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.

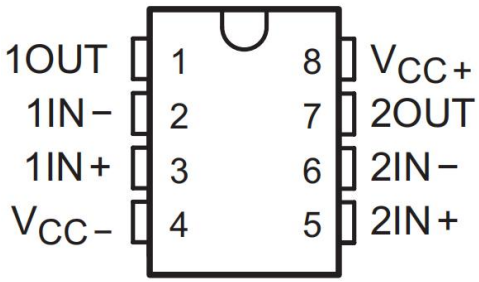
FEATURES

- 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%
- High input impedance JFET input stage
- High slew rate: 13 V/μs
- High Gain bandwidth product: 3MHz

APPLICATIONS

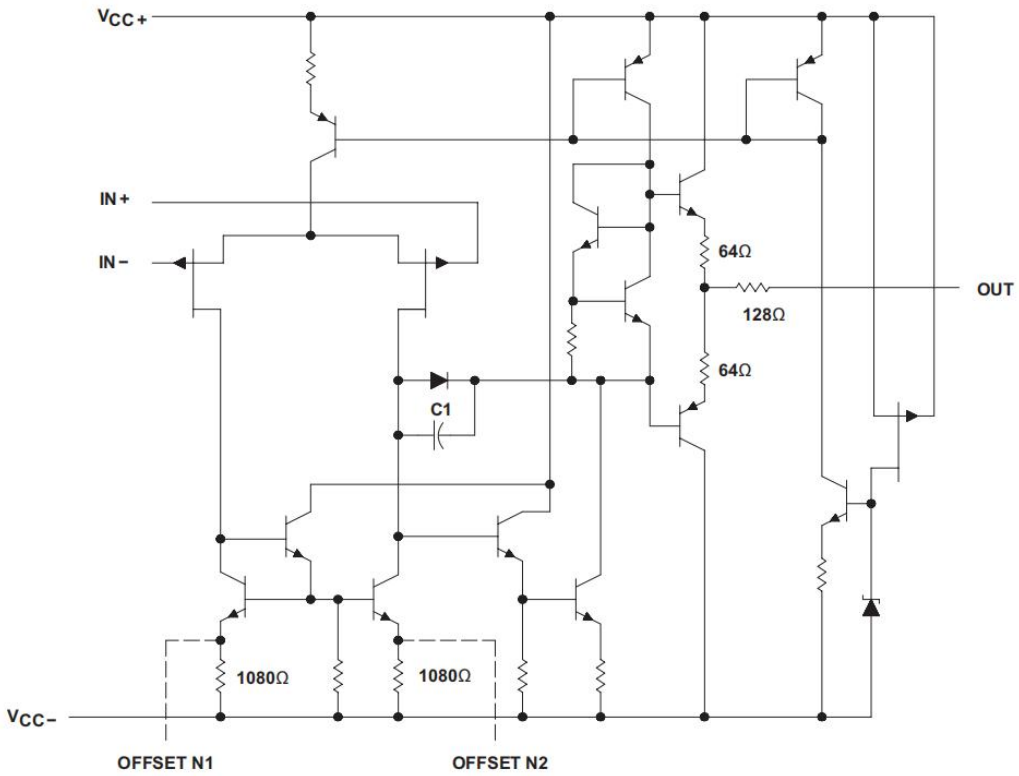
- Industrial control electronics
- White Goods
- Mobile electronics

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	℃
Storage Temperature Range	-65	+150	℃
Lead Temperature(soldering, 10sec)		+260	℃

Recommended Operating Conditions

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

PARAMETER	MIN	TYP	MAX	UNIT
V_{CC+} Supply voltage	+5		+15	V
V_{CC-} Supply voltage	-5		-15	V
Common mode voltage	(V_{CC} -) + 4		(V_{CC} +) - 4	V
Operating Temperature Range	-20	+25	+85	℃
Junction Temperature	-20		+125	℃

Electrical Characteristics

(At T_A=25℃, V_{CC}=±15V, unless otherwise noted)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Supply current	I_{CC}	V_O=0V, R_L=∞		1.4	2.8	mA
Input offset voltage	V_{IO}	V_O=0V		±2	±6	mV
Input offset current	I_{IO}	V_O=0V		±50		pA
Input bias current	I_B	V_O=0V		±200		pA
common mode voltage range	V_{ICM}		±11			V
Output voltage swing	V_{OM}	R_L=10kΩ	±12	±13.5		V
		R_L=2kΩ	±10	±12		V
Output short-circuit current	I_{SC}	V_O = 0V	±40	±60	±80	mA
Large signal voltage gain	A_{OL}	V_O =±10V, R_L<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_I			10^{12}		Ω

Typical Application

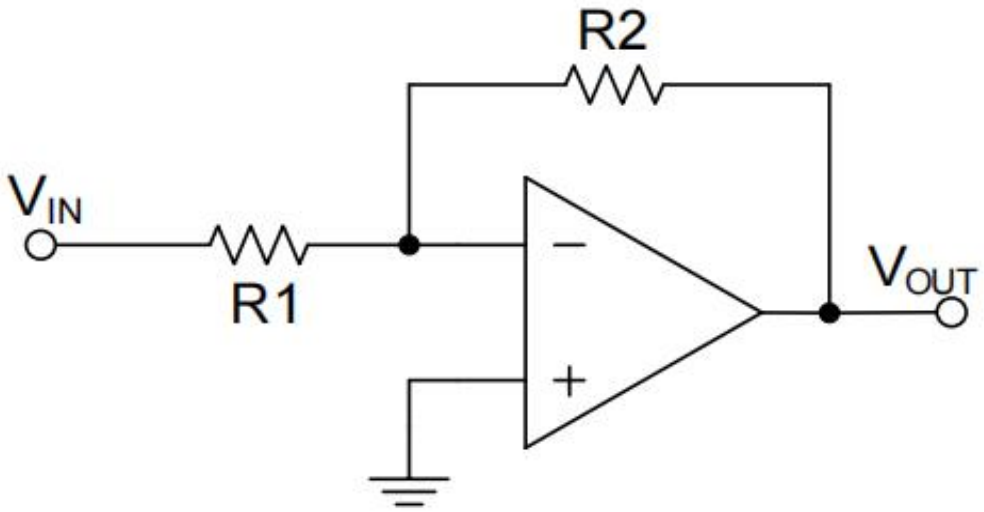
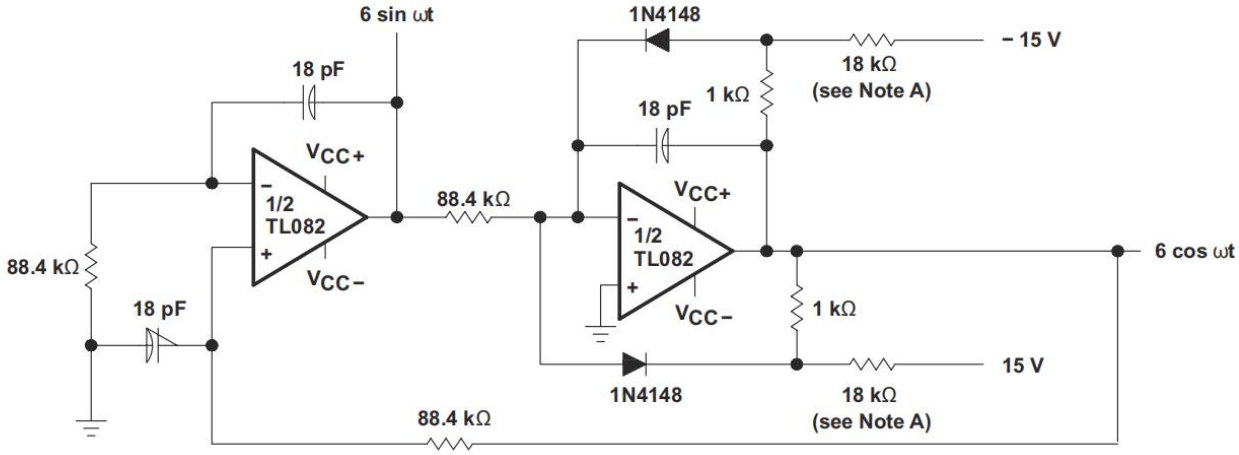


Figure 1. Schematic for Inverting Amplifier



These resistor values may be adjusted for a symmetrical output

Figure 2. 100 kHz quadruple oscillator

Typical Characteristic

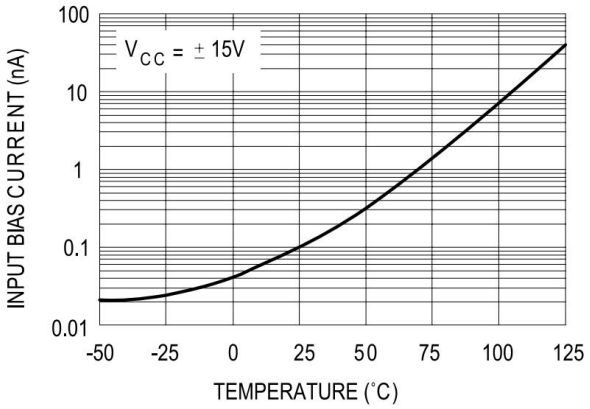


Figure 3. Input bias current vs free air temperature

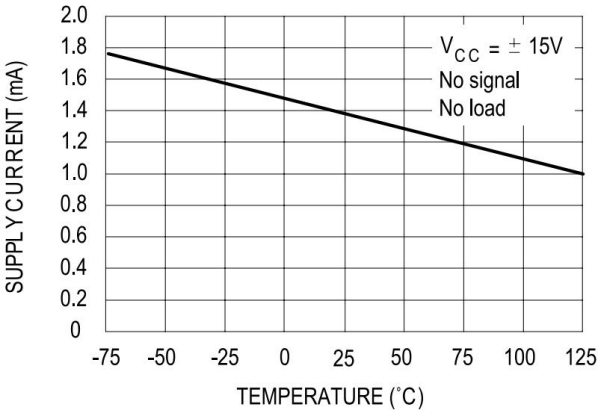


Figure 4. Supply current per amplifier vs free air temperature

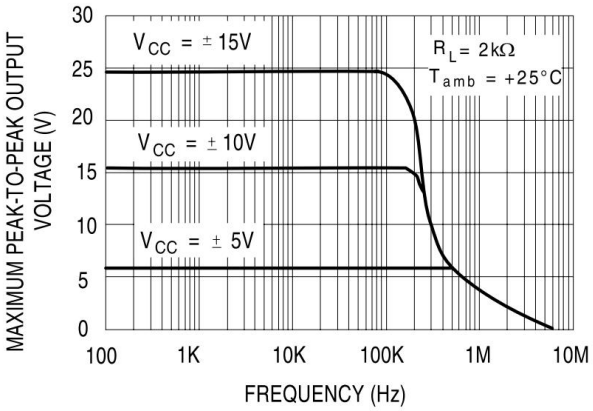


Figure 5. Maximum peak-to-peak output voltage vs frequency

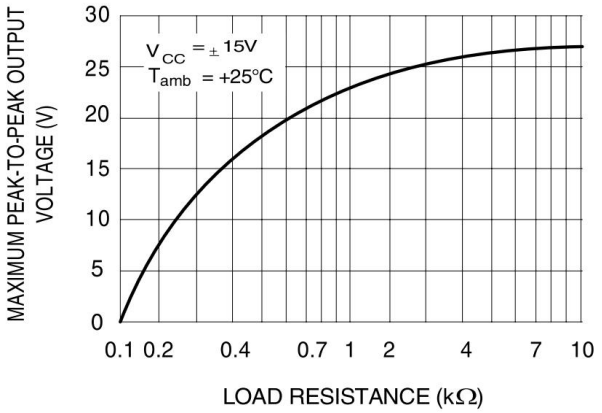


Figure 6. Maximum peak-to-peak output voltage vs load resistance

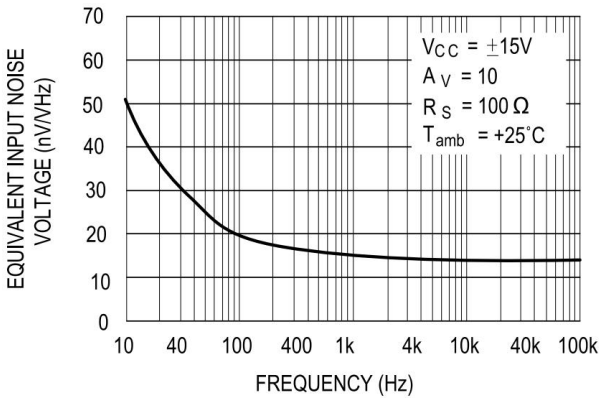


Figure 7. Equivalent input noise voltage vs frequency

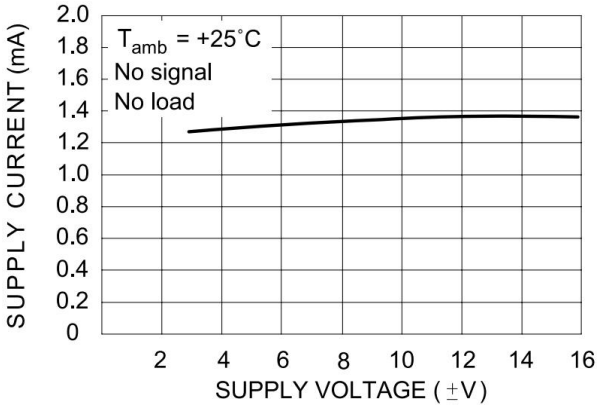
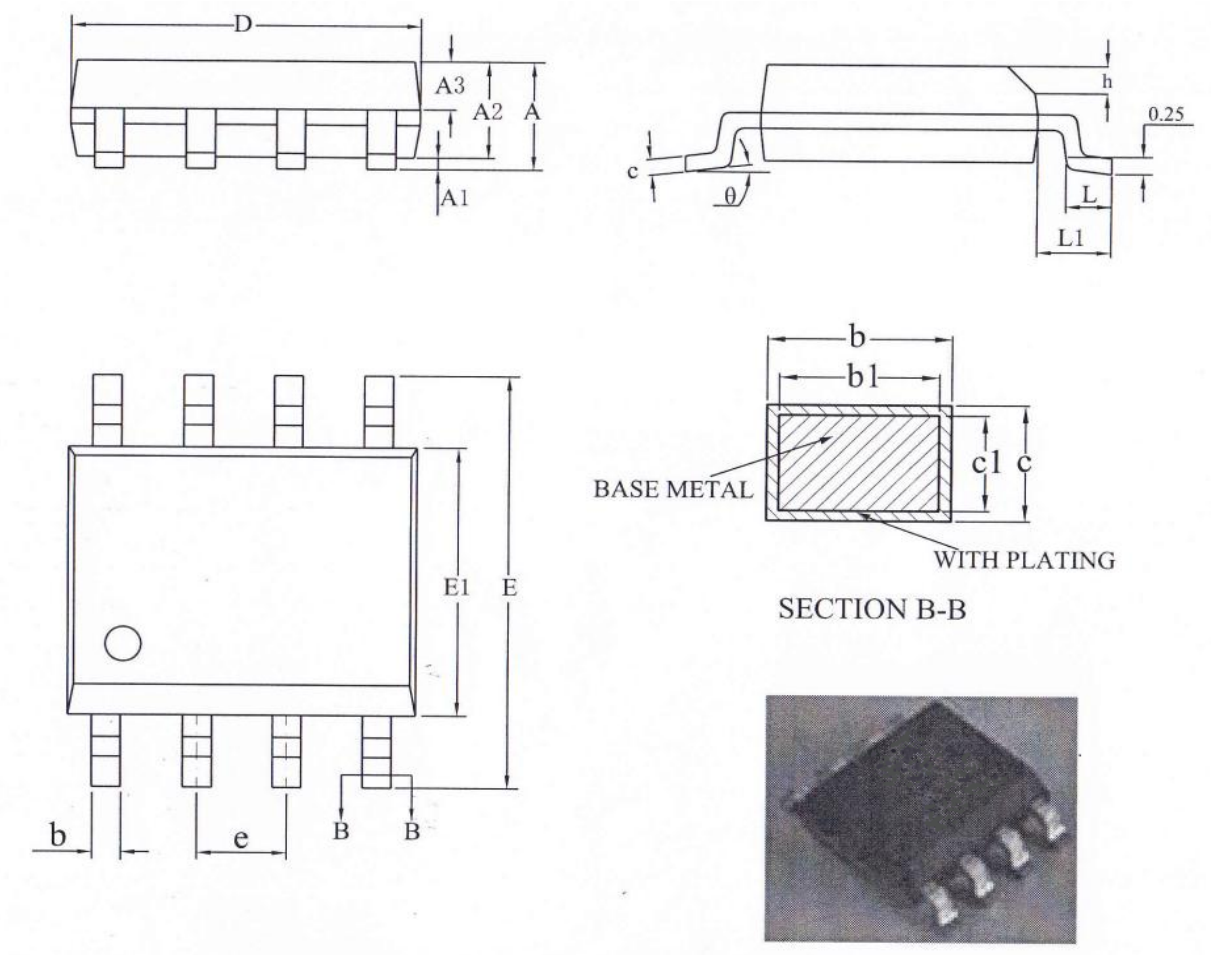


Figure 8. Supply current per amplifier vs Supply voltage

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°

NOTICE

The information presented in this document is for reference only. Involving product optimization and productivity improvement, ChipNobo reserves the right to adjust product indicators and upgrade some technical parameters. ChipNobo is entitled to be exempted from liability for any delay or non-delivery of the information disclosure process that occurs.
本文件中提供的信息仅供参考。涉及产品优化和生产效率改善，ChipNobo 有权调整产品指标和部分技术参数的升级，所出现信息披露过程存在延后或者不能送达的情形，ChipNobo 有获免责权。

The product listed herein is designed to be used with residential and commercial equipment, and do not support sensitive items and specialized equipment in areas where sanctions do exist. ChipNobo Co., Ltd or anyone on its behalf, assumes no responsibility or liability for any damages resulting from improper use.
此处列出的产品旨在民用和商业设备上使用，不支持确有制裁地区的敏感项目和特殊设备，ChipNobo 有限公司或其代表，对因不当使用而造成的任何损害不承担任何责任。

For additional information, please visit our website http://www.chipnobo.com, or consult your nearest Chipnobo sales office for further assistance.
欲了解更多信息，请访问我们的网站 http://www.chipnobo.com，或咨询离您最近的 Chipnobo 销售办事处以获得进一步帮助。