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電源管理



顯示驅動



二三極管



LDO穩壓器



觸摸芯片



MOS管



運算放大器



存儲芯片



MCU



串口通信

TL082DR-TD

產品規格說明書

General Purpose JFET Dual Operation Amplifiers

DESCRIPTION

This TL082DR-TD 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 TL082DR-TD is packaged in SOP8 and DIP8.

FEATURES

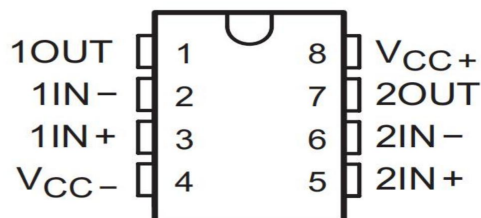
- Low power consumption: 1.4mA/ch
- Wide common-mode voltage ranges
- Wide differential voltage ranges
- Low input bias and offset currents
- Output short-circuit protection
- Low total harmonic distortion: 0.003%

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

APPLICATIONS

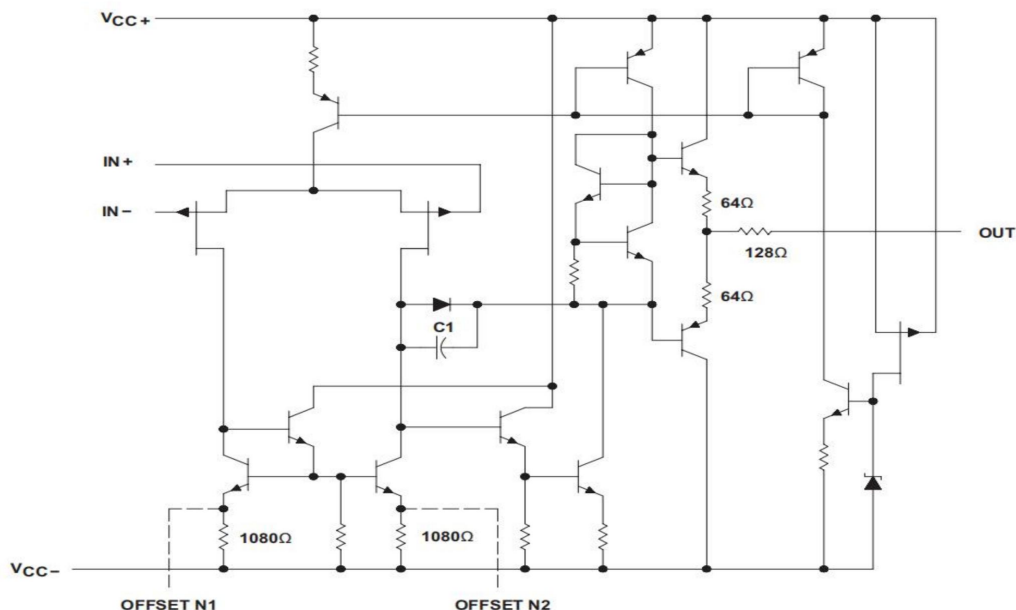
- Industrial control electronics
- White Goods
- Mobile electronics

Pin Configuration



SOP8/DIP8

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 _{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	°C
Junction Temperature	-20		+125	°C

Electrical Characteristics

(At T_A=25°C, 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

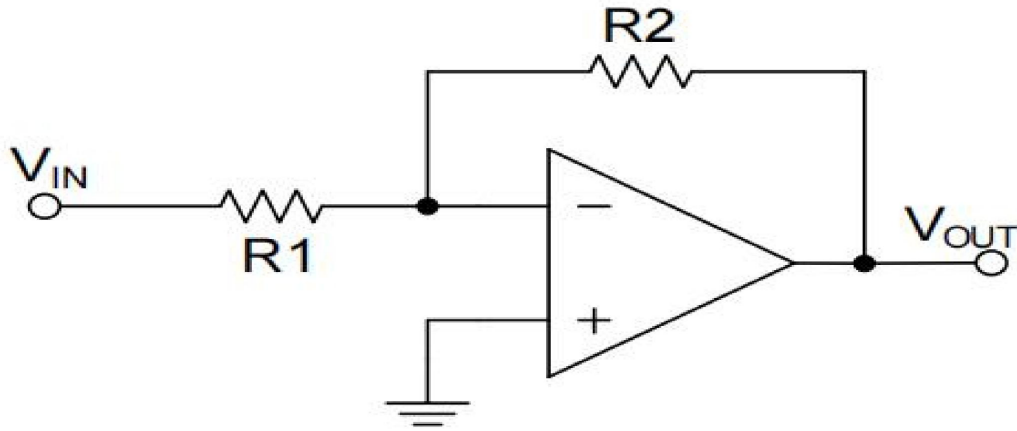
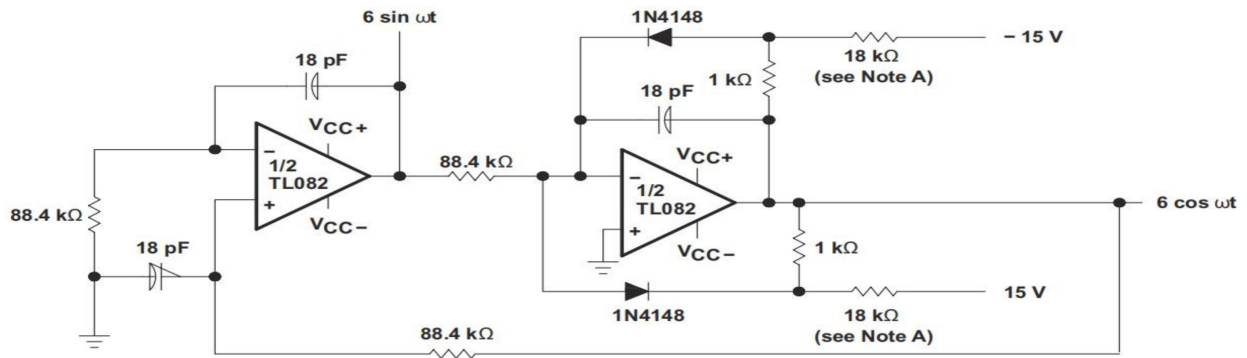


Figure 1. Schematic for Inverting Amplifier



These resistor values may be adjusted for a symmetrical output

Figure 2. 100 kHz quadruple oscillator

Typical Characteristic

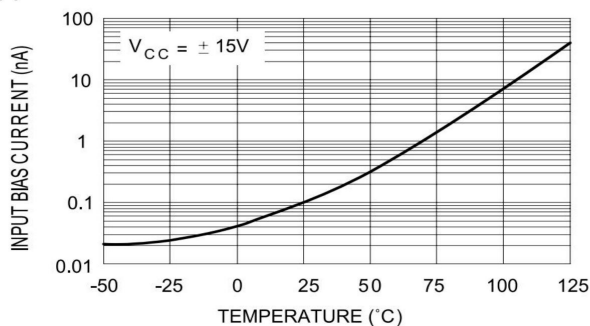


Figure 3. Input bias current vs free air temperature

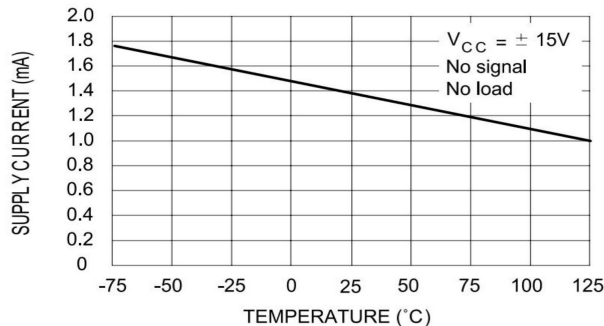


Figure 4. Supply current per amplifier vs free air temperature

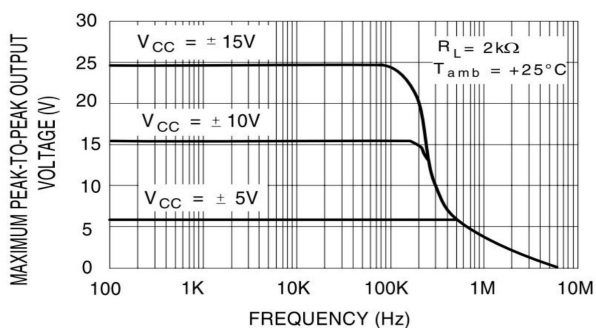


Figure 5. Maximum peak-to-peak output voltage vs frequency

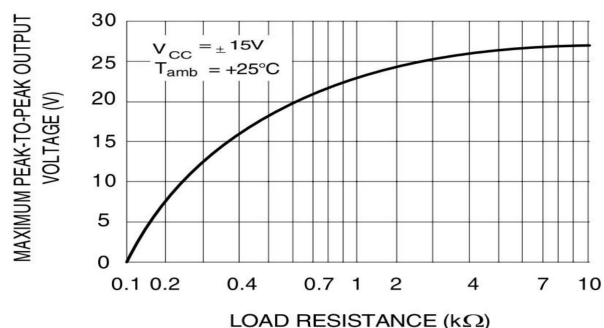


Figure 6. Maximum peak-to-peak output voltage vs load resistance

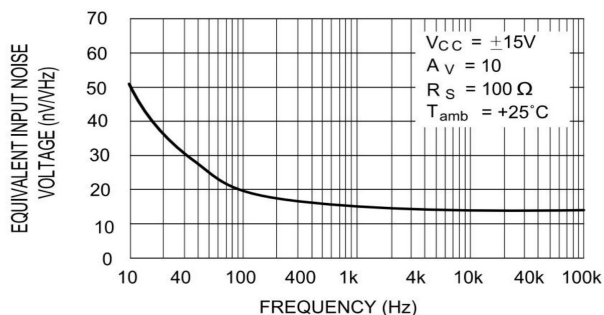


Figure 7. Equivalent input noise voltage vs frequency

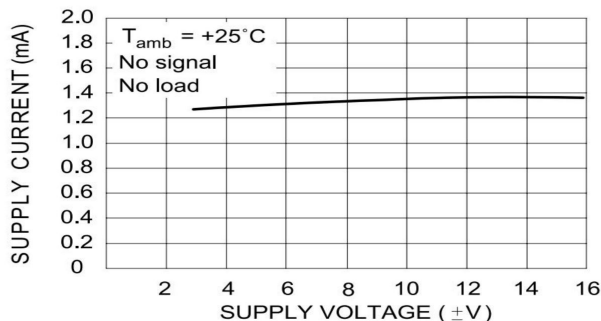
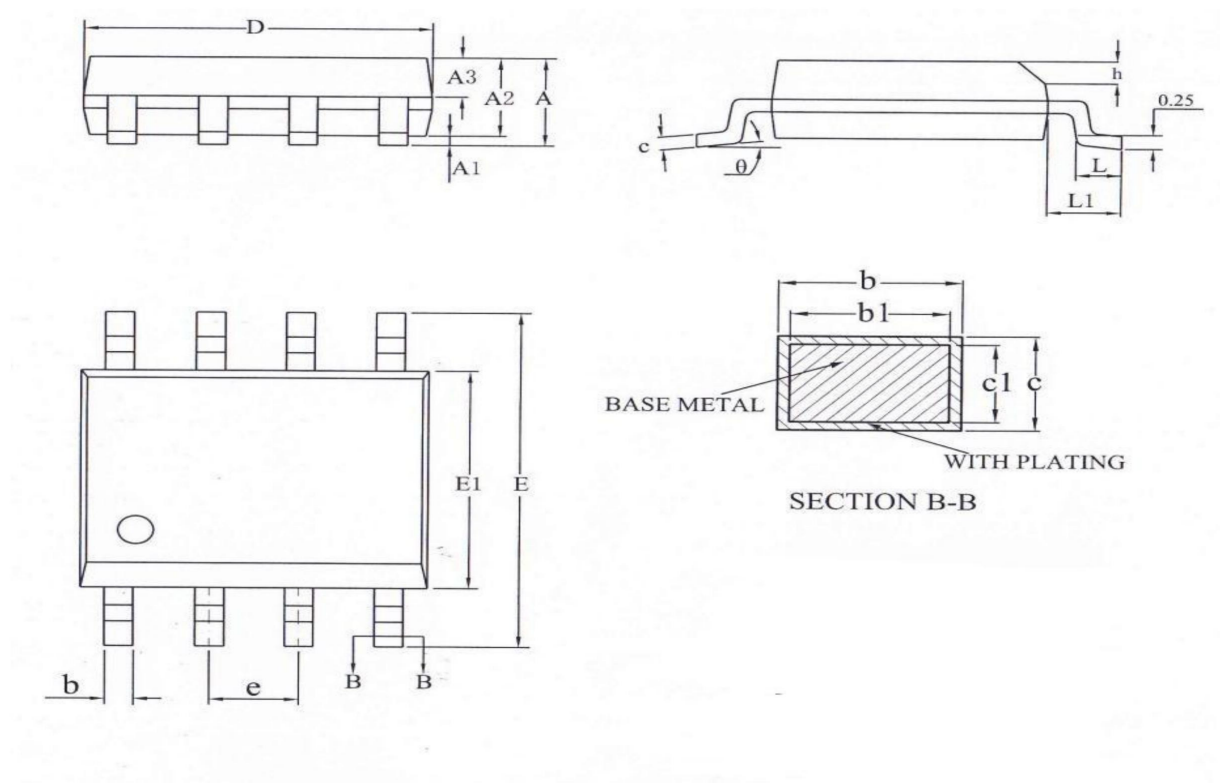


Figure 8. Supply current per amplifier vs Supply voltage

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°