芯伯乐®
XINBOLE

Product Specification

XBLOP07

Single-Channel Precision Operational Amplifier

WEB | www.xinboleic.com

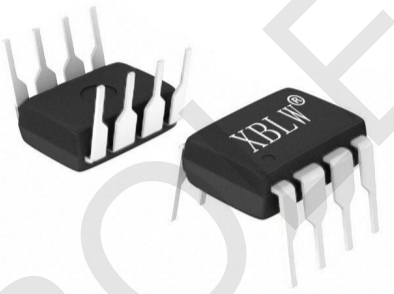


Descriptions

The XBLOP07 is a high precision operational amplifier with a maximum offset voltage control of 150uV. Gain up to 200V/mV. Therefore, XBLOP07 is particularly suitable for instrumentation and other aspects. The XBLOP07 has a common mode rejection ratio (CMRR) of more than 100dB and maintains excellent linearity and gain precision in high closed-loop gain circuits.

Features

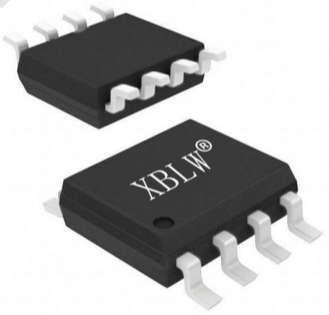
- Max offset Voltage: 150μV (max.)
- Low Offset Current:I_{io}= 1.3nA (typ.)
- Supply Power Range:±2.5V~±18V
- Low noise
- Compatible with XBLW OP07CDTR



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Applications

- Analog input module
- Battery test
- Lab and field instrumentation
- Temperature transmitter
- Merchant network & server PSU



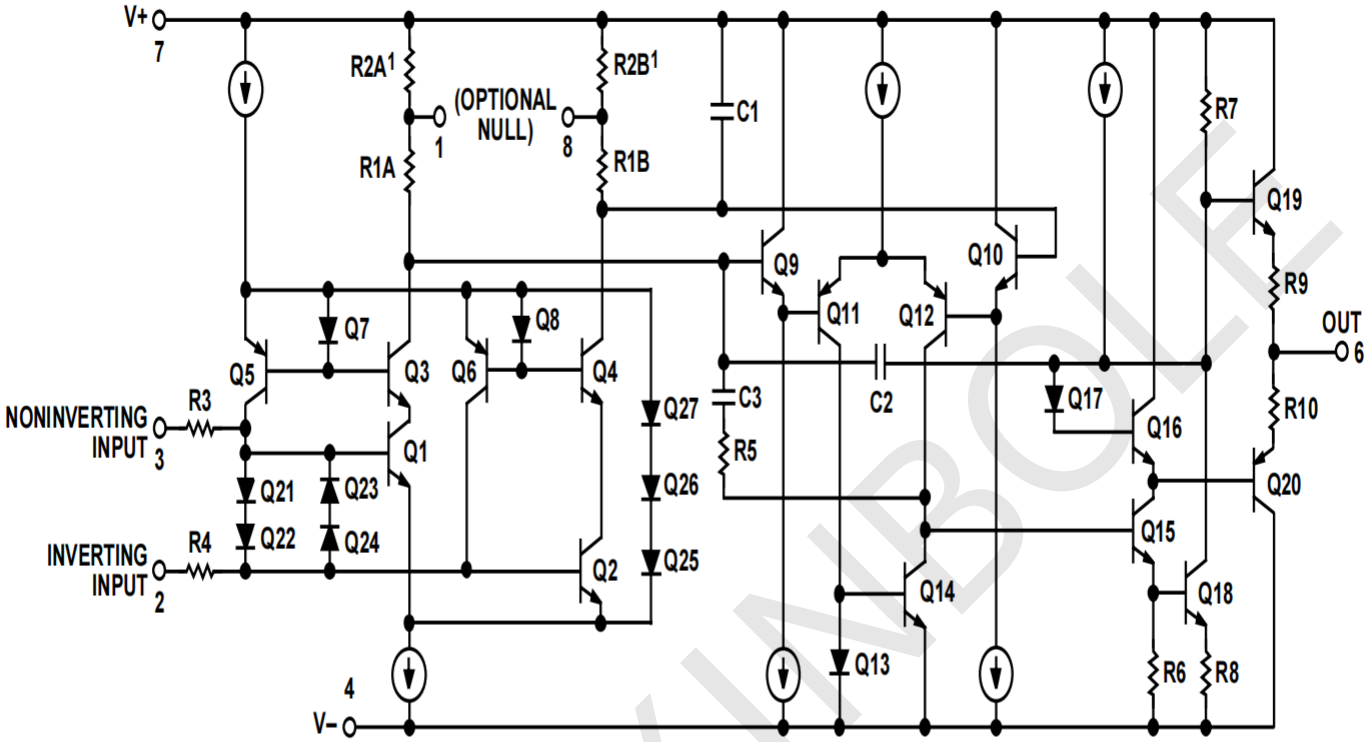
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Ordering Information

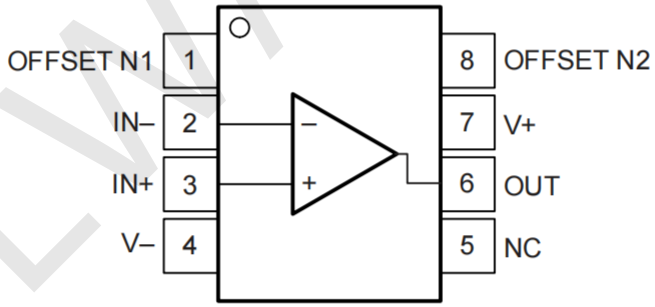
Product Model	Package Type	Marking	Packing	Packing Qty
XBLOP07N	DIP-8	OP07N	Tube	2000Pcs/Box
XBLOP07DTR	SOP-8	OP07	Tape	2500Pcs/Reel

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Functional Block Diagram



Pin Configurations



Pin Description

PIN		Type	Description
Symbol	NO.		
IN+	3	Input	Noninverting input
IN -	2	Input	Inverting input
NC	5	—	Do not connect
OFFSET N1	1	Input	External input offset voltage adjustment
OFFSET N2	8	Input	External input offset voltage adjustment
OUT	6	Output	Output
V+	7	—	Positive supply
V -	4	—	Negative supply

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Absolute Maximum Ratings

Tamb=25℃,unless otherwise specified.

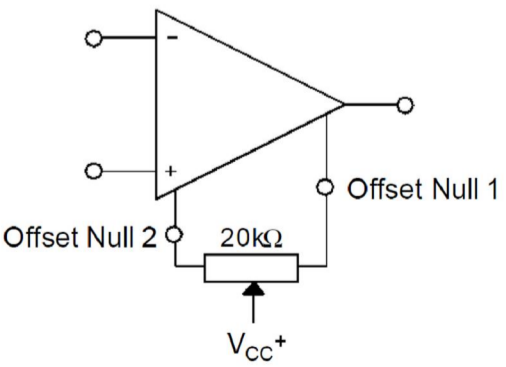
Parameter	Symbol	Value	Unit
Supply Voltage	Vcc	±22	V
Input Voltage	Vi	±22	V
Input differential voltage	Vid	±30	V
Operating Temperature	T_{OPR}	-40~+85	℃
Storage Temperature	T_{STG}	-60~+150	℃

Electrical Characteristics

Tamb = 25℃; Vcc = ±15 V, Unless otherwise specified.

Symbol	Parameter	Min.	Typ.	Max.	Unit
Vio	Input Offset Voltage			150	μV
Dvio	Input Offset Voltage Drift			1.8	μV/℃
Iio	Input Offset Current			6	nA
Iib	Input Bias Current			±5	nA
Vicm	Input Common-Mode Voltage	±13	±13.5		V
CMRR	Common-Mode Rejection Ratio	100			dB
PSRR	Supply Power Rejection Ratio	90			dB
Av	Large Signal Voltage Gain V_{CC}=±15V,R_L=2kW,V_O=±10V	100			V/mV
Vopp	Output Peak R_L=10k R_L=2k	±13.5 ±13			V
GBP	Gain Bandwidth Product R_L=2k,CL=100pF,f=100kHz		0.5		MHz
Icc	Supply Power Current(No Load) 0°C<Tamb<70°C V_{CC}=±3V		3.8 1	6 7 3	mA

Input Offset-Voltage Null Circuit

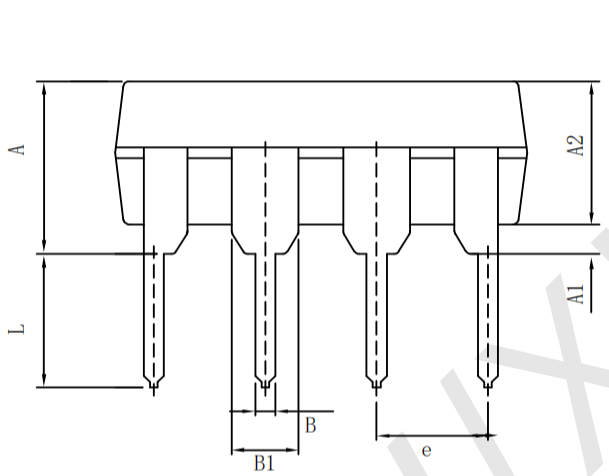


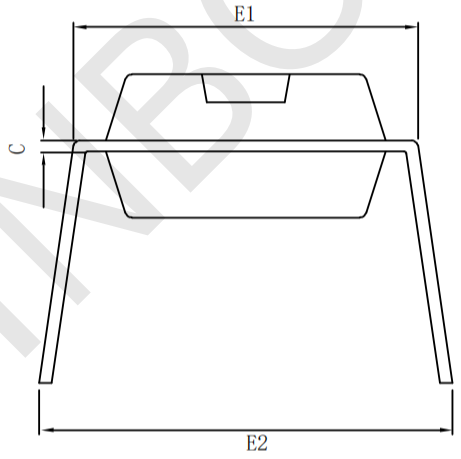
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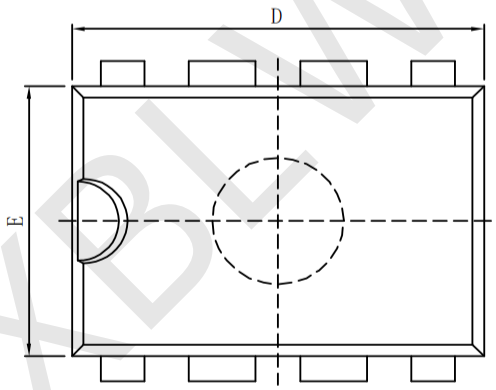
Package Information

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Size / Symbol	Dimensions In Millimeters		Size / Symbol	Dimensions In Inches	
	Min(mm)	Max(mm)		Min(in)	Max(in)
A	3.710	4.310	A	0.146	0.170
A1	0.510		A1	0.020	
A2	3.200	3.600	A2	0.126	0.142
B	0.380	0.570	B	0.015	0.022
B1	1.524(BSC)		B1	0.060(BSC)	
C	0.204	0.360	C	0.008	0.014
D	9.000	9.400	D	0.354	0.370
E	6.200	6.600	E	0.244	0.260
E1	7.320	7.920	E1	0.288	0.312
e	2.540(BSC)		e	0.100(BSC)	
L	3.000	3.600	L	0.118	0.142
E2	8.400	9.000	E2	0.331	0.354



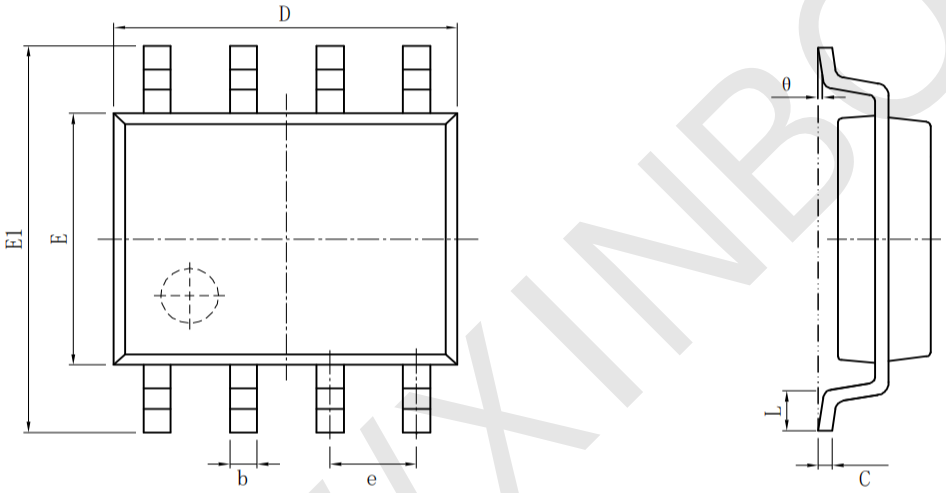


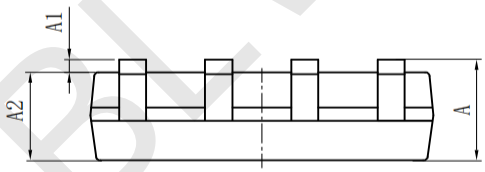


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Size / Symbol	Dimensions In Millimeters		Size / Symbol	Dimensions In Inches	
	Min(mm)	Max(mm)		Min(in)	Max(in)
A	1.350	1.750	A	0.053	0.069
A1	0.100	0.250	A1	0.004	0.010
A2	1.350	1.550	A2	0.053	0.061
b	0.330	0.510	b	0.013	0.020
c	0.170	0.250	c	0.006	0.010
D	4.700	5.100	D	0.185	0.200
E	3.800	4.000	E	0.150	0.157
E1	5.800	6.200	E1	0.228	0.224
e	1.270(BSC)		e	0.050(BSC)	
L	0.400	1.270	L	0.016	0.050
θ	0°	8°	θ	0°	8°





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