

芯伯乐®
X I N B O L E

Product Specification

XBLOP07

High-performance Low-noise Dual Operational Amplifier

WEB | www.xinboleic.com

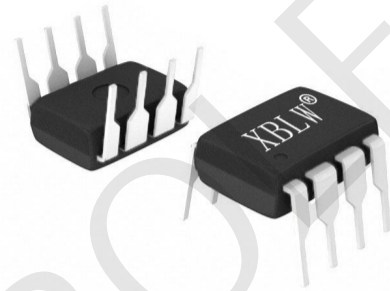


Descriptions

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

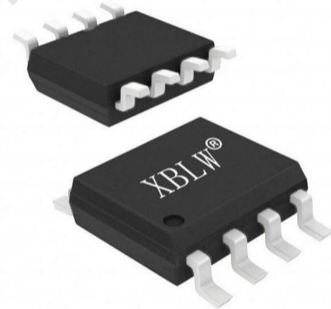
- Max offset Voltage: 150μV (max.)
- Low Offset Current: $I_{io} = 1.3nA$ (typ.)
- Supply Power Range: $\pm 2.5V \sim \pm 18V$
- Low noise
- Compatible with XBLW OP07CDTR



DIP-8

Applications

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

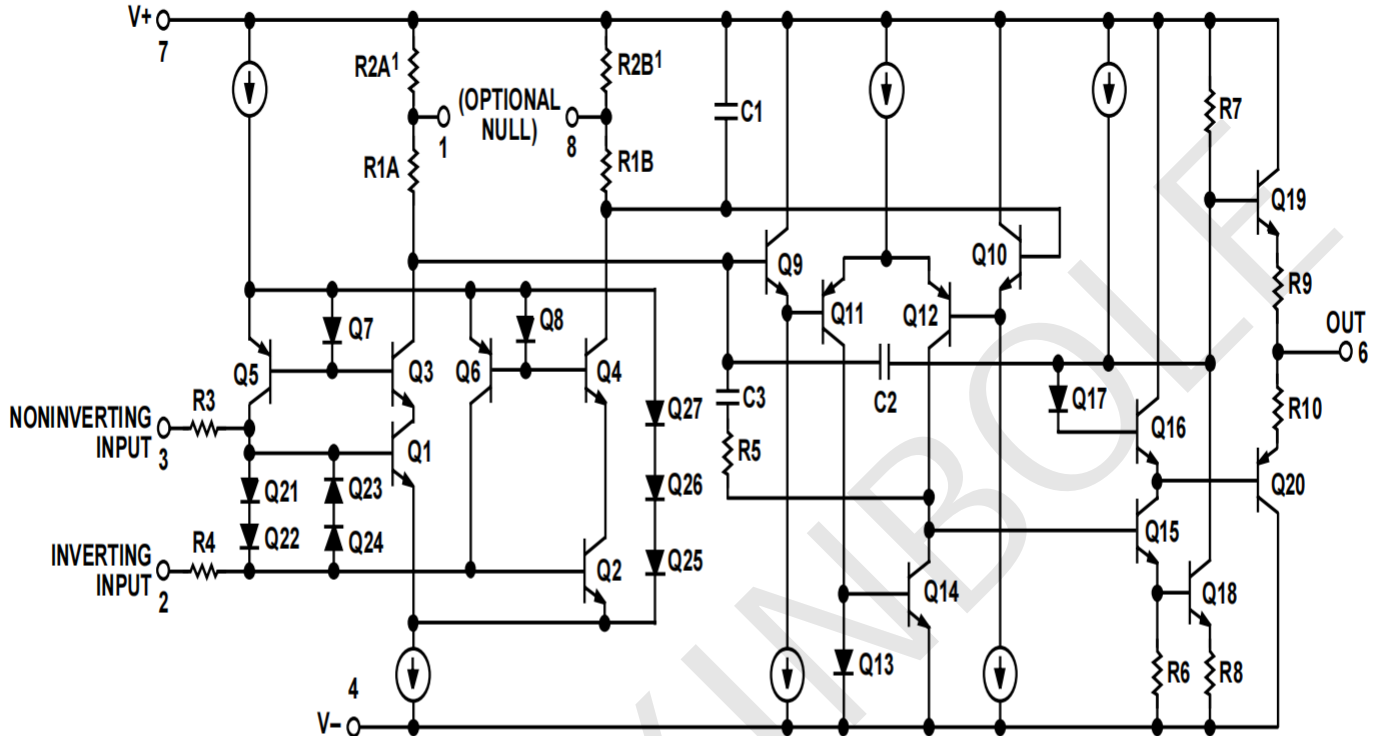


SOP-8

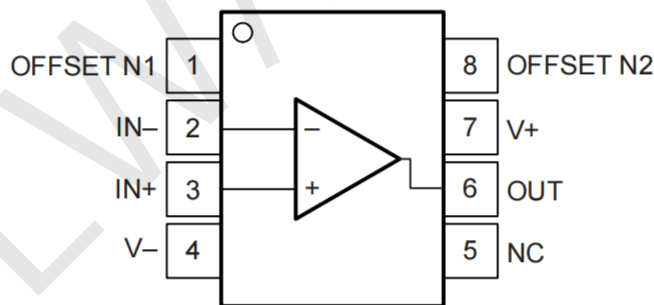
Ordering Information

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

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

Absolute Maximum Ratings

Tamb=25°C, unless otherwise specified.

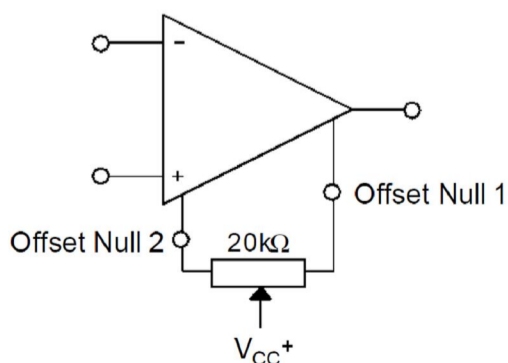
Parameter	Symbol	Value	Unit
Supply Voltage	V _{CC}	±22	V
Input Voltage	V _i	±22	V
Input differential voltage	V _{id}	±30	V
Operating Temperature	T _{OPR}	-40~+85	°C
Storage Temperature	T _{STG}	-60~+150	°C

Electrical Characteristics

Tamb = 25°C; V_{CC} = ±15 V, Unless otherwise specified.

Symbol	Parameter	Min.	Typ.	Max.	Unit
V _{io}	Input Offset Voltage			150	μV
D _{vio}	Input Offset Voltage Drift			1.8	μV/°C
I _{io}	Input Offset Current			6	nA
I _{ib}	Input Bias Current			±5	nA
V _{icm}	Input Common-Mode Voltage	±13	±13.5		V
CMRR	Common-Mode Rejection Ratio	100			dB
PSRR	Supply Power Rejection Ratio	90			dB
A _v	Large Signal Voltage Gain V _{CC} =±15V, R _L =2kΩ, V _o =±10V	100			V/mV
V _{opp}	Output Peak R _L =10k R _L =2k	±13.5 ±13			V
GBP	Gain Bandwidth Product R _L =2k, C _L =100pF, f=100kHz		0.5		MHz
I _{CC}	Supply Power Current (No Load) 0°C < Tamb < 70°C V _{CC} =±3V		3.8 1	6 3	mA

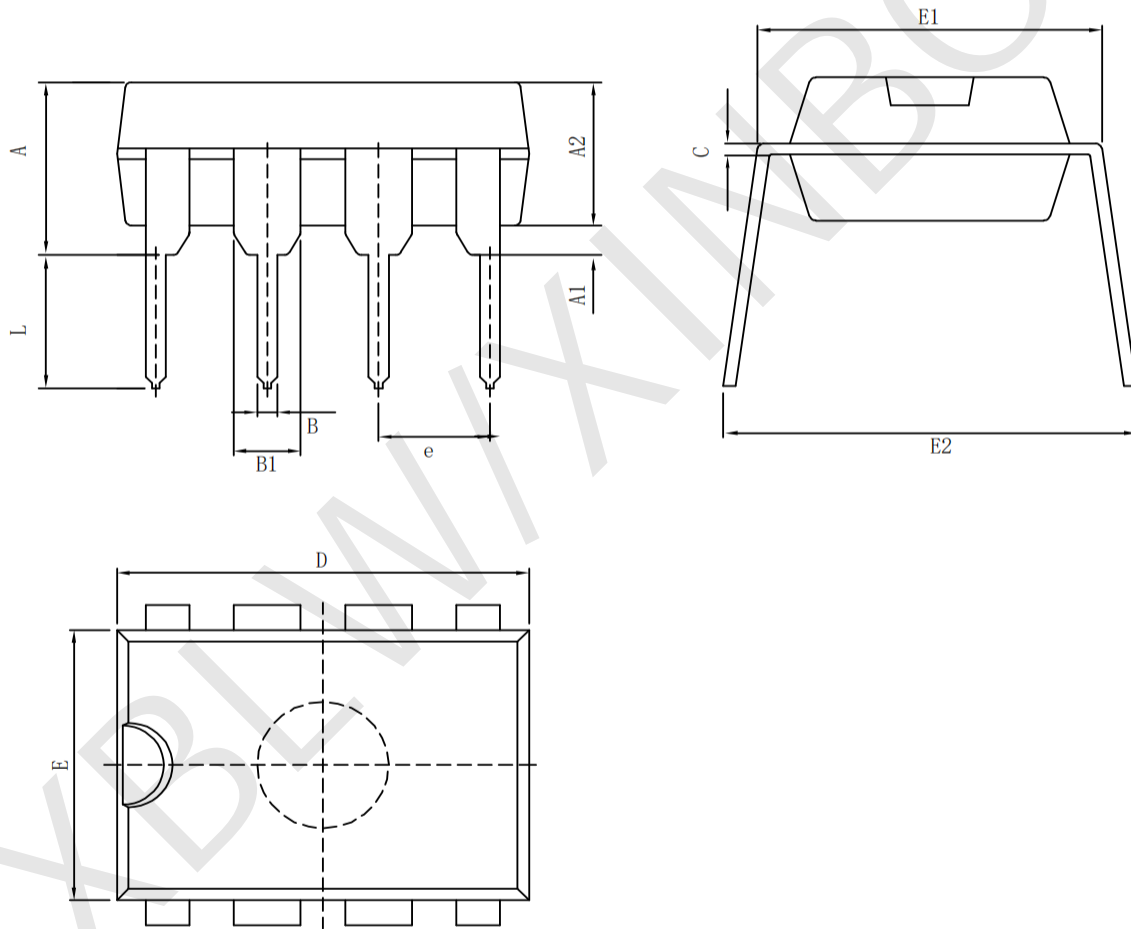
Input Offset-Voltage Null Circuit



Package Information

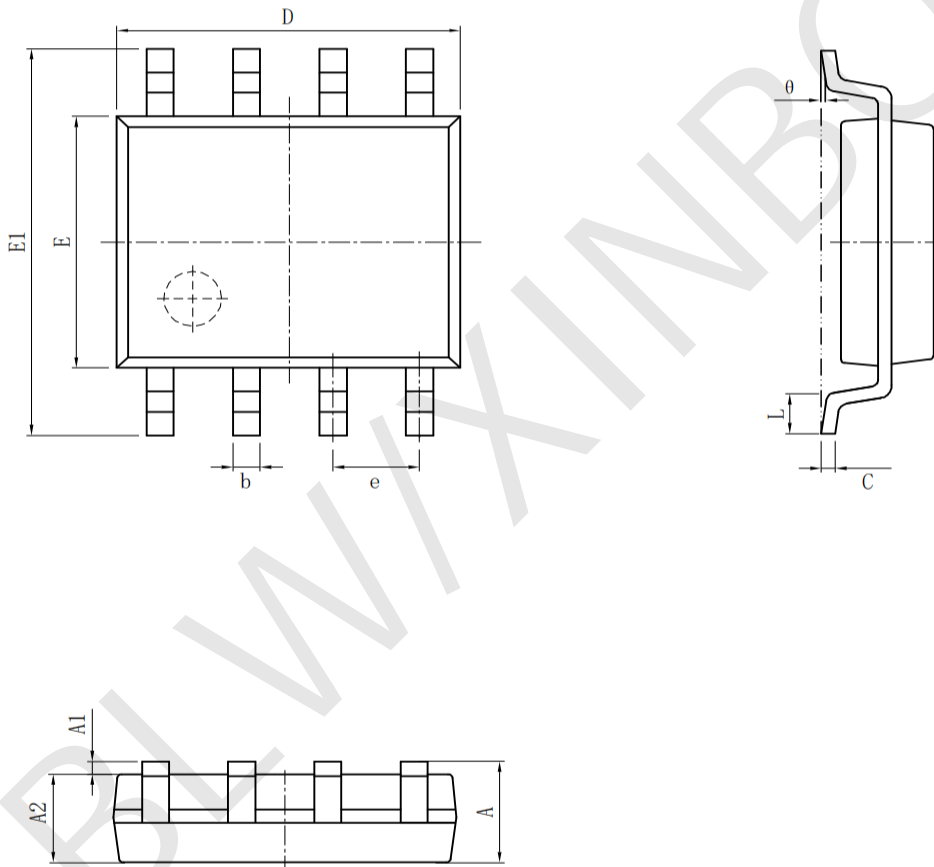
- DIP-8

Symbol	Size	Dimensions In Millimeters		Symbol	Size	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



• SOP-8

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°



Statement:

- XBLW reserves the right to modify the product manual without prior notice! Before placing an order, customers need to confirm whether the obtained information is the latest version and verify the completeness of the relevant information.
- Any semiconductor product may malfunction under specified conditions. When using XBLW products for system design and overall manufacturing, the buyer is responsible for complying with safety standards and taking appropriate safety measures to avoid risks that may cause personal injury or property damage.
- XBLW products have not been licensed for life support, military, and aerospace applications, and therefore XBLW is not responsible for any consequences arising from the use of this product in these areas.
- If any or all XBLW products (including technical data, services) described or contained in this document are subject to any applicable local export control laws and regulations, they may not be exported without an export license from the relevant authorities in accordance with such laws.
- The specifications of any and all XBLW products described or contained in this document specify the performance, characteristics, and functionality of said products in their standalone state, but do not guarantee the performance, characteristics, and functionality of said products installed in Customer's products or equipment. In order to verify symptoms and conditions that cannot be evaluated in a standalone device, the Customer should ultimately evaluate and test the device installed in the Customer's product device.
- XBLW documentation is only allowed to be copied without any alteration of the content and with the relevant authorization. XBLW assumes no responsibility or liability for altered documents.
- XBLW is committed to becoming the preferred semiconductor brand for customers, and XBLW will strive to provide customers with better performance and better quality products.