

### DESCRIPTION

The TL082CDR-CN is high speed JFET input dual operational amplifiers incorporating well matched, high voltage JFET and bipolar transistors in a monolithic integrated circuit.

The devices feature high slew rates, low input bias and offset current, and low offset voltage temperature coefficient.

The TL082CDR-CN is packaged in SOP8.

- High input impedance JFET input stage
- High slew rate: 13 V/ $\mu$ s
- High Gain bandwidth product: 3MHz

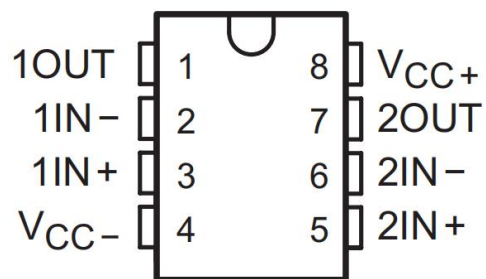
### APPLICATIONS

- Industrial control electronics
- White Goods
- Mobile electronics

### FEATURES

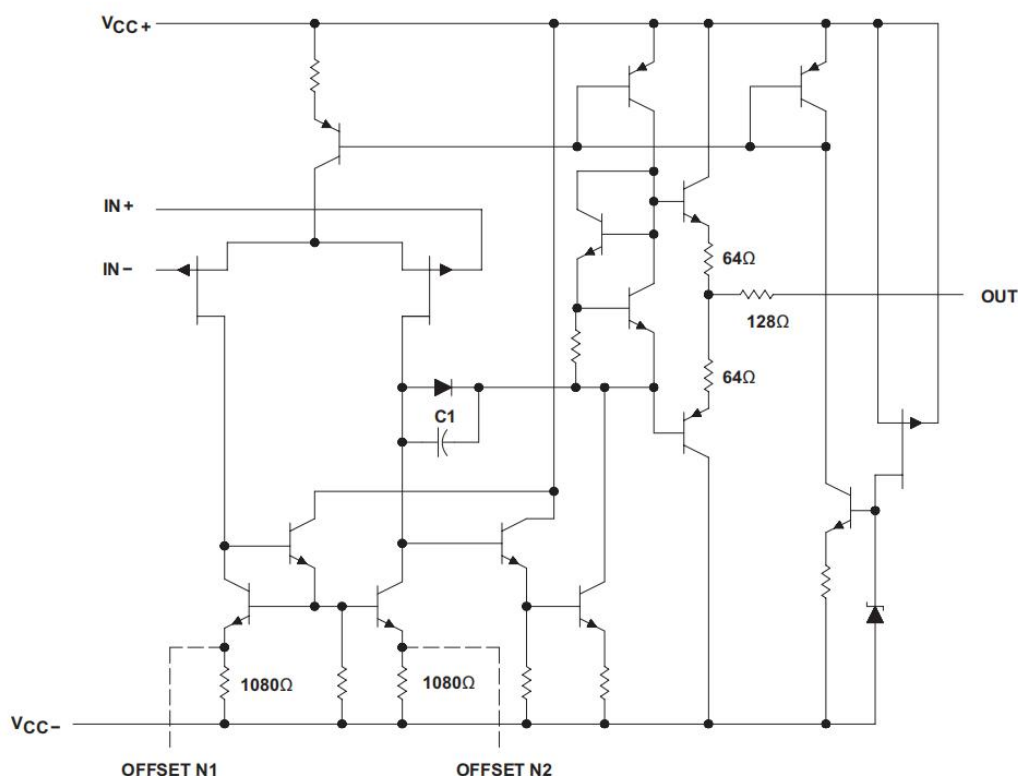
- Low power consumption: 1.4mA/ch
- Wide common-mode voltage ranges
- Wide differential voltage ranges
- Low input bias and offset currents
- Output short-circuit protection
- Low total harmonic distortion: 0.003%

### Pin Configuration



SOP8

### Schematic Diagram



### Absolute Maximum Ratings

Over operating free-air temperature range (unless otherwise noted)

PARAMETER	MIN	MAX	UNIT
Supply voltage		±18	V
Input Voltage		±15	V
Differential input voltage		±30	V
Maximum Junction Temperature		+150	°C
Storage Temperature Range	-65	+150	°C
Lead Temperature(soldering, 10sec)		+260	°C

### Recommended Operating Conditions

Over operating free-air temperature range (unless otherwise noted)

PARAMETER	MIN	TYP	MAX	UNIT
V <sub>CC+</sub> Supply voltage	+5		+15	V
V <sub>CC-</sub> Supply voltage	-5		-15	V
Common mode voltage	(V <sub>CC-</sub> ) + 4		(V <sub>CC+</sub> ) - 4	V
Operating Temperature Range	-20	+25	+85	°C
Junction Temperature	-20		+125	°C

### Electrical Characteristics

(At T<sub>A</sub>=25°C, V<sub>CC</sub>=±15V, unless otherwise noted)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Supply current	I <sub>CC</sub>	V <sub>O</sub> =0V, R <sub>L</sub> =∞		1.4	2.8	mA
Input offset voltage	V <sub>IO</sub>	V <sub>O</sub> =0V		±2	±6	mV
Input offset current	I <sub>IO</sub>	V <sub>O</sub> =0V		±50		pA
Input bias current	I <sub>B</sub>	V <sub>O</sub> =0V		±200		pA
common mode voltage range	V <sub>ICM</sub>		±11			V
Output voltage swing	V <sub>OM</sub>	R <sub>L</sub> =10kΩ	±12	±13.5		V
		R <sub>L</sub> =2kΩ	±10	±12		V
Output short-circuit current	I <sub>SC</sub>	V <sub>O</sub> = 0V	±40	±60	±80	mA
Large signal voltage gain	A <sub>OL</sub>	V <sub>O</sub> = ±10V, R <sub>L</sub> <2kΩ		100		V/mV
Common mode rejection ratio	CMRR			95		dB
Supply voltage rejection ratio	PSRR			100		dB
Gain bandwidth product	GBWP			3		MHz
Slew rate	SR		8	13		V/μS
Input resistance	R <sub>I</sub>			10 <sup>12</sup>		Ω

Typical Application

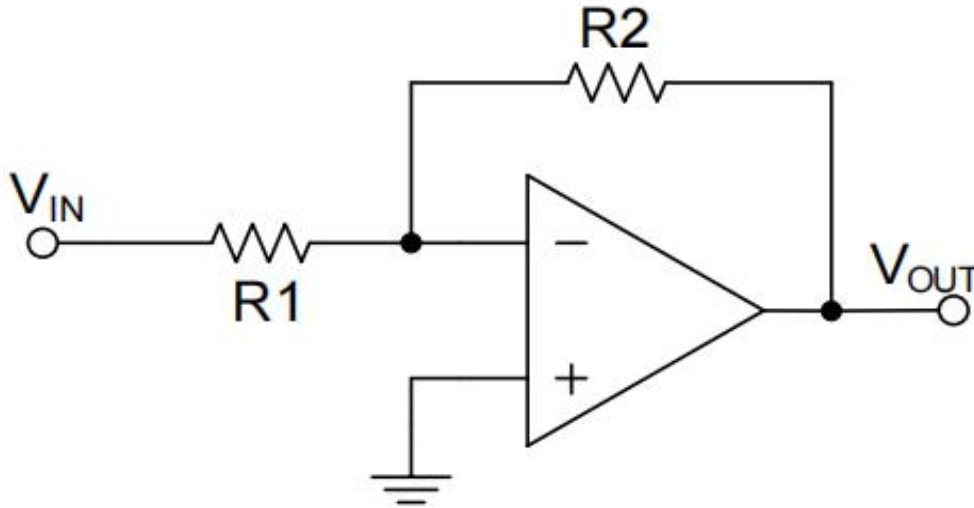
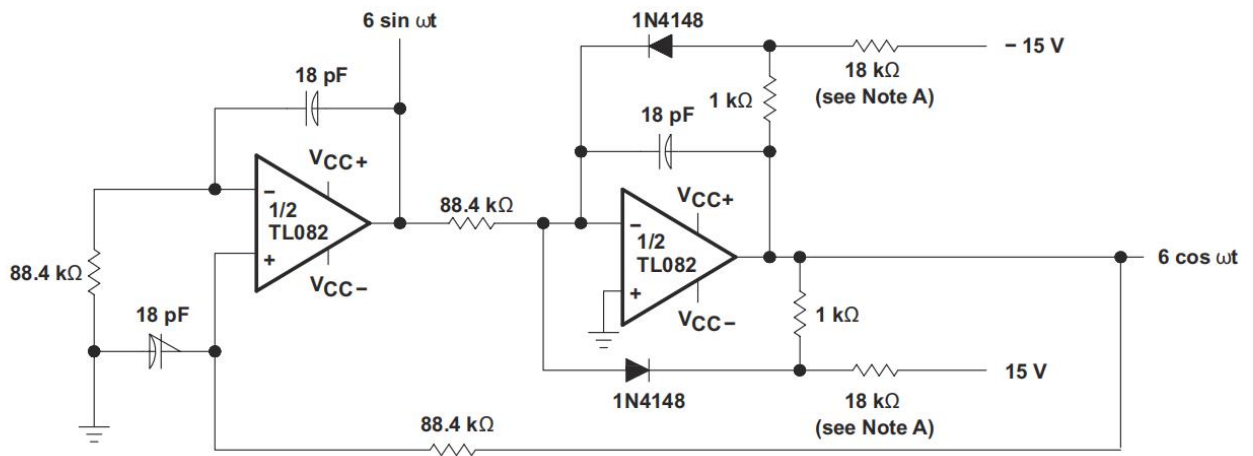
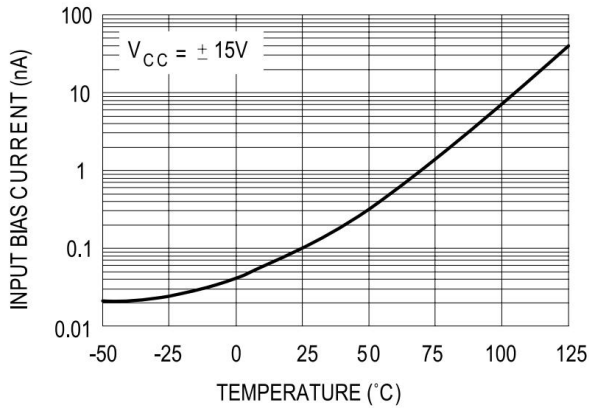
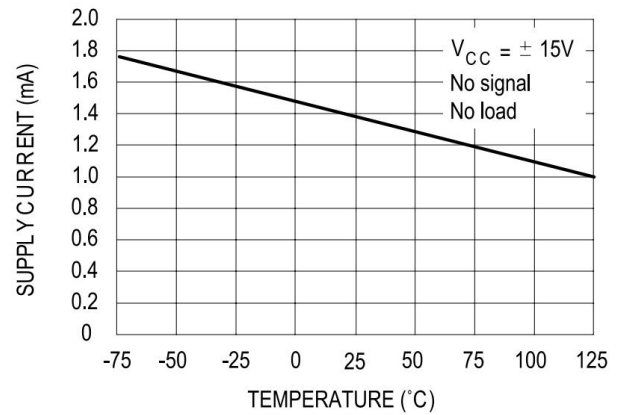
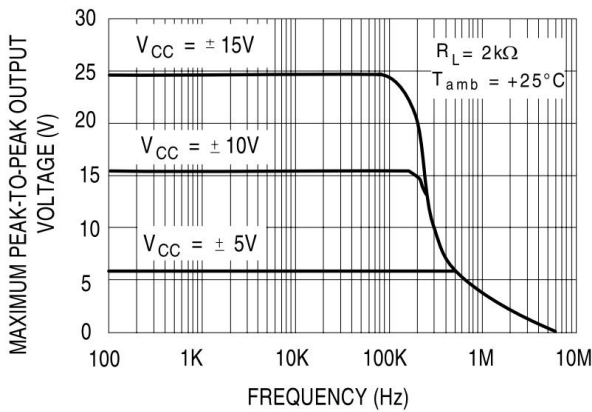
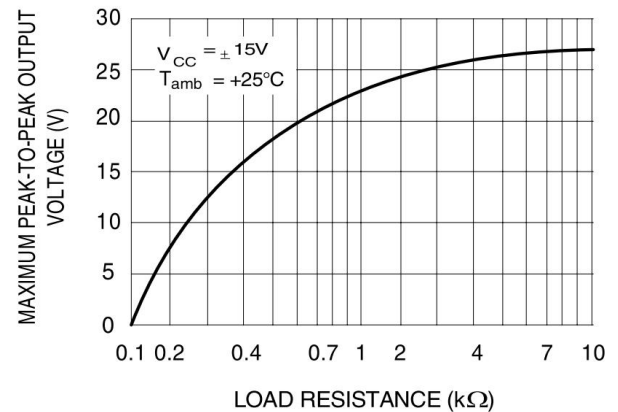
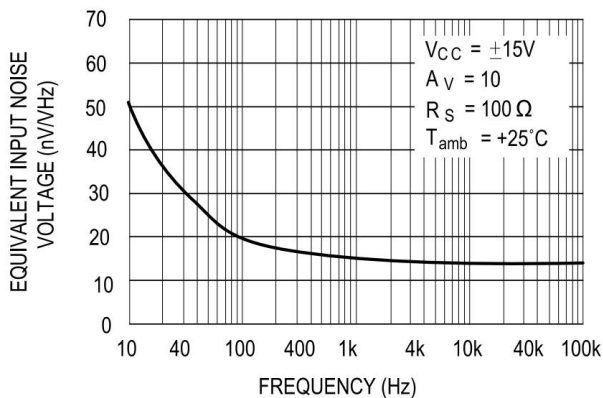
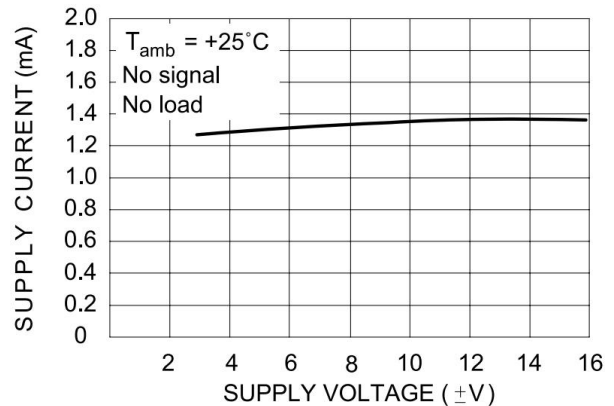


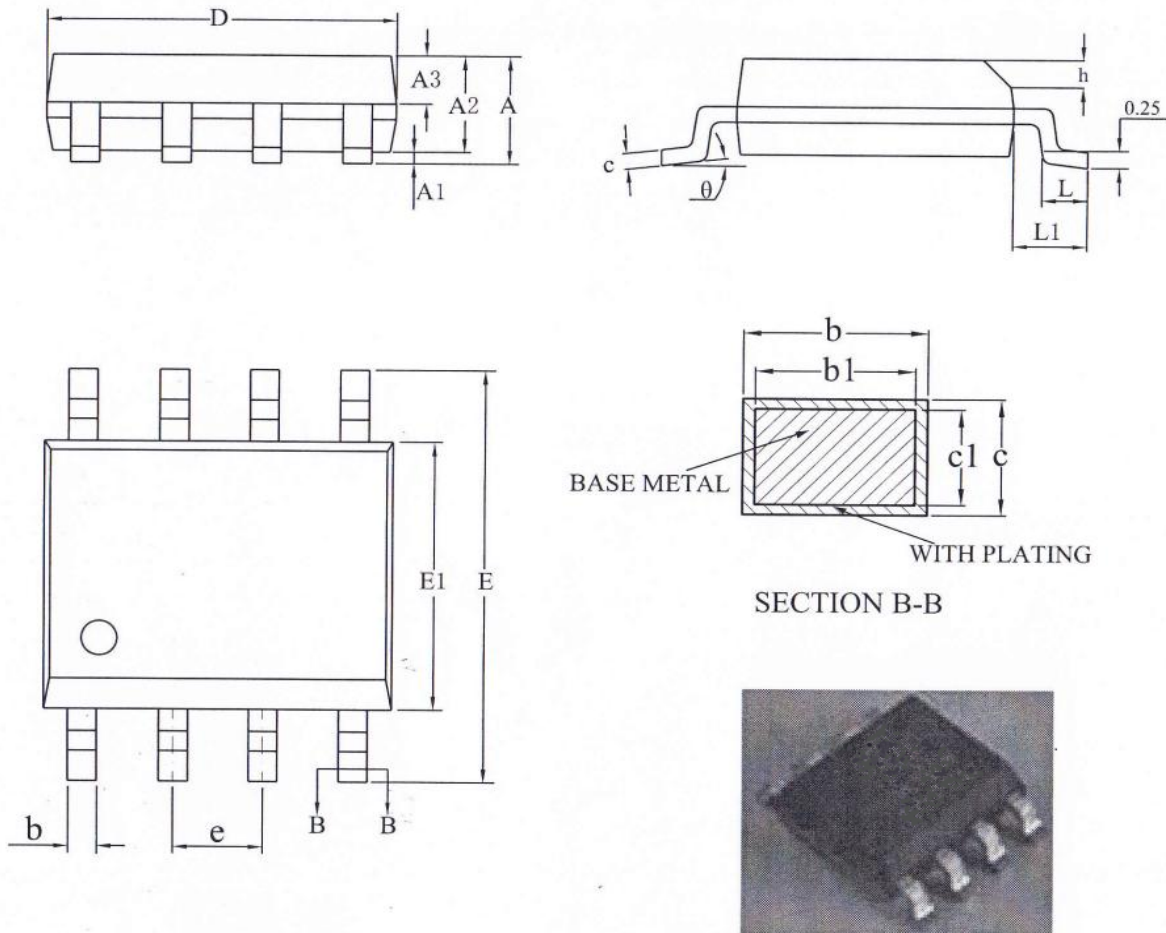
Figure 1. Schematic for Inverting Amplifier



These resistor values may be adjusted for a symmetrical output

Figure 2. 100 kHz quadruple oscillator

**Typical Characteristic**

**Figure 3. Input bias current vs free air temperature**

**Figure 4. Supply current per amplifier vs free air temperature**

**Figure 5. Maximum peak-to-peak output voltage vs frequency**

**Figure 6. Maximum peak-to-peak output voltage vs load resistance**

**Figure 7. Equivalent input noise voltage vs frequency**

**Figure 8. Supply current per amplifier vs Supply voltage**

**PACKAGE OUTLINE DIMENSIONS**
**SOP8**


SYMBOL	MILLIMETER			SYMBOL	MILLIMETER		
	MIN	NOM	MAX		MIN	NOM	MAX
A	-	-	1.75	D	4.80	4.90	5.00
A1	0.10	-	0.225	E	5.80	6.00	6.20
A2	1.30	1.40	1.50	E1	3.80	3.90	4.00
A3	0.60	0.65	0.70	e	1.27 BSC		
b	0.39	-	0.47	h	0.25	-	0.50
b1	0.38	0.41	0.44	L	0.50	-	0.80
c	0.20	-	0.24	L1	1.05REF		
c1	0.19	0.20	0.21	θ	0°	-	8°

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