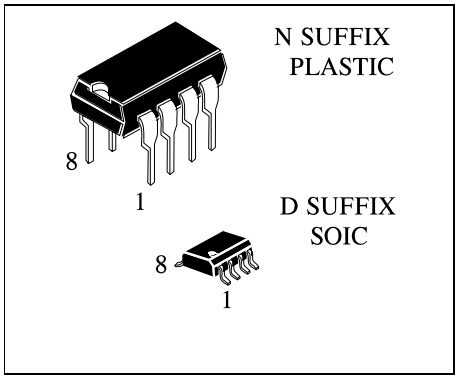
OPERATIONAL AMPLIFIER

IL9002 / IL9002A

Microcircuit IL9002, IL9002A is essentially the precision operational amplifier with the small bias voltage and the high voltage gain coefficient.

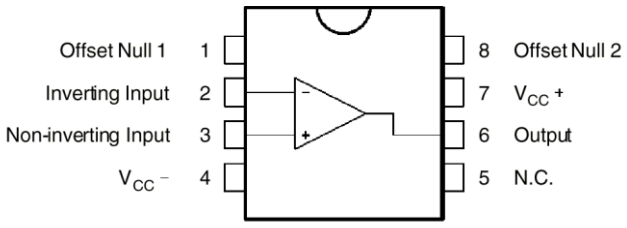
Microcircuit ensures the high values of the parameter stability on time and temperature in the range from - 10 to + 70°C.

As per the structure and the performed functions, the developed microcircuit IL9002N, IL9002AN complies with the analogue OP-07 by Precision Monolithic.



FEATURES

- EXTREMELY LOW OFFSET : 250μV MAX
- LOW INPUT BIAS CURRENT : 14nA
- LOW Vio DRIFT : 0.5mV/°C
- SUPPLY VOLTAGE RANGE :± 13V to ± 18V



Symbol	Parameter	Value	Unit
Vcc	Supply Voltage	±15	V
V,d	Differential Input Voltage	±5	V
Vi	Input Voltage	±10	V
Toper	Operating Temperature	-10 to +70	°C

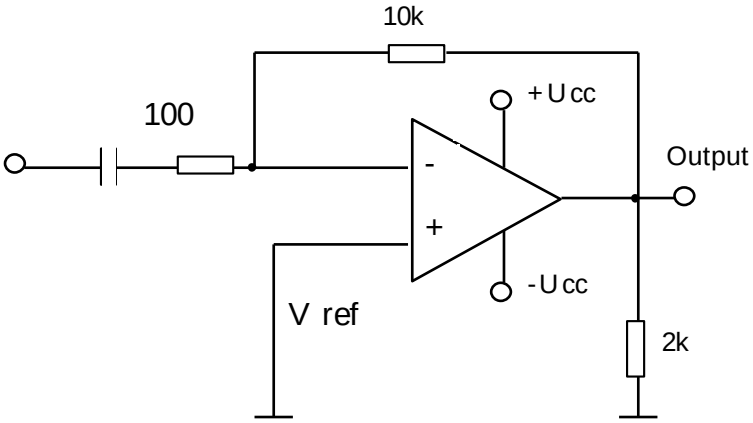
Pin Description

Pin #	Symbol	Function
01	OFFSET 1	Balance input 1
02	IN-	Inverse input
03	IN+	Non-inverse input
04	V_{CC}-	Supply pin from the negative supply source
05	NC	Vacant pin
06	OUT	Output
07	V_{CC}+	Supply pin from the positive supply source
08	OFFSET 2	Balance input 2

ELECTRICAL CHARACTERISTICS

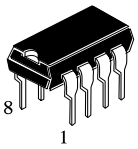
Parameter Description, Unit of Measurement	Symbol	Norm				Measurement Mode		Tempera-ture °C
		IL9002		IL9002A				
		Min	Max	Min	Max	V_{CC}, V	R_L, kOhm	
Maximum output voltage, V	V_{Omax}	|±12|	-	|±12|	-	±15	2.0	25±5
		|±10.5|		|±10.5|		±13.5		
		|±1.3|		|±1.3|		±3		
Input voltage of zero bias, mcV	V_{IO}	-	|±25|	-	|±75|	±15		
			|±55|		|±105|	±16.5		
			|±120|		|±120|	±3		
Bias input current, nA	I_{IB}	-	|±2|	-	|±3|	±15		
			|±2.5|		|±4|	±16.5		
			|±10|		|±10|	±3		
Difference of input currents, nA	I_{IO}	-	|±2|	-	|±2.8|	±15		
			|±2.5|		|±3.5|	±16.5		
			|±10|		|±10|	±3		
Consumption current, mA	I_{CC}	-	4.0	-	4.0	±15		
			4.5		4.5	±16.5		
			4.0		4.0	±3		
Voltage gain coefficient, V/mV	A_V	300	-	200	-	±15		
		100		100		±3		
Maximum synphase input voltage, V	V_{ICmax}	|±13|	-	|±13|	-	±15	2.0	
		|±1|		|±1|		±3		
Attenuation coefficient of synphase input voltages, dB	K_{CMR}	110	-	110	-	±15		
		100		100		±3		
Coefficient of power supply sources unstability influence on zero bias voltage, dB	K_{SVR}	100	-	100	-	±15		
		85		85		±3		

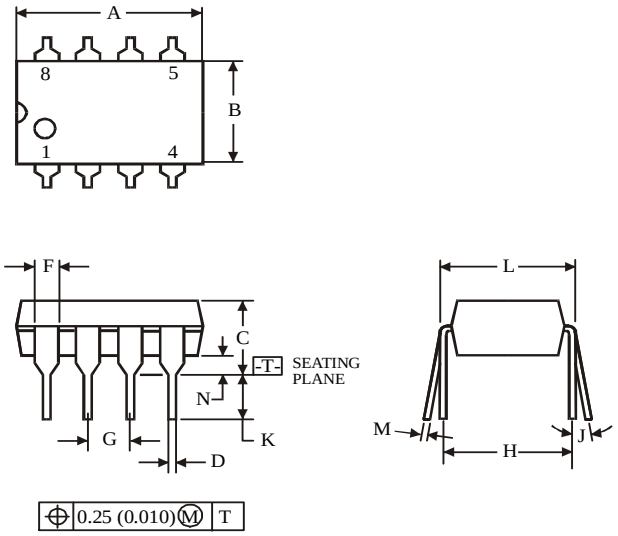
APPLICATION



PACKAGE DIMENSIONS

N SUFFIX PLASTIC DIP
(MS – 001BA)



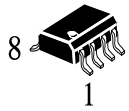


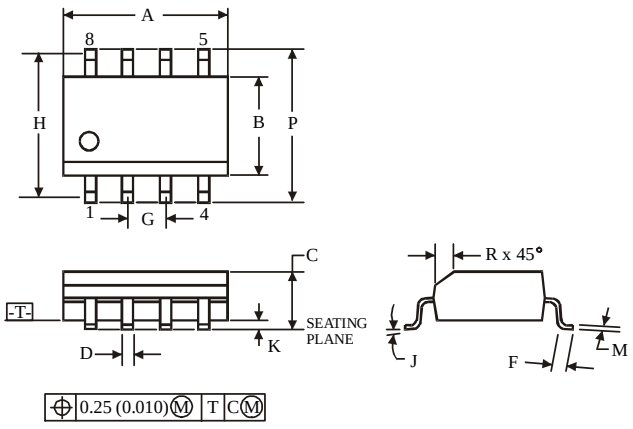
	Dimension, mm	
Symbol	**MIN**	**MAX**
A	8.51	10.16
B	6.1	7.11
C		5.33
D	0.36	0.56
F	1.14	1.78
G	2.54	
H	7.62	
J	0°	10°
K	2.92	3.81
L	7.62	8.26
M	0.2	0.36
N	0.38	

NOTES:

1. Dimensions “A”, “B” do not include mold flash or protrusions.
   Maximum mold flash or protrusions 0.25 mm (0.010) per side.

D SUFFIX SOIC
(MS - 012AA)





	Dimension, mm	
Symbol	**MIN**	**MAX**
A	4.8	5
B	3.8	4
C	1.35	1.75
D	0.33	0.51
F	0.4	1.27
G	1.27	
H	5.72	
J	0°	8°
K	0.1	0.25
M	0.19	0.25
P	5.8	6.2
R	0.25	0.5

NOTES:

1. Dimensions A and B do not include mold flash or protrusion.
2. Maximum mold flash or protrusion 0.15 mm (0.006) per side for A; for B – 0.25 mm (0.010) per side.