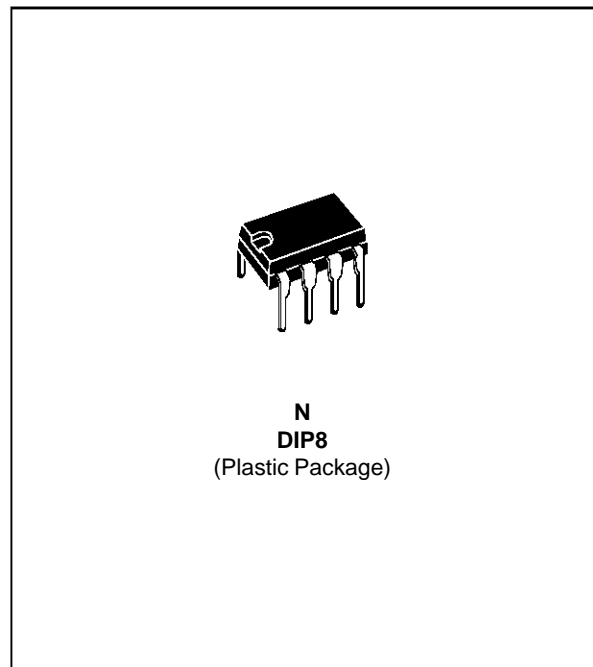


**VERY LOW OFFSET
SINGLE BIPOLAR OPERATIONAL AMPLIFIERS**

- EXTREMELY LOW OFFSET : 150 μ V MAX
- LOW INPUT BIAS CURRENT : 1.8nA
- LOW V_{io} DRIFT : 0.5 μ V/ $^{\circ}$ C
- ULTRA STABLE WITH TIME : 2 μ V/month max.
- WIDE SUPPLY VOLTAGE RANGE :
 \pm 3V to \pm 22V



DESCRIPTION

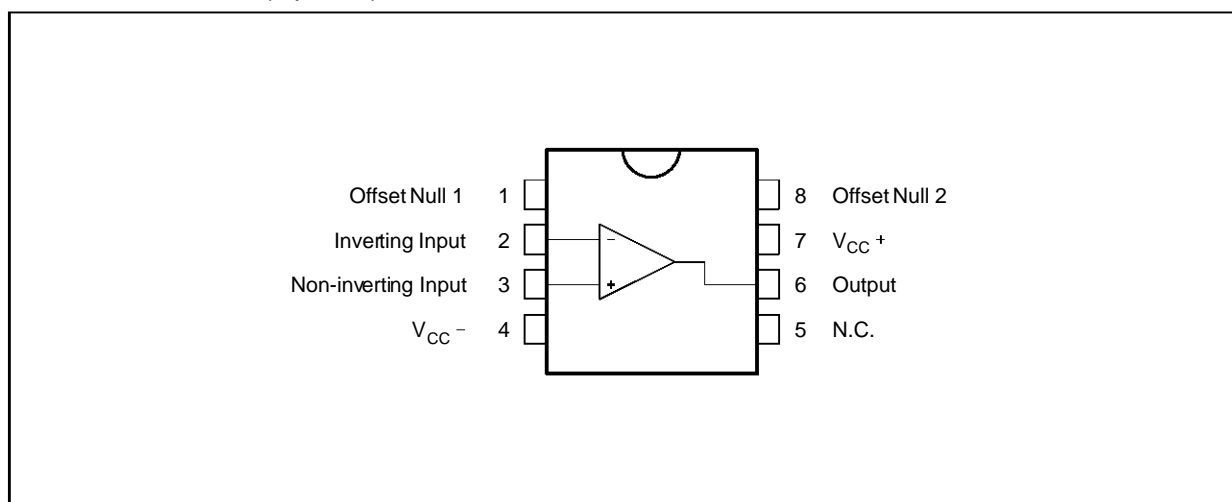
The OP07C is a very high precision op amp with an offset voltage maximum of 150 μ V.

Offering also low input current (1.8nA) and high gain (400V/mV), the OP07C is particularly suitable for instrumentation applications.

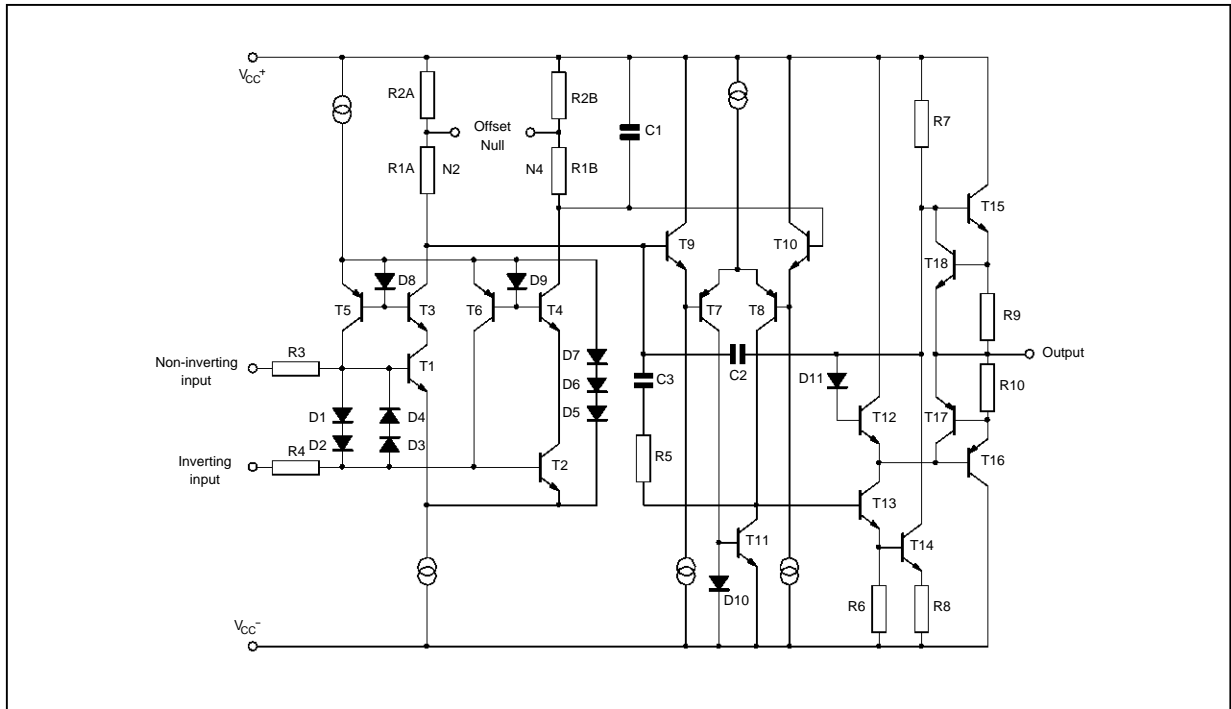
ORDER CODES

Part Number	Temperature Range	Package
		N
OP07C	-40 $^{\circ}$ C, +105 $^{\circ}$ C	•

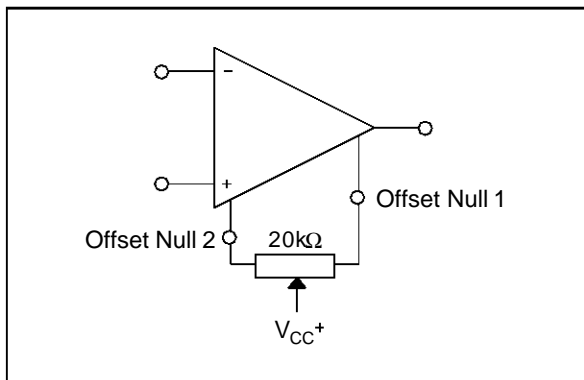
PIN CONNECTIONS (top view)



SCHEMATIC DIAGRAM



INPUT OFFSET VOLTAGE NULLING CIRCUIT



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CC}	Supply Voltage	± 22	V
V_{id}	Differential Input Voltage	± 30	V
V_i	Input Voltage	± 22	V
T_{oper}	Operating Temperature	-40 to +105	$^{\circ}C$
T_{stg}	Storage Temperature	-65 to +150	$^{\circ}C$

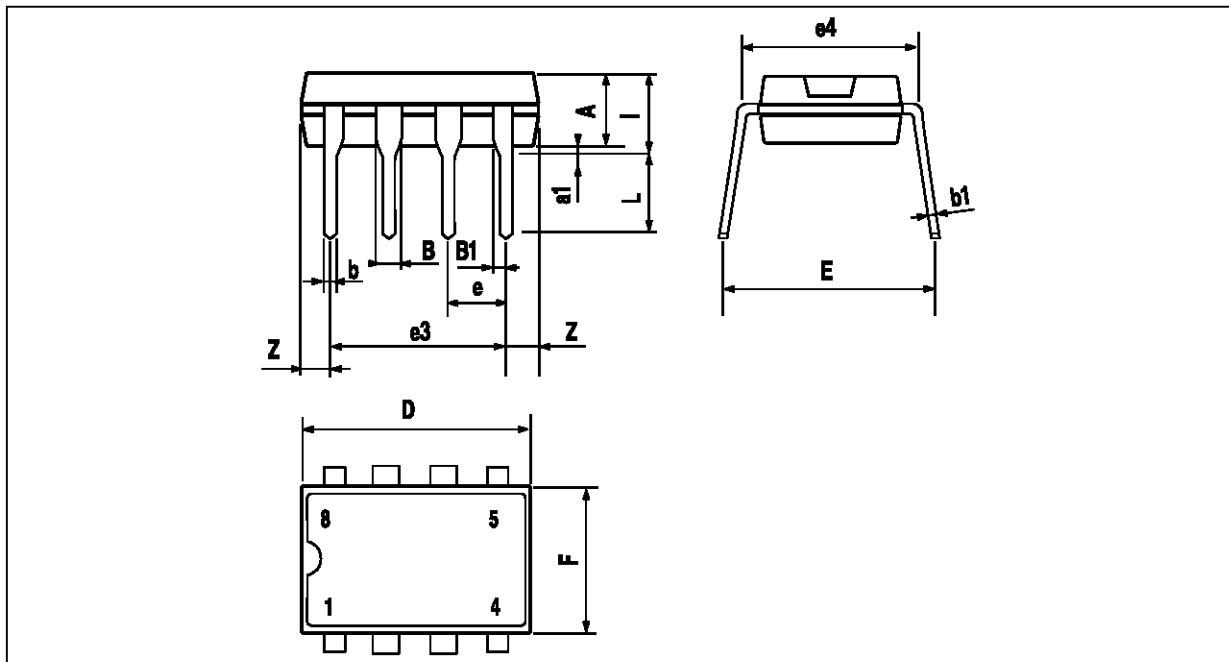
ELECTRICAL CHARACTERISTICS

$V_{CC} = \pm 15V$, $T_{amb} = +25^{\circ}C$ (unless otherwise specified)

Symbol	Parameter	Min.	Typ.	Max.	Unit
V_{io}	Input Offset Voltage $0^{\circ}C \leq T_{amb} \leq +70^{\circ}C$		60	150 250	μV
	Long Term Input Offset Voltage Stability - (note 1)		0.4	2	$\mu V/ Mo$
DV_{io}	Input Offset Voltage Drift		0.5	1.8	$\mu V/^{\circ}C$
I_{io}	Input Offset Current $0^{\circ}C \leq T_{amb} \leq +70^{\circ}C$		0.8	6 8	nA
DI_{io}	Input Offset Current Drift		15	50	$pA/^{\circ}C$
I_{ib}	Input Bias Current $0^{\circ}C \leq T_{amb} \leq +70^{\circ}C$		1.8	7 9	nA
DI_{ib}	Input Bias Current Drift		15	50	$pA/^{\circ}C$
R_o	Open Loop Output Resistance		60		Ω
R_{id}	Differential Input Resistance		33		$M\Omega$
R_{ic}	Common Mode Input Resistance		120		$G\Omega$
V_{icm}	Input Common Mode Voltage Range $0^{\circ}C \leq T_{amb} \leq +70^{\circ}C$	± 13 ± 13	± 13.5		V
CMR	Common Mode Rejection Ratio ($V_i = V_{icm} \text{ min}$) $0^{\circ}C \leq T_{amb} \leq +70^{\circ}C$	100 97	120		dB
SVR	Supply Voltage Rejection Ratio ($V_{CC} = \pm 3 \text{ to } \pm 18V$) $0^{\circ}C \leq T_{amb} \leq +70^{\circ}C$	90 86	104		dB
A_{vd}	Large Signal Voltage Gain $V_{CC} = \pm 15, R_L = 2k\Omega, V_O = \pm 10V,$ $0^{\circ}C \leq T_{amb} \leq +105^{\circ}C$ $V_{CC} = \pm 3V, R_L = 500\Omega, V_O = \pm 0.5V$	120 100 100	400 400		V/mV
V_{opp}	Output Voltage Swing $0^{\circ}C \leq T_{amb} \leq +70^{\circ}C$	$R_L = 10k\Omega$ $R_L = 2k\Omega$ $R_L = 1k\Omega$ $R_L = 2k\Omega$ ± 12 ± 11.5 ± 11	± 13 ± 12.8 ± 12		V
SR	Slew Rate ($R_L = 2k\Omega, C_L = 100pF$)		0.17		$V/\mu S$
GBP	Gain Bandwidth Product ($R_L = 2k\Omega, C_L = 100pF, f = 100kHz$)		0.5		MHz
I_{CC}	Supply Current - (no load) $0^{\circ}C \leq T_{amb} \leq +70^{\circ}C$ $V_{CC} = \pm 3V$		2.7 0.67	5 6 1.3	mA
e_n	Equivalent Input Noise Voltage $f = 10Hz$ $f = 100Hz$ $f = 1kHz$		11 10.5 10	20 13.5 11.5	$\frac{nV}{\sqrt{Hz}}$
i_n	Equivalent Input Noise Current $f = 10Hz$ $f = 100Hz$ $f = 1kHz$		0.3 0.2 0.1	0.9 0.3 0.2	$\frac{pA}{\sqrt{Hz}}$

Note 1 : 1. Long Term Input Offset Voltage Stability refers to the average trend line of V_{io} vs time over extended periods after the first 30 days of operation.

PACKAGE MECHANICAL DATA
8 PINS - PLASTIC DIP



PM-DIP8-EPS

Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A		3.32			0.131	
a1	0.51			0.020		
B	1.15		1.65	0.045		0.065
b	0.356		0.55	0.014		0.022
b1	0.204		0.304	0.008		0.012
D			10.92			0.430
E	7.95		9.75	0.313		0.384
e		2.54			0.100	
e3		7.62			0.300	
e4		7.62			0.300	
F			6.6			0.260
i			5.08			0.200
L	3.18		3.81	0.125		0.150
Z			1.52			0.060

DIP8-TBL

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