

钍地半导体
Tudi Semiconductor

Product Specification

TUDI-AD741

Low Cost,High Accuracy IC Op Amps

网址 www.sztdbdt.com

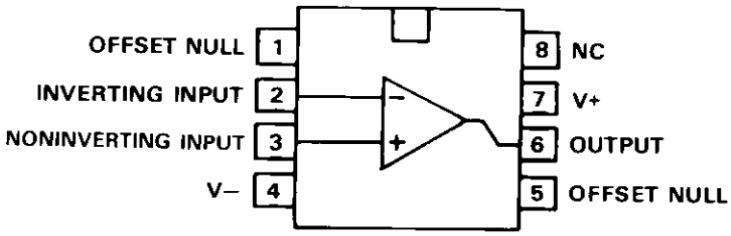
用芯智造·卓越品质

semiconductor device manufacturer

- Design
- research and development
- production
- and sales

FEATURES

● Precision Input Characteristics
-Low V_{os}:0.5 mV max(L)
-Low V_{os} Drift:5μV/℃ max(L)
-Low I_b:50 nA max(L)
-Low I_{os}:5 nA max(L)
-High CMRR:90 dB min(K,L)
● High Output Capability
-A_{OL} =25,000 min,1 kΩ Load (J,S)
-T_{min} to T_{max}
-Vo=±10 V min,1 kΩ Load (J,S)



DIP8

DESCRIPTION

The AD741 Series are high performance mono-lithic operational amplifiers.All the devices feature full short circuit protection and internal compensation.
The AD741J,AD741K,AD741L,and AD741S are specially tested and selected versions of the standard AD741 operational amplifier.Improved processing and additional elec-trical testing guarantee the user precision performance at a very-low cost.The AD741J,K and L substantially increase overall accuracy over the standard AD741C by providing maximum limits on offset voltage drift and significantly reducing the errors due to offset voltage,bias current,offset current,voltage gain,power supply rejection,and common-mode rejection.For exam-ple,the AD741L features maximum offset voltage drift of5μV℃,offset voltage of 0.5mV max,offset current of 5 nA max,bias current of 50 nA max,and a CMRR of 90 dB min.The AD741S offers guaranteed performance over the extended temperature range of -55℃ to+125℃,with max offset voltage drift of 15μV/℃,max offset voltage of 4 mV,max offset cur-rent of 25nA,and a minimum CMRR of 80 dB.
The AD741J offer the user the additional ad-vantages of high guaranteed outputcurrent and gain at low val-ues of load impedance.The AD741J guarantees a minimum gain of 25,000 swinging ±10V into a 1 kΩ load from 0 to +70℃.
All devices feature full short circuit protection,high gain,high common-mode range,and internal compensation.The AD741J,K and L are specified for operation from 0 to +70℃,and are available in the mini-DIP package.

ABSOLUTE MAXIMUM RATINGS

Absolute Maximum Ratings	AD741J,L	AD741C
Supply Voltage	±22V	±18V
Internal Power Dissipation	500 mW[1]	500 mW
Differential Input Voltage	±30V	±30V
Input Voltage	±15V	±15V
Storage Temperature Range	-65℃to +150℃	-65℃to +150℃
Lead Temperature (Soldering,60 sec)	+300℃	+300℃
Output Short Circuit Duration	Indefinite[2]	Indefinite

NOTES
(1)Rating applies for case temperature to +125℃. Derate TO-99 linearity at 6.5 mW/℃ for ambient temperatures above +70℃.
(2)Rating applies for shorts to ground or either supply at case temperatures to+125℃ or ambient temperatures to +75℃.

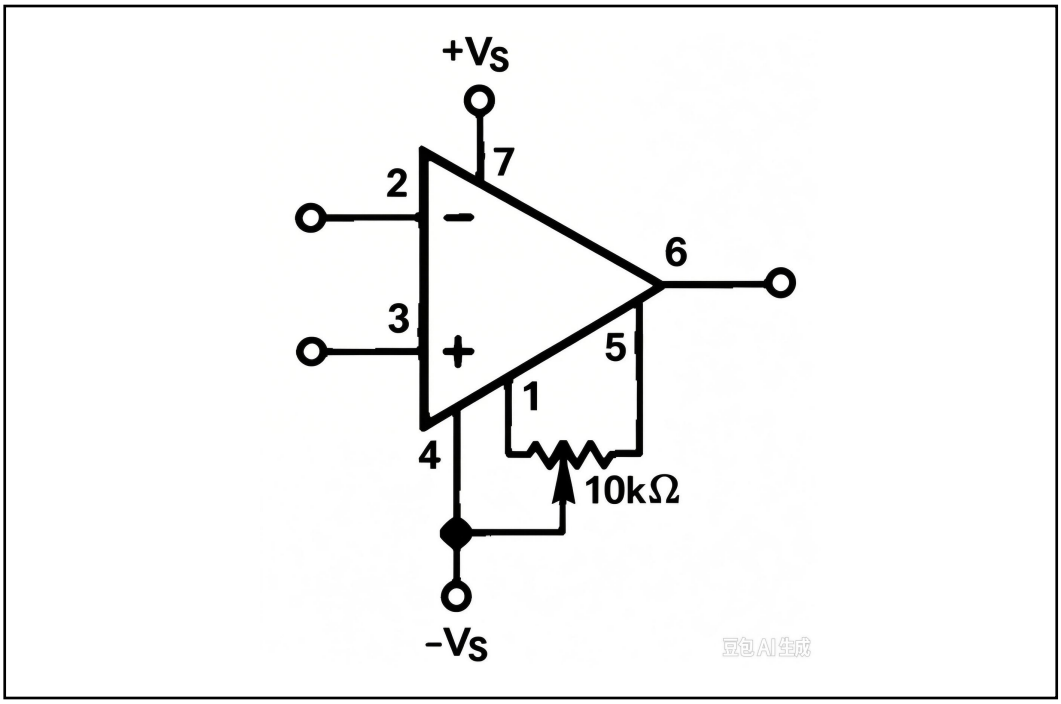


Figure 1.Standard Nulling Offset Circuit

SPECIFICATIONS

(typical @+25℃ and±15V dc,unless otherwise specified)

Model	AD741C			AD741J			AD741L			Units
	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
OPEN-LOOP GAIN										
RL=1kS,Vo=±10V				50,000	200,000					V/V
RL=2kΩ,Vo=±10V	20,000	200,000					50,000	200,000		V/V
TA=min to max RL=2kΩ	15,000			25,000			25,000			V/V
OUTPUT CHARACTERISTICS										
Voltage @RL=1kΩ,TA=minto max				±10	±13		±10	±13		V
Voltage @RL=2 kΩ,TA=min to max	±10	± 13						25		V
Short Circuit Current		25			25					mA
FREQUENCY RESPONSE										
Unity Gain,Small Signal		1						1		MHz
Full Power Response		10			10			10		kHz
Slew Rate		0.5			0.5			0.5		V/μs
Transient Response (UnityGain)Rise Time CL ≤10Vp-p		0.3			0.3			0.3		μs
Overshoot		5.0			5.0			5.0		%
INPUT OFFSET VOLTAGE										
Initial,Rs≤10 kΩ, Adjust to Zero		1.0	6.0		1.0	3.0		0.2	0.5	mV
TA=min to max		1.0	7.5			4.0			1.0	mV
Average vs.Temperature (Untrimmed)						20		2.0	5.0	μV /℃
vs.Supply, TA=min to max					30	100		5	15.0	μV/V
INPUT OFFSET CURRENT										
Initial		20	200		5	50		2	5	nA
TA=min to max		40	300			100			10	nA
Average vs.Temperature					0.1			0.02	0.1	nA/℃

Model	AD741C			AD741J			AD741L			Units
	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
INPUT BIAS CURRENT										
Initial		80	500		40	200		30	50	nA
TA=min to max		120	800			400			100	nA
Average vs.Temperature					0.6			0.6	1.0	nA/℃
INPUT IMPEDANCE										
DIFFERENTIAL	0.3	2.0			1.0			2		MΩ
INPUT VOLTAGE RANGE[1]										
Differential,max Safe						±30		±30		V
Common-Mode,max Safe	±12	±13			± 15			± 15		V
Common-Mode Rejection,Rs=≤10kΩ,TA =min tomax,VIN=±12V	70	90		80	90		90	100		dB
POWER SUPPLY										
Rated Performance		±15			± 15			± 15		V
Operating				±5		±18	±5		±22	V
Power Supply RejectionRatio		30	150					20		μV/V
Quiescent Current		1.7	2.8		2.2	3.3		1.7	2.8	mA
Power Consumption		50	85		50	85		50	85	mW
TA=min										mW
TA=max										mW
TEMPERATURE RANGE										
Operating RatedPerformance	0		+70	0		+70	0		+70	℃
Storage	-65		+150	-65		+150	-65		+150	℃

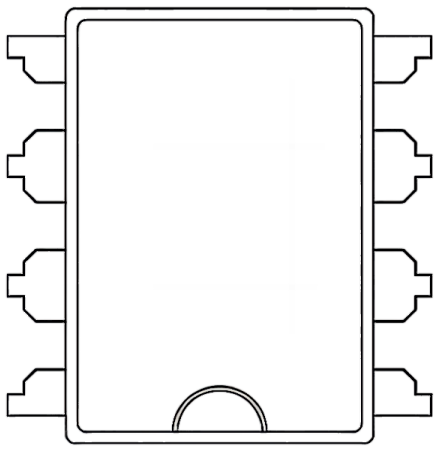
NOTES： (1) For supply voltages lessthan±15 V, the absolute maximum input voltage is equal to the supply voltage.

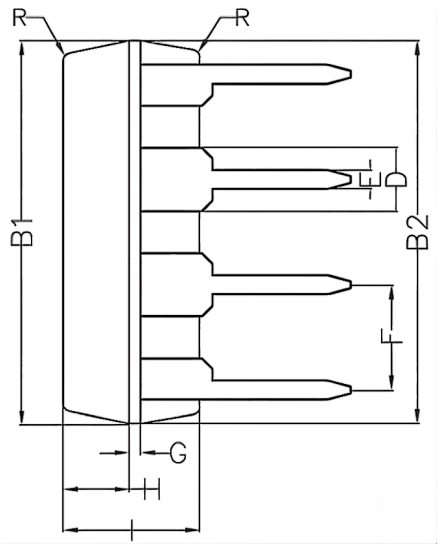
Specifications subject to change without notice.
All min and max specifications are guaranteed. Specifications shown in boldface are tested on all production units at final electrical test. Results from those tests are used to calculate outgoing quality levels.

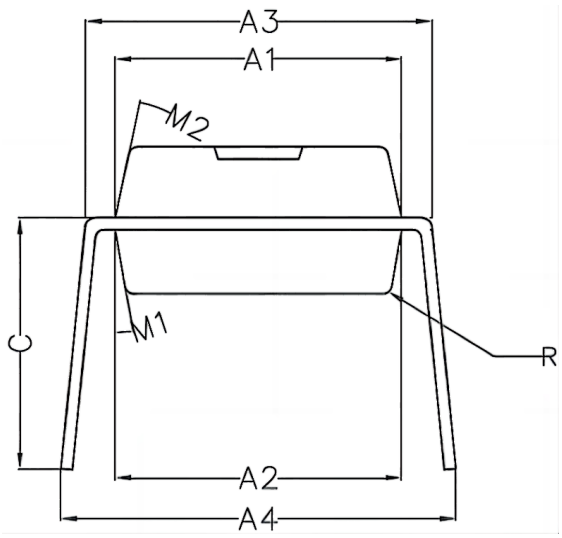
Order information

Order Number	Package	Package Quantity	Marking On The park	Temperature
AD741CNZ-TUDI	DIP8	Tube,50,A box of 2000	AD741CNZ	0°C to+70°C
AD741JNZ-TUDI	DIP8	Tube,50,A box of 2000	AD741JNZ	
AD741LNZ-TUDI	DIP8	Tube,50,A box of 2000	AD741LNZ	

Package DIP8







Symbol	Min	Non	Max
A1	6.28	6.33	6.38
A2	6.33	6.38	6.43
A3	7.52	7.62	7.72
A4	7.80	8.40	9.00
B1	9.15	9.20	9.25
B2	9.20	9.25	9.30
C		5.57	
D		1.52	
E	0.43	0.45	0.47
F		2.54	
G		0.25	
H	1.54	1.59	1.64
工	3.22	3.27	3.32
R		0.20	
M1	9°	10°	11°
M2	11°	12°	13°

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