



## Descriptions

Consisted of high voltage J-FET and bipolar transistors, the TL081IDR is a high speed J-FET single- channel operational amplifier, featured with high slew rate, low input offset and bias current and low offset voltage temperature rate. The TL081IDR provides SOP-8(SOIC-8) package forms.

## Feature

- Very Low Power Consumption
- Wide Common-Mode And Differential Voltage Ranges
- Low Input Bias And Offset Currents
- Output Short-Circuit Protection
- High Input Impedance
- Internal Frequency Compensation
- High Slew Rate
- High Gain-Bandwidth

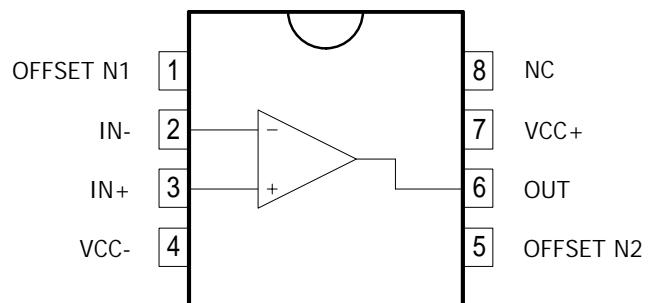
## Applications

- 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

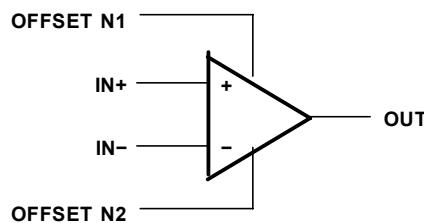
## Ordering Information

Product Model	Package Type	Packing	Packing Qty
TL081IDR	SOP-8(SOIC-8)	Tape	4000Pcs/Reel

## Pins Diagram

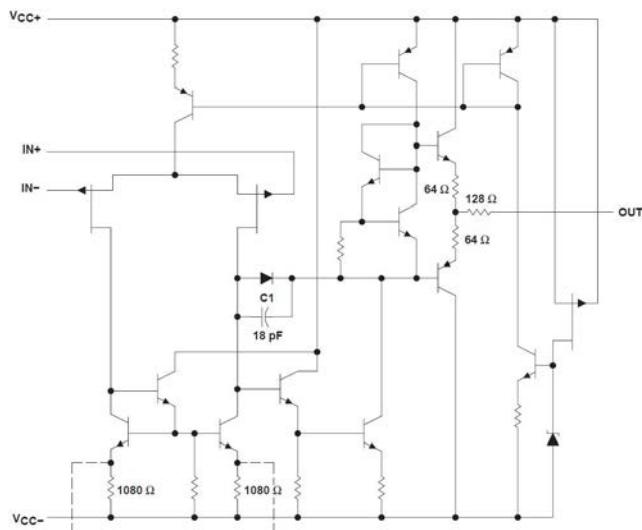


## Symbol





## Internal Diagram



## Extreme Characteristics

Symbol	Description	Extreme Value	Unit
$V_{cc}$	Supply Voltage	$\pm 18$	V
$V_i$	Input Voltage	$\pm 15$	V
$V_{id}$	Differential Input Voltage	$\pm 30$	V
$P_{tot}$	Power Dissipation	680	mW
$T_{oper}$	Operating Temperature Range	-20~85	°C
$T_{stg}$	Storage Temperature Range	-65~+150	°C

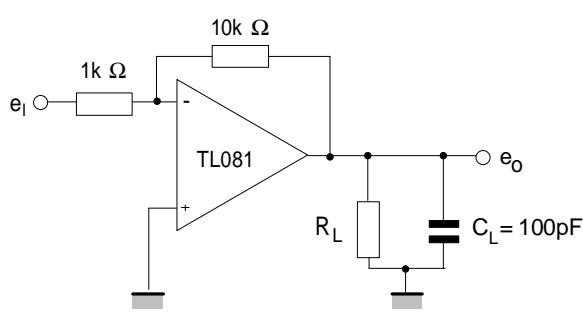
## Electrical Parameter Characteristics

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

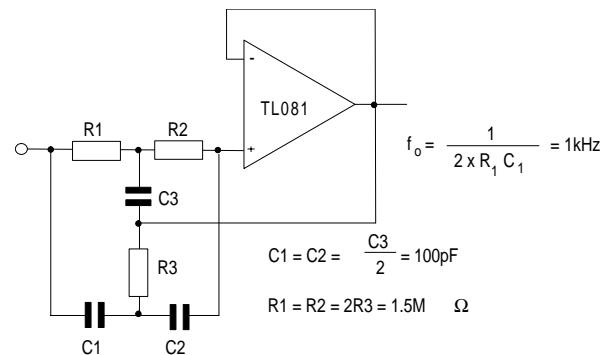
Symbol	Parameter Name	Test Conditions	Parameter			Unit
			Min.	Typ.	Max.	
$V_{io}$	Input Offset Voltage	$V_o=0V$		$\pm 3$	$\pm 5$	μV
$I_{io}$	Input Offset Current	$V_o=0V$			$\pm 100$	pA
$I_{ib}$	Input Bias Current	$V_o=0V$			$\pm 200$	nA
$V_{icm}$	Input Common Mode Voltage Range			$(V_{cc-})+1.5$	$(V_{cc+})-0.5$	V
$V_{om}$	Maximum Peak Output Voltage Swing	$R_L = 10 k\Omega$	$\pm 12$	$\pm 13.5$		V
$A_{vd}$	Large-signal differential voltage amplification	$R_L \geq 2 k\Omega$ , $V_o = \pm 10 V$	80	95		dB
GB	Gain Bandwidth			3		MHz
CMRR	Common Mode Rejection Ratio	$R_s=50\Omega$	70	85		dB
SVR	Supply Voltage Rejection Ratio	$V_{cc} = \pm 15 V$ to $\pm 9 V$ , $V_o=0V$	80	86		dB
$I_{cc}$	Static Supply Current	$V_{cc} = \pm 15 V$		$\pm 1.8$	$\pm 2.8$	mA
SR	Slew Rate	$V_i = 10 V$	8	20		V/us
$t_R$	Rise time	$V_{in}=20mV$		0.1		us



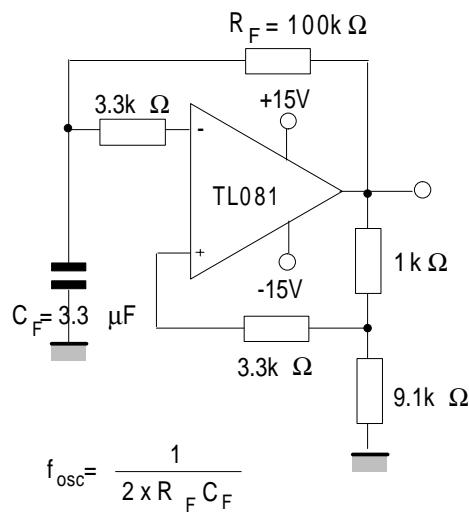
## Typical Application



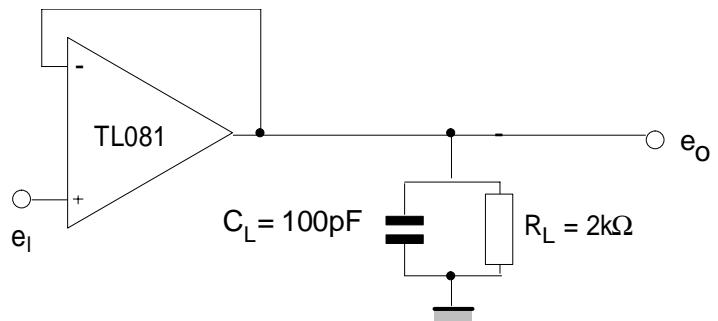
Gain-of-10 inverting amplifier



High Q notch filter



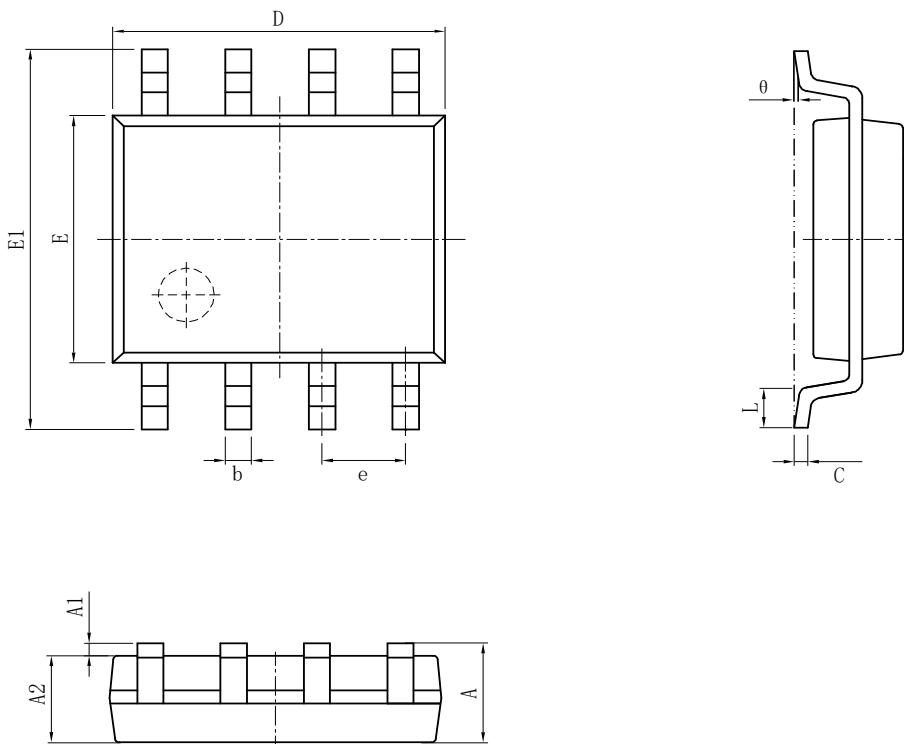
(0.5Hz) Square wave oscillator



Voltage follower



## Package Information SOP-8(SOIC-8)



Symbol	Dimensions In Millimeters		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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