



OP07C

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

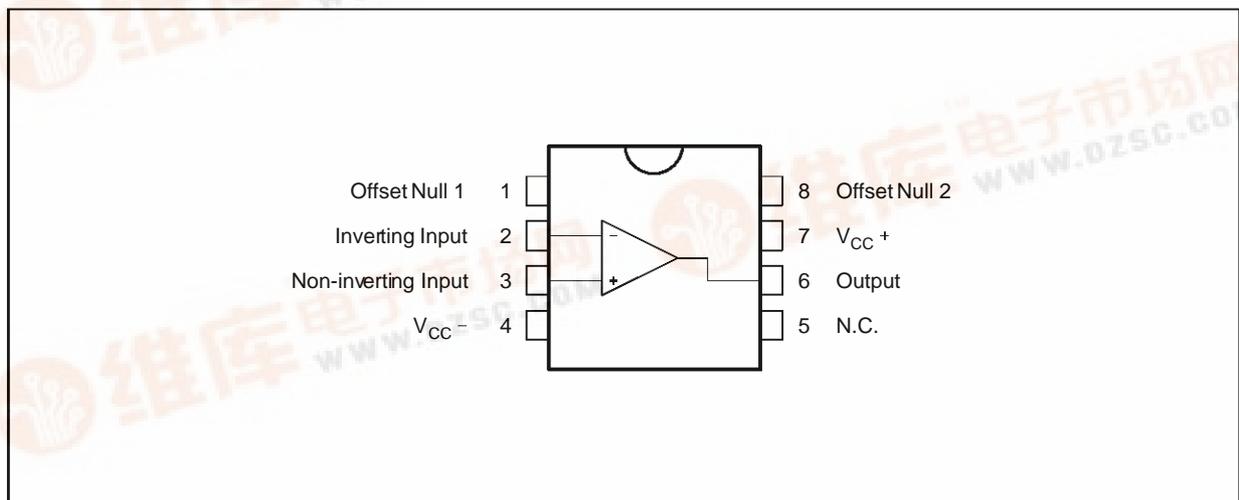
The OP07C is a very high precision op amp with an offset voltage maximum of 150 μ V.

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

ORDER CODES

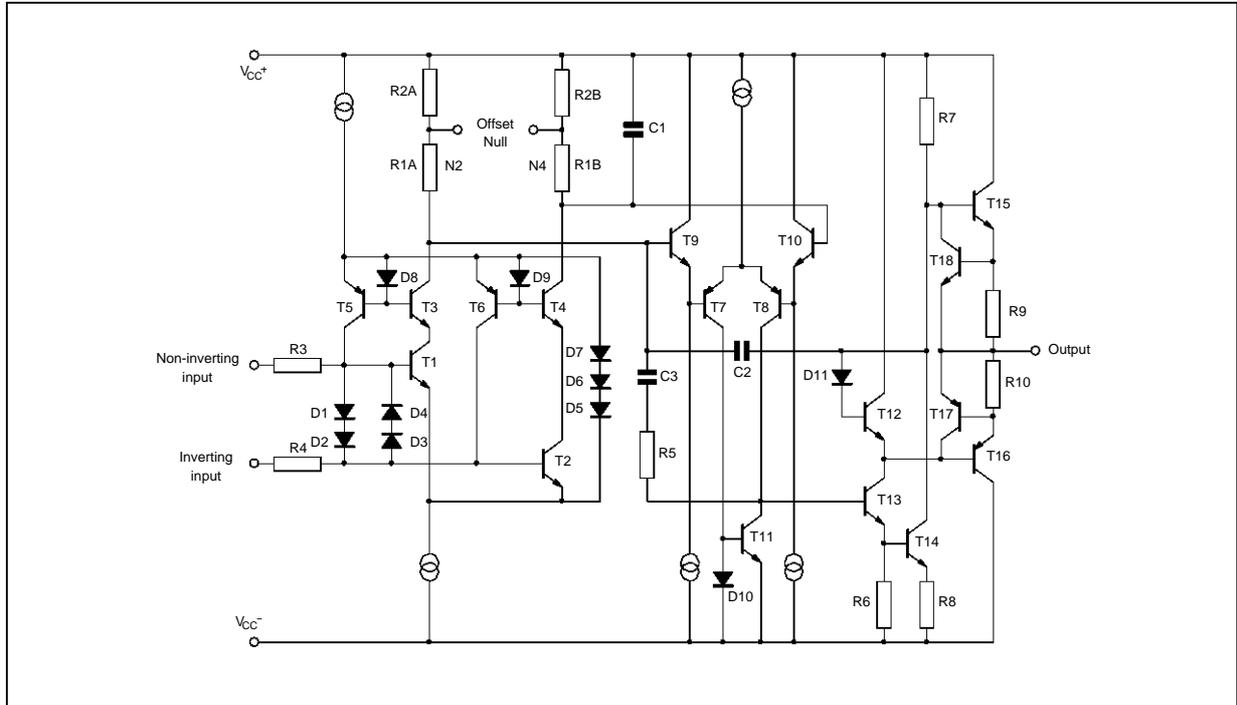
Part Number	Temperature Range	Package
		N
OP07C	-40 $^{\circ}$ C, +105 $^{\circ}$ C	•

PIN CONNECTIONS (top view)

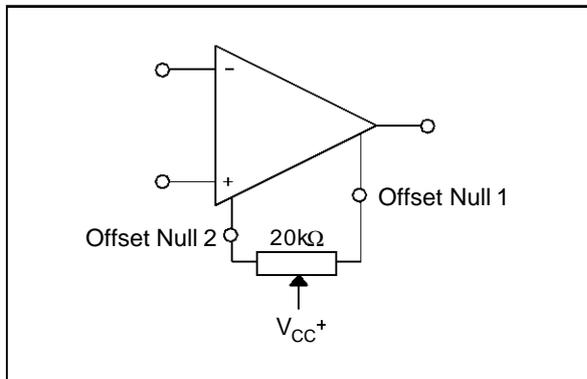


OP07C

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 CHARACTERISTICSV_{CC} = ±15V, T_{amb} = +25°C (unless otherwise specified)

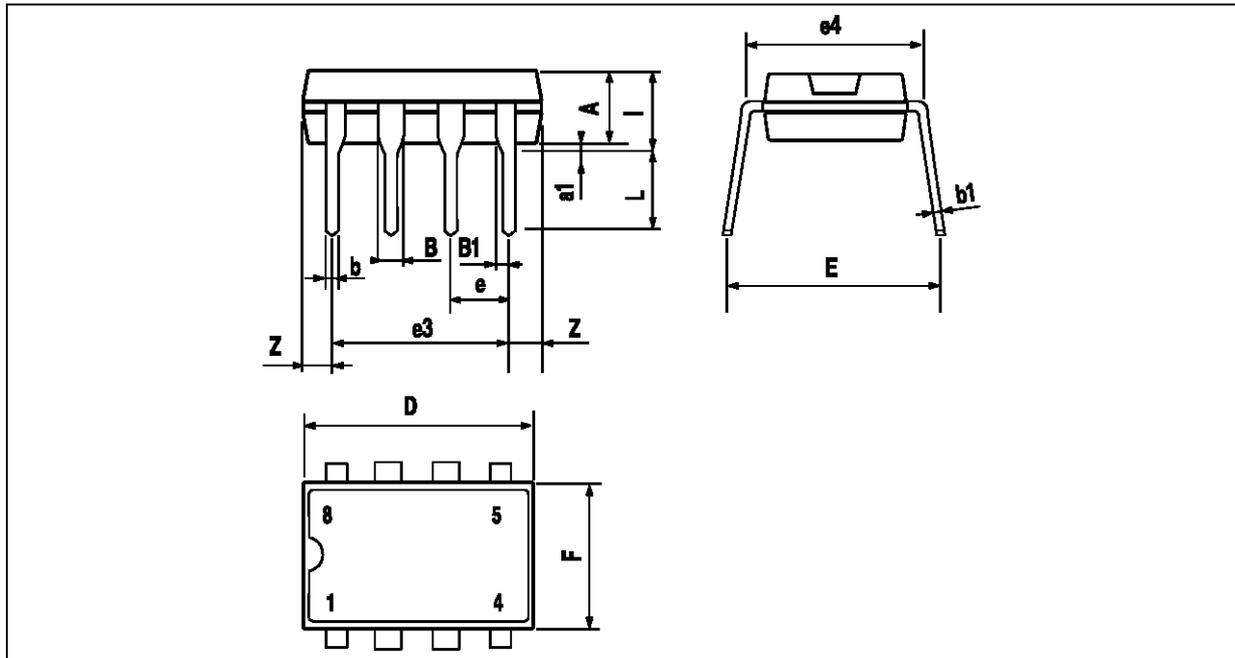
Symbol	Parameter	Min.	Typ.	Max.	Unit
V _{io}	Input Offset Voltage 0°C ≤ T _{amb} ≤ +70°C		60	150 250	μV
	Long Term Input Offset Voltage Stability - (note 1)		0.4	2	μV/Mo
DV _{io}	Input Offset Voltage Drift		0.5	1.8	μV/°C
I _{io}	Input Offset Current 0°C ≤ T _{amb} ≤ +70°C		0.8	6 8	nA
DI _{io}	Input Offset Current Drift		15	50	pA/°C
I _{ib}	Input Bias Current 0°C ≤ T _{amb} ≤ +70°C		1.8	7 9	nA
DI _{ib}	Input Bias Current Drift		15	50	pA/°C
R _o	Open Loop Output Resistance		60		Ω
R _{id}	Differential Input Resistance		33		MΩ
R _{ic}	Common Mode Input Resistance		120		GΩ
V _{icm}	Input Common Mode Voltage Range 0°C ≤ T _{amb} ≤ +70°C	±13 ±13	±13.5		V
CMR	Common Mode Rejection Ratio (V _i = V _{icm} min) 0°C ≤ T _{amb} ≤ +70°C	100 97	120		dB
SVR	Supply Voltage Rejection Ratio (V _{CC} = ±3 to ±18V) 0°C ≤ T _{amb} ≤ +70°C	90 86	104		dB
A _{vd}	Large Signal Voltage Gain V _{CC} = ±15, R _L = 2kΩ, V _O = ±10V, 0°C ≤ T _{amb} ≤ +105°C V _{CC} = ±3V, R _L = 500Ω, V _O = ±0.5V	120 100 100	400 400		V/mV
V _{opp}	Output Voltage Swing R _L = 10kΩ R _L = 2kΩ R _L = 1kΩ R _L = 2kΩ 0°C ≤ T _{amb} ≤ +70°C	±12 ±11.5 ±11	±13 ±12.8 ±12		V
SR	Slew Rate (R _L = 2kΩ, C _L = 100pF)		0.17		V/μS
GBP	Gain Bandwidth Product (R _L = 2kΩ, C _L = 100pF, f = 100kHz)		0.5		MHz
I _{CC}	Supply Current - (no load) 0°C ≤ T _{amb} ≤ +70°C V _{CC} = ±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.

OP07C

PACKAGE MECHANICAL DATA

8 PINS - PLASTIC DIP



PM-DIP8LEPS

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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