



## Descriptions

Consisted of high voltage J-FET and bipolar transistors, the TL072CP is a high speed J-FET dual- channel operational amplifier, featured with high slew rate, low input offset and bias current and low offset voltage temperature rate. The TL072CP provides DIP-8 package forms.

## Feature

- Lower Power Consumption
- Wide Common-Mode And Differential Voltage Ranges
- Low Input Bias And Offset Currents
- Output Short-Circuit Protection
- High Input Impedance
- High Slew Rate
- High Gain-Bandwidth up to 4MHz

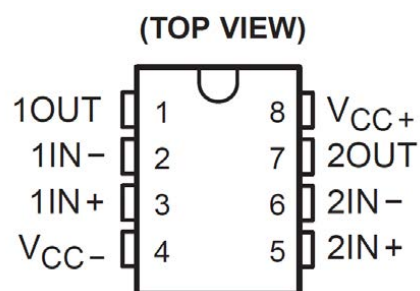
## Applications

- Battery test equipment
- Pro audio mixers
- Single phase online UPS
- Solar energy: string and central inverter
- Three phase UPS
- Motor drives: AC and servo drive control and power stage modules

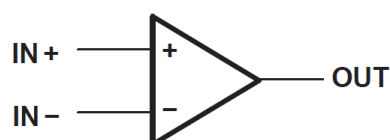
## Ordering Information

Product Model	Package Type	Packing	Packing Qty
TL072CP	DIP-8	Tube	50pcs/Box

## Pins Diagram

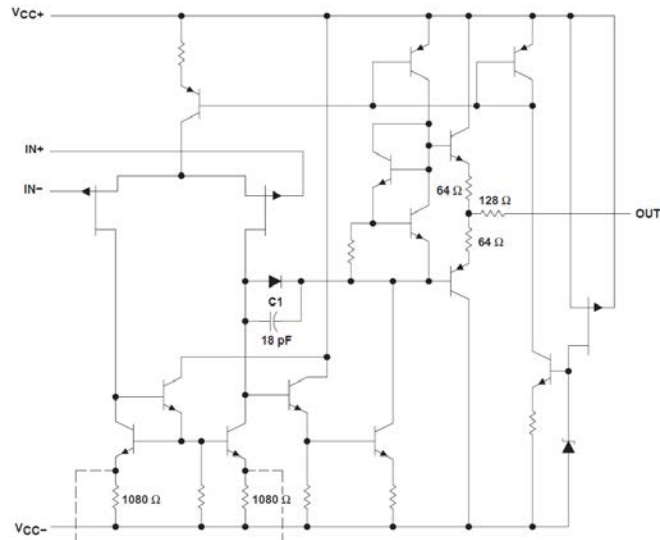


## Symbol





## Internal Diagram



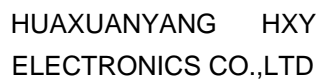
## Absolute Maximum Ratings

Symbol	Description	Parameter	Unit
$V_{CC}$	Supply Voltage	$\pm 18$	V
$V_i$	Input Voltage	$\pm 14$	V
$V_{id}$	Differential Input Voltage	$\pm 28$	V
$T_{oper}$	Operating Temperature Range	0~70	°C
$T_{stg}$	Storage Temperature Range	-65~+150	°C

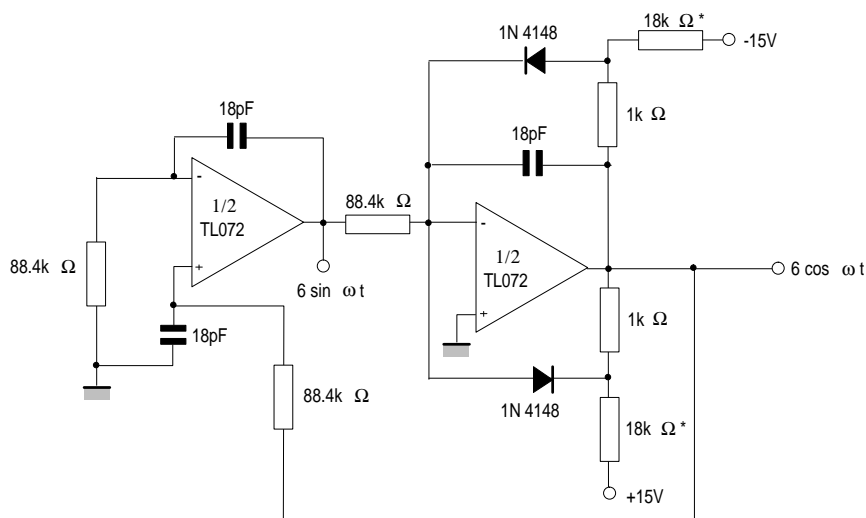
## Electrical Parameter Characteristics

(  $V_{CC}=\pm 15$ ,  $T_{amp}=25^\circ\text{C}$  , Unless otherwise specified )

Symbol	Parameter Name	Test Conditions	Parameter			Unit
			Min.	Typ.	Max.	
$V_{IO}$	Input Offset Voltage	$V_o=0\text{V}$		3	10	mV
$I_{IO}$	Input Offset Current	$V_o=0\text{V}$			1.5	pA
$I_{ib}$	Input Bias Current	$V_o=0\text{V}$			2.5	nA
$V_{icr}$	Input Common Mode Voltage Range		-12	$\pm 11$	15	V
$V_{OM}$	Maximum Peak Output Voltage Swing	$R_L = 10\text{ k}\Omega$ $R_L \geq 2\text{ k}\Omega$	$\pm 12$ $\pm 10$	$\pm 13.5$ $\pm 12.5$		V
$A_{VD}$	Large-signal differential voltage amplification	$R_L \geq 2\text{ k}\Omega$ , $V_o = \pm 10\text{ V}$	80	95		dB
GB	Gain Bandwidth			3		MHz
CMRR	Common Mode Rejection Ratio		70	85		dB
kSVR	Supply Voltage Rejection Ratio	$V_{CC} = \pm 15\text{ V}$ to $\pm 9\text{ V}$ , $V_o=0\text{V}$	70	86		dB
$I_{CC}$	Static Supply Current (each amplifier)			1.4	2.8	mA
SR	Slew Rate	$V_i = 10\text{ V}$	8	13		V/us
$t_R$	Rise time			0.05		us

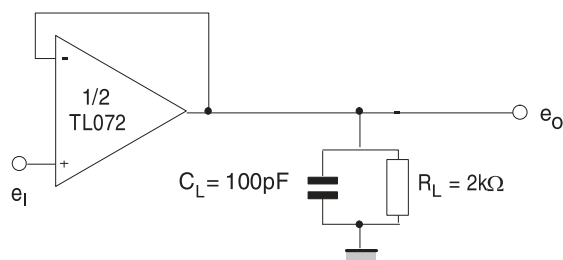


### Typical Application ( One Amplifier )

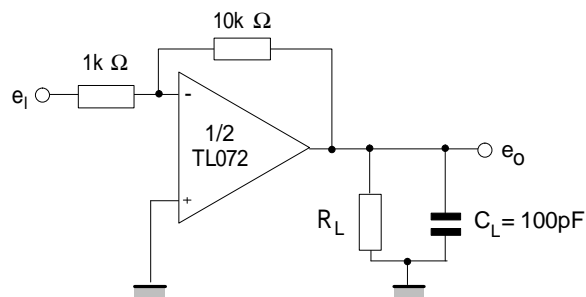


1. These resistor values may be adjusted for a symmetrical output.

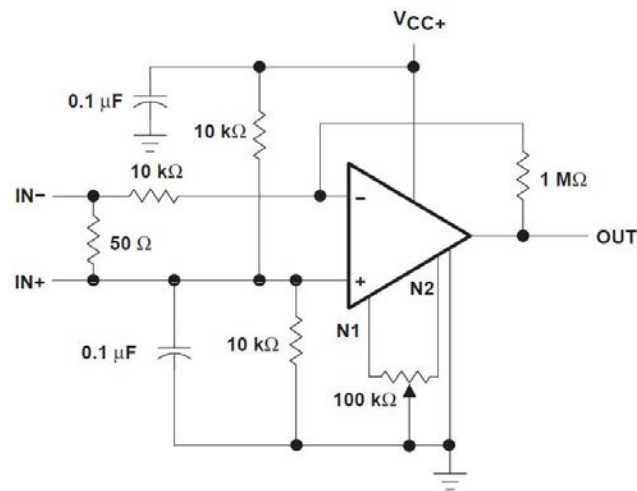
## 100kHz quadruple oscillator



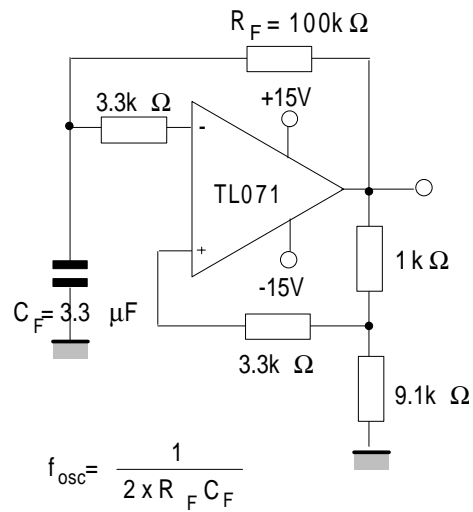
## Voltage follower



### Gain-of-10 inverting amplifier



**AC amplifier**

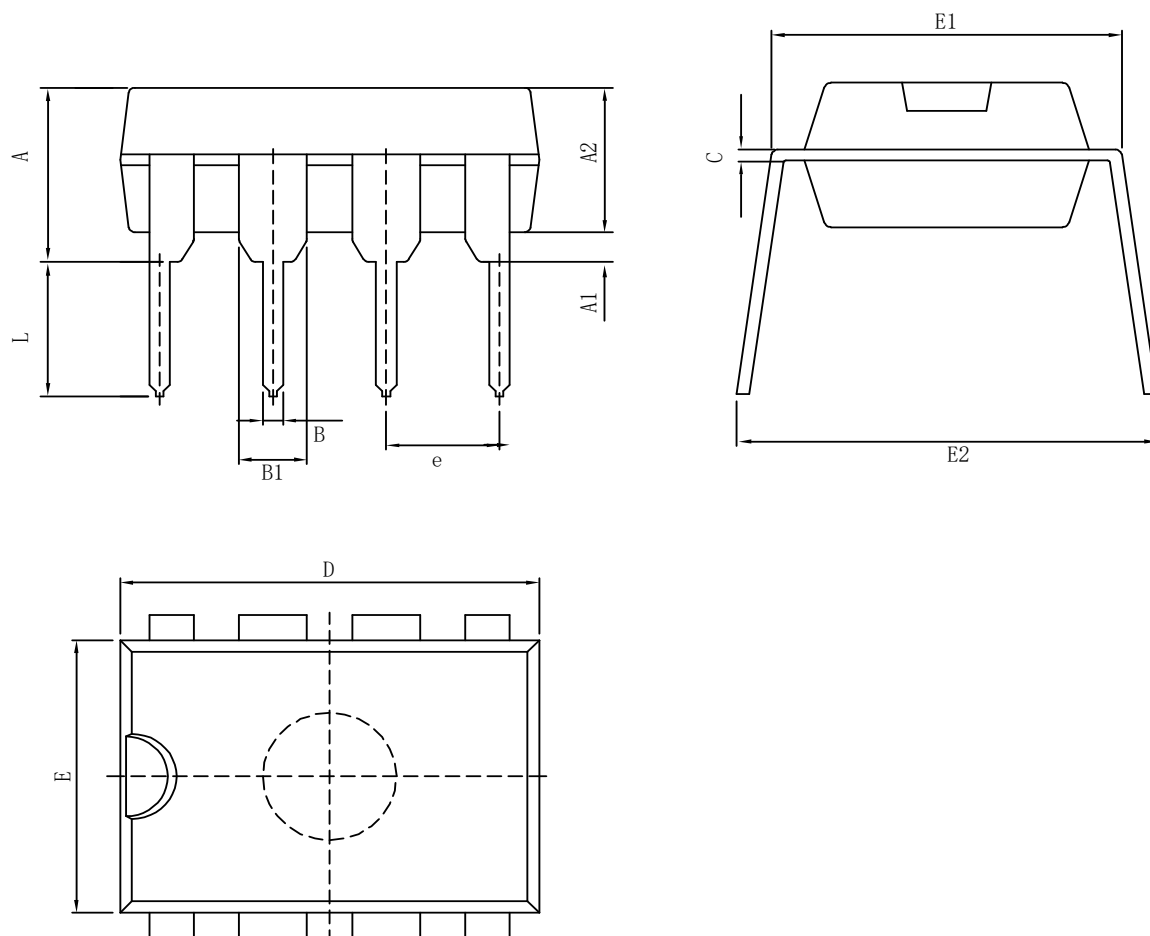


**(0.5Hz) Square wave bscillatbr**



## Package Information

### DIP-8



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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