

# $\mu$ PC151 / 741

## General Purpose Operational Amplifiers

### GENERAL DESCRIPTION

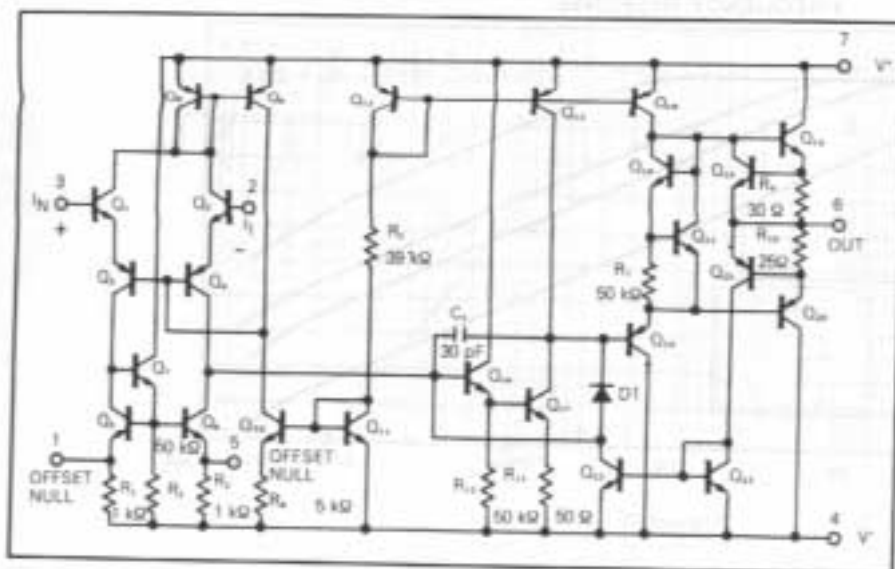
The  $\mu$ PC151 and 741 are general purpose operational amplifiers having internal frequency compensating circuits. It is intended for a wide range of analog applications. High common mode voltage range and no latch up tendencies make this amplifier ideal for use as a voltage follower.

Two kinds of ICs are available according to reliability, the  $\mu$ PC151 for industry, the  $\mu$ PC741 for commercial.

### FEATURES

- Internal Frequency Compensation
- Short Circuit Protection
- Offset Voltage Null Capability
- Large Common Mode and Differential Voltage Range
- No Latch Up
- $\mu$ A741 Direct Replacement

### EQUIVALENT CIRCUIT



### ORDERING INFORMATION

$\mu$ PC151A



8 pin Metal Can Package

$\mu$ PC151D



8 pin Ceramic DIP  
(Dual In-Line Package)

$\mu$ PC151C/ $\mu$ PC741C



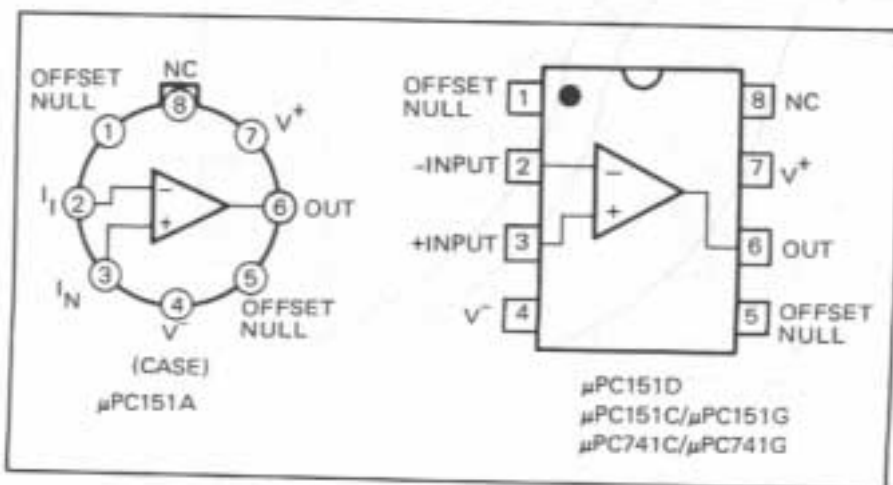
8 pin Plastic Molded DIP  
(Dual In-Line Package)

$\mu$ PC151G/ $\mu$ PC741G



8 pin Plastic Molded Flat Package  
(MINI FLAT IC)

### CONNECTION DIAGRAM (Top View)



# ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

PARAMETER			μPC151	μPC741	UNIT
Voltage between V <sup>+</sup> and V <sup>-</sup>			36	36	V
Power Dissipation*	A or D Package		500	—	mW
	C Package		350	350	
	G Package		440	440	
Differential Input Voltage			±30	±30	V
Input Voltage (Note 1)			±15	±15	V
Output Short Circuit Duration			Indefinite	Indefinite	s
Voltage between Offset-Null and V <sup>-</sup>			±0.5	±0.5	V
Operating Temperature Range	A or D Package		-20 to +80	—	°C
	C or G Package		-20 to +70	0 to +70	
Storage Temperature Range	A Package		-65 to +175	—	°C
	D Package		-55 to +150	—	
	C or G Package		-55 to +125	-55 to +125	

Note 1: For supply voltages less than ±15 V, the absolute maximum input voltage is equal to the supply voltage.

\* See thermal information in chapter 11.

# ELECTRICAL CHARACTERISTICS (Ta = 25°C, V<sup>±</sup> = ±15 V)

CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Input Offset Voltage		1.0	6.0	mV	R <sub>S</sub> ≤ 10 kΩ
Input Offset Current		20	200	nA	
Input Bias Current		80	500	nA	
Large Signal Voltage Gain	25,000	200,000			R <sub>L</sub> ≥ 2 kΩ, V <sub>O</sub> = ±10 V
Offset Voltage Adjustable Range		±15		mV	V <sub>R1</sub> = 10 kΩ
Supply Current		1.5	2.8	mA	
Power Consumption		45	85	mW	
Common Mode Rejection Ratio	70	90		dB	R <sub>S</sub> ≤ 10 kΩ
Supply Voltage Rejection Ratio		30	150	μV/V	R <sub>S</sub> ≤ 10 kΩ
Output Voltage Swing	±12	±14		V	R <sub>L</sub> ≥ 10 kΩ
Output Voltage Swing	±10	±13		V	R <sub>L</sub> ≥ 2 kΩ
Output Short Circuit Current	5	20		mA	R <sub>L</sub> = 0

Offset Voltage Null Circuit

