Descriptions

Consisted of high voltage J-FET and bipolar transistors, the TL081IDR is a high speed J-FRT 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

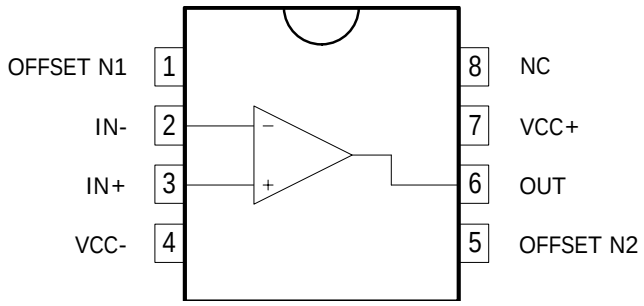
Applications

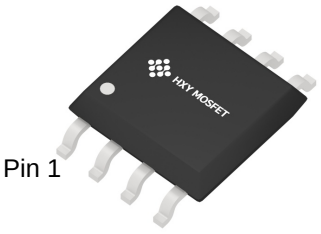
- Battery test equipment
- Pro audio mixers
- Single phase online UPS
- Solar energy: string and central inverter
- Three phase UPS
- Motor drives: AC and servo drive control and power stage modules

Ordering Information

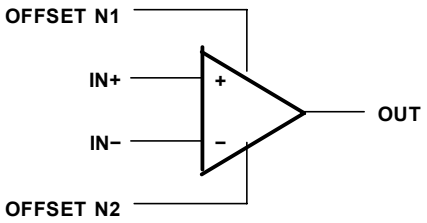
Product Model	Package Type	Packing	Packing Qty
TL081IDR	SOP-8(SOIC-8)	Tape	4000Pcs/Reel

Pins Diagram

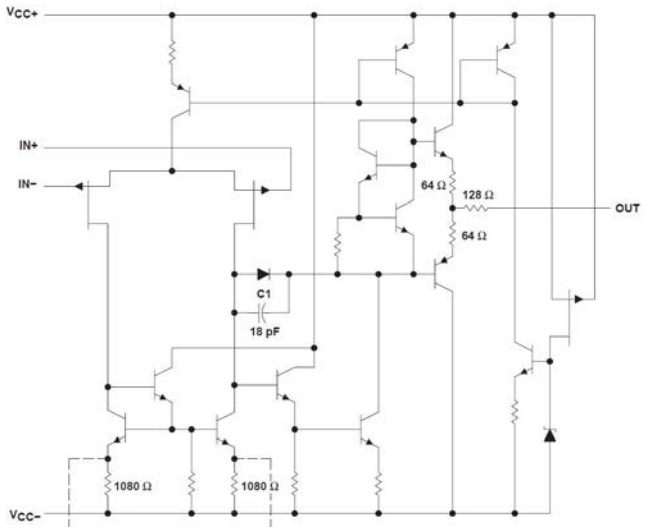




Symbol



Internal Diagram



Extreme Characteristics

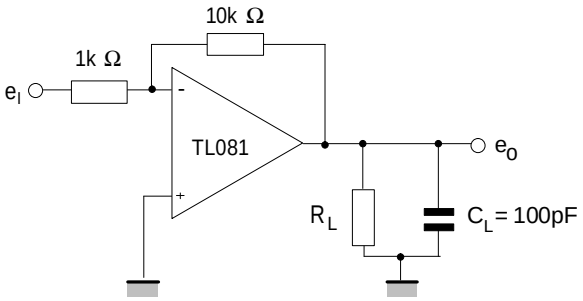
Symbol	Description	Extreme Value	Unit
V_{CC}	Supply Voltage	±18	V
V_i	Input Voltage	±15	V
V_{id}	Differential Input Voltage	±30	V
P_{tot}	Power Dissipation	680	mW
T_{oper}	Operating Temperature Range	-20~85	℃
T_{stg}	Storage Temperature Range	-65~+150	℃

Electrical Parameter Characteristics

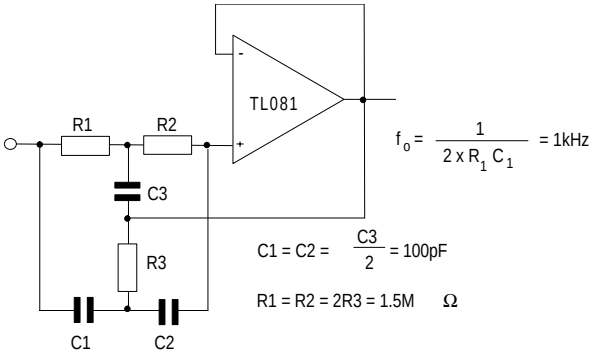
(Vcc=±15，Tamp=25℃ , Unless otherwise specified)

Symbol	Parameter Name	Test Conditions	Parameter			Unit
			Min.	Typ.	Max.	
V_{iO}	Input Offset Voltage	Vo=0V		±3	±5	mV
I_{iO}	Input Offset Current	Vo=0V			±100	pA
I_{ib}	Input Bias Current	Vo=0V			±200	nA
V_{icm}	Input Common Mode Voltage Range		(Vcc-)+1.5		(Vcc+)-0.5	V
V_{OM}	Maximum Peak Output Voltage Swing	R_L = 10 kΩ	±12	±13.5		V
A_{VD}	Large-signal differential voltage amplification	R_L ≥ 2 kΩ , Vo = ±10 V	80	95		dB
GB	Gain Bandwidth			3		MHz
CMRR	Common Mode Rejection Ratio	Rs=50Ω	70	85		dB
SVR	Supply Voltage Rejection Ratio	V_{CC} = ±15 V to ±9 V，Vo=0V	80	86		dB
I_{CC}	Static Supply Current	V_{CC} = ±15 V		±1.8	±2.8	mA
SR	Slew Rate	V_I = 10 V	8	20		V/us
t_R	Rise time	Vin=20mV		0.1		us

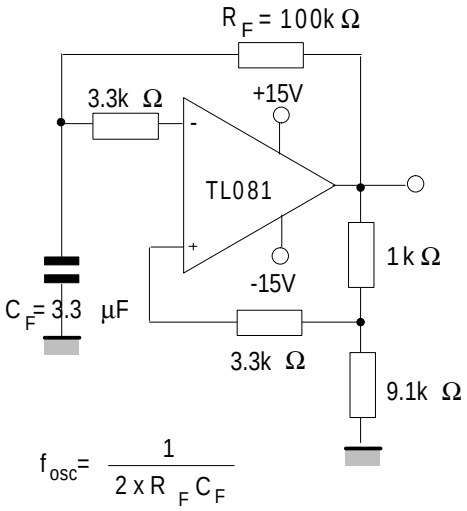
Typical Application



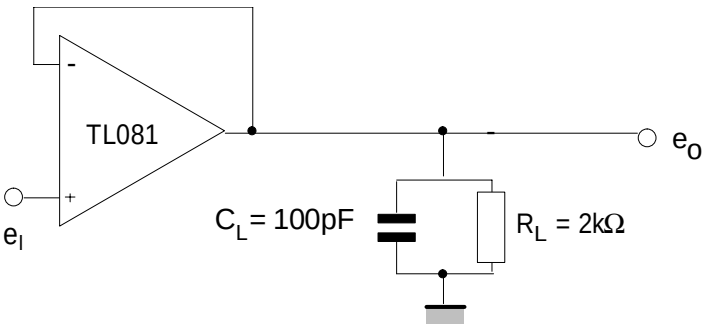
Gain-of-10 inverting amplifier



High Q notch filter



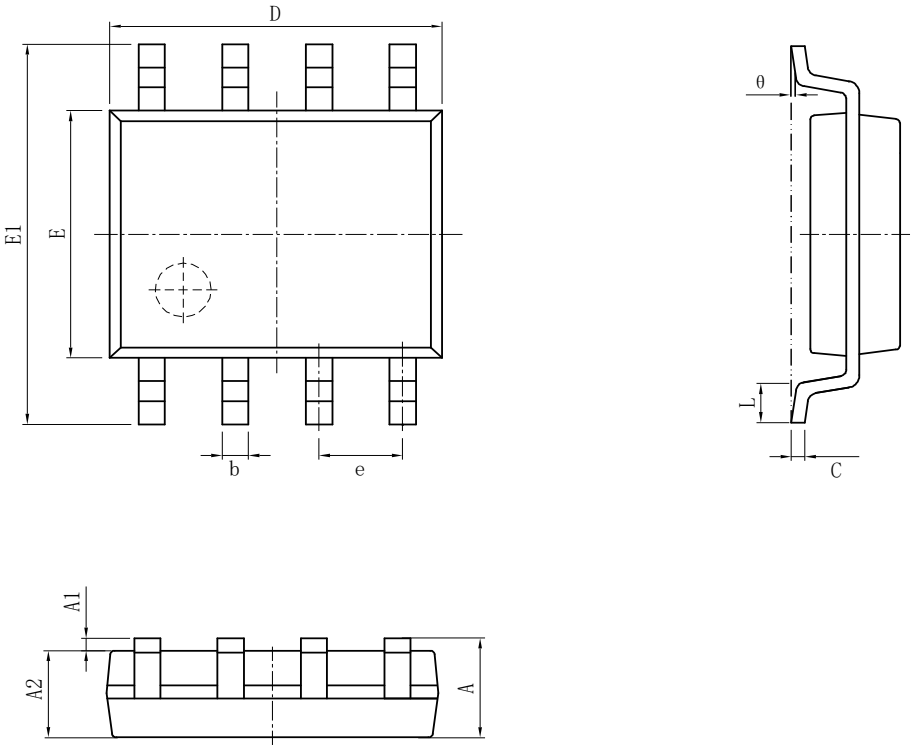
(0.5Hz) Square wave oscillator



Voltage follower

Package Information

SOP-8(SOIC-8)



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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