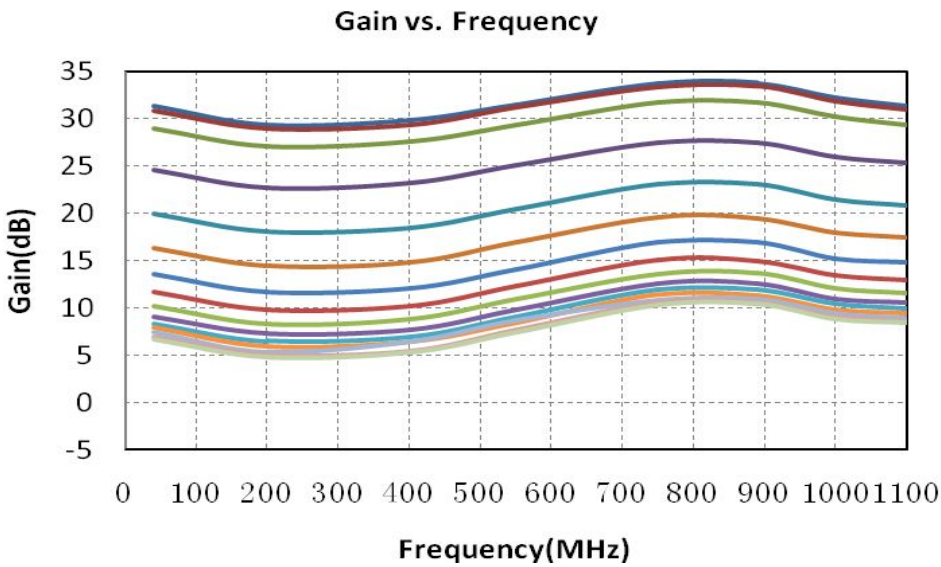
Product Outline



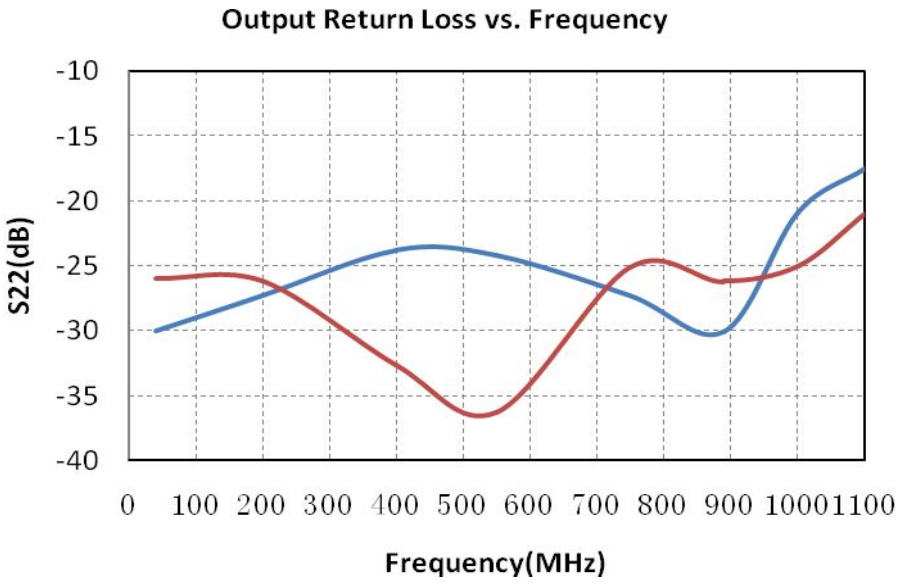
Pin	Function	Description	Pin	Function	Description
1	N/C	Not connected	13	Rfb/N	N port Feedback
2	RFin/P	RFin P port	14	RFout/N	RFout N port
3	N/C	Not connected	15	Ica/N2	N port Current Adjust2
4	N/C	Not connected	16	Ica/P2	P port Current Adjust2
5	RFin/N	RFin N port	17	RFout/P	RFout P port
6	N/C	Not connected	18	Rfb/P	P port Feedback
7	Ica/N	N port Current Adjust	19	Inter/P	P port Inter Pin
8	VDD/N	N port Supply voltage	20	N/C	Not connected
9	TILT/N	Tilt Connection	21	+3.3	AGC Supply Voltage
10	VAGC	AGC Control Voltage	22	TILT/P	Tilt Connection
11	N/C	Not connected	23	VDD/P	P port Supply voltage
12	Inter/N	N port Inter Pin	24	Ica/P	P port Current Adjust

Typical Peformance

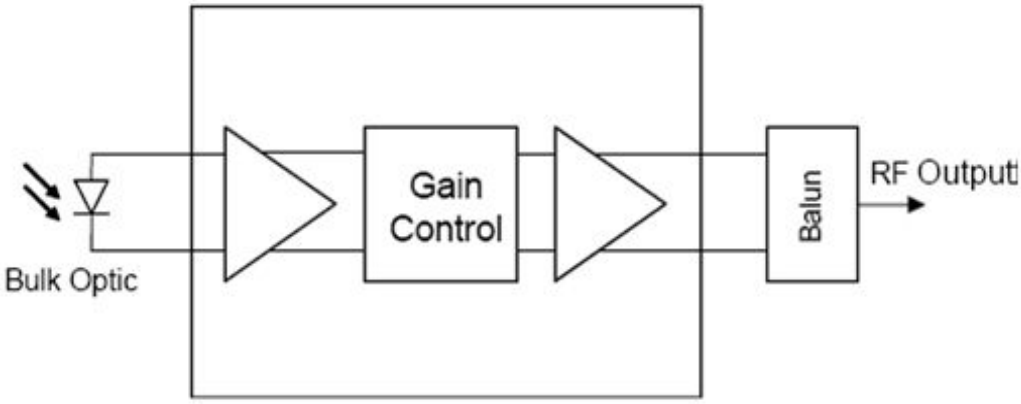
(+25℃,VAGC=0V(Max. Gain) to 3V(Min. Gain))



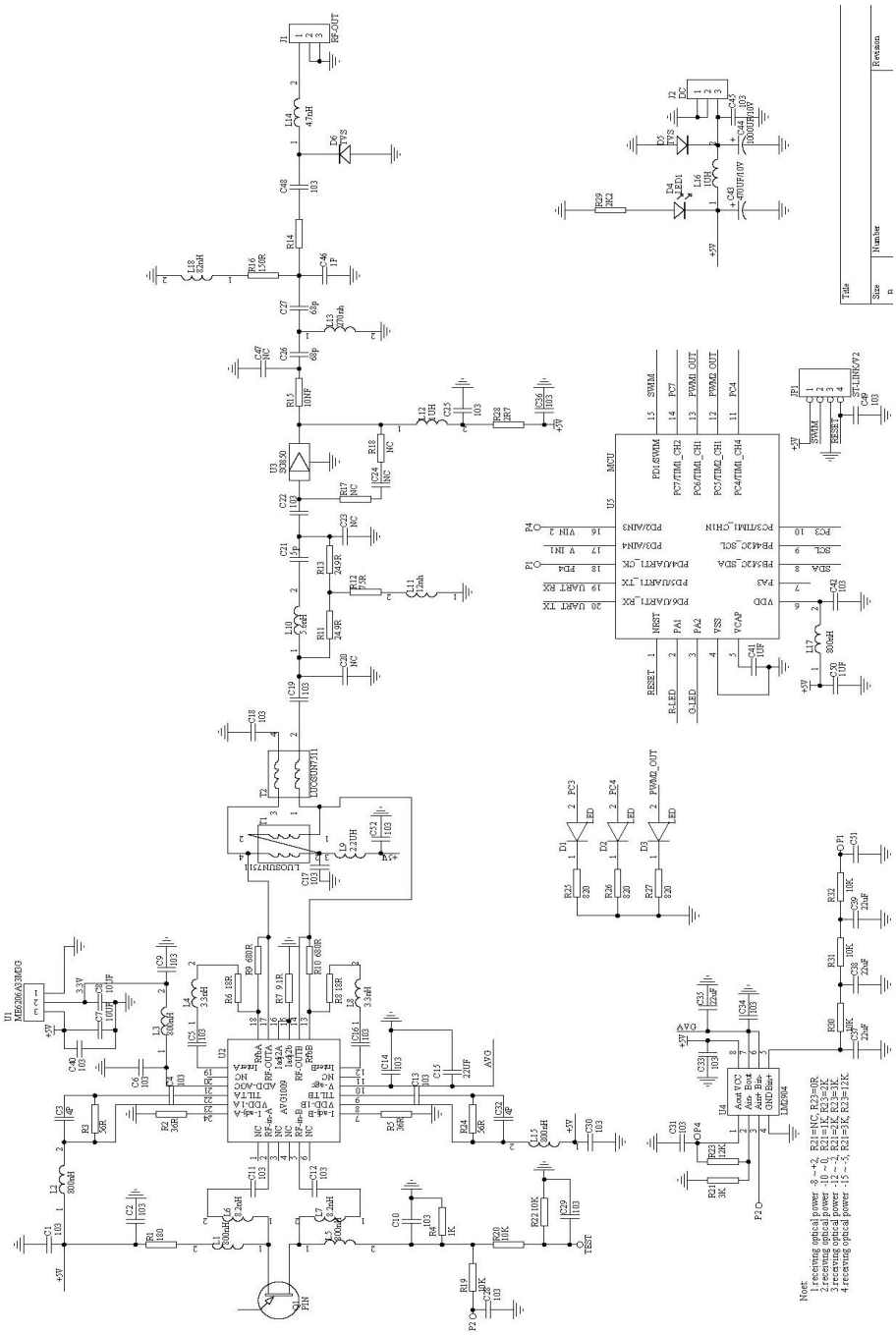
（+25℃,VAGC=0V and 3V）



Application Schematic



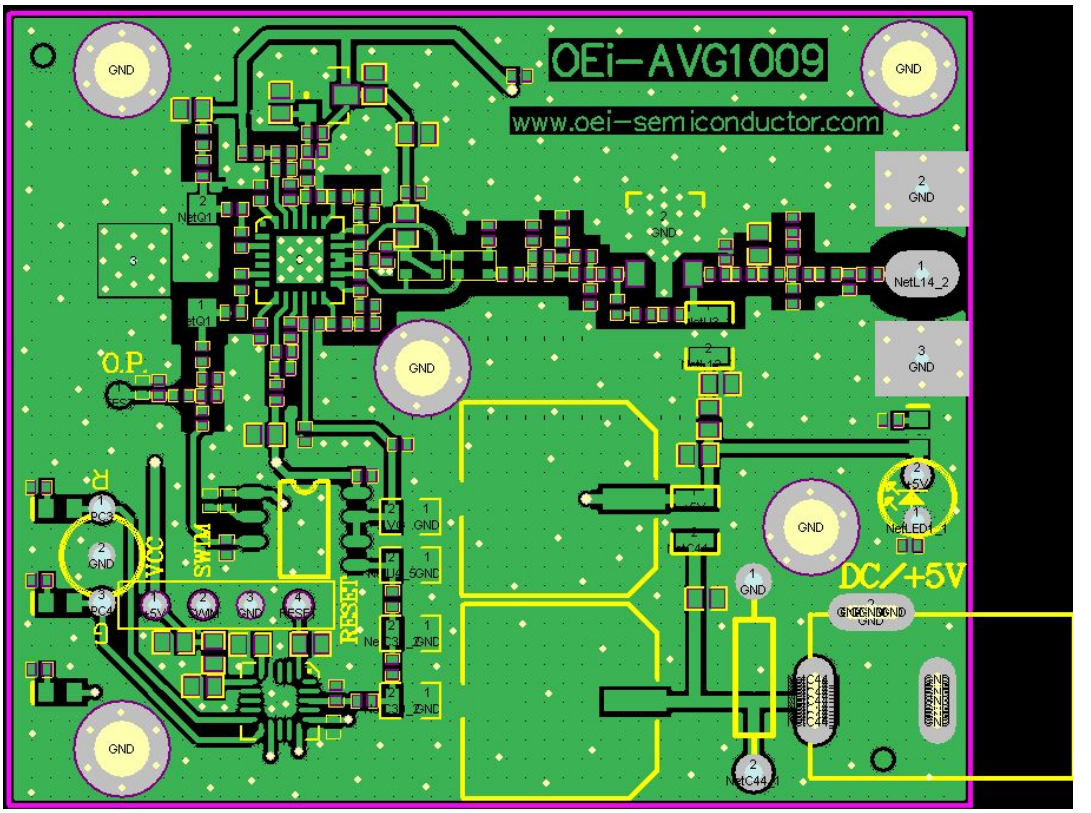
Application Circuit



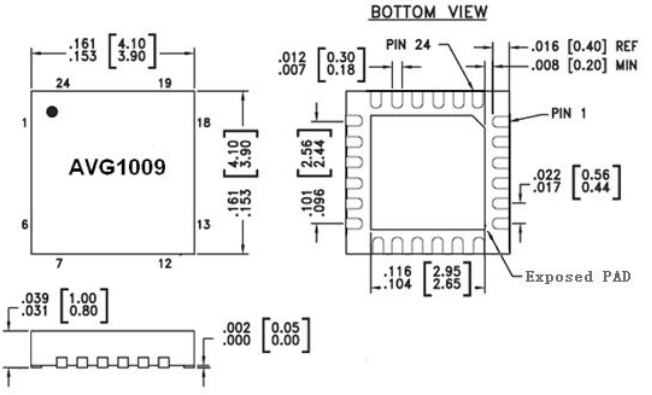
NOTE:

Change the resistance of the arrows in the diagram refer to, can also control the adjustment range of AGC:

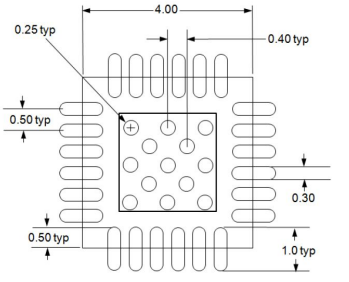
Recommended PCB



QFN4X4-24L Package Outline Dimension



PCB Land Pattern



All dimension are in mm

1. Dimension applies to metallized terminal and is measured between 0.25 and 0.30 from terminal tip.
2. Coplanarity applies to the exposed heat sink slug as well as the terminals.
3. Dimensions are in millimeters.