

# μPC151 / 741

## General Purpose Operational Amplifiers

勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

### GENERAL DESCRIPTION

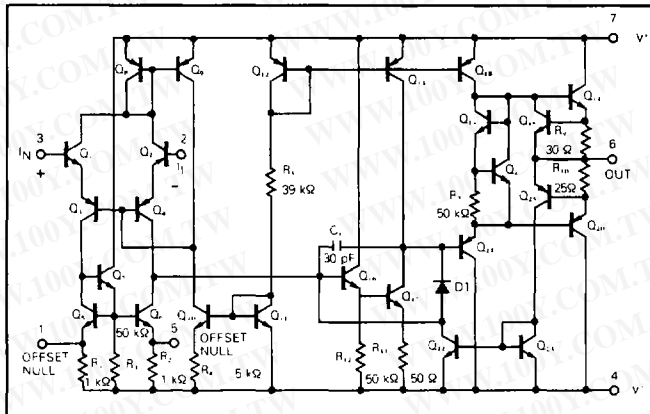
The μPC151 and 741 are general purpose operational amplifiers having internal frequency compensating circuits. It is intended for a wide range of analog applications. High common mode voltage range and no latch up tendencies make this amplifier ideal for use as a voltage follower.

Two kinds of ICs are available according to reliability, the μPC151 for industry, the μPC741 for commercial.

### FEATURES

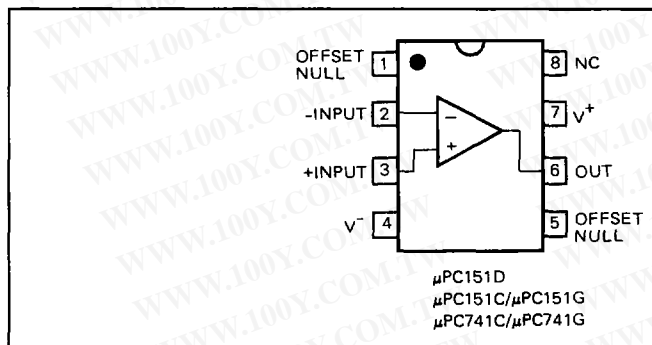
- Internal Frequency Compensation
- Short Circuit Protection
- Offset Voltage Null Capability
- Large Common Mode and Differential Voltage Range
- No Latch Up
- μA741 Direct Replacement




### EQUIVALENT CIRCUIT



### ORDERING INFORMATION

### CONNECTION DIAGRAM (Top View)



 μPC151D 8 pin Ceramic DIP (Dual In-Line Package)
 μPC151C/μPC741C 8 pin Plastic Molded DIP (Dual In-Line Package)
 μPC151G/μPC741G 8 pin Plastic Molded Flat Package (MINI FLAT IC)

**ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)**

PARAMETER			μPC151	μPC741	UNIT
Voltage between V <sup>+</sup> and V <sup>-</sup>			36	36	V
Power Dissipation*	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	D	Package	-20 to +80	—	°C
	C or G	Package	-20 to +70	0 to +70	
Storage Temperature Range	D	Package	-55 to +150	—	°C
	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.

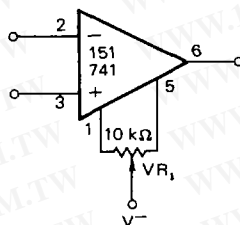
\* See thermal information in chapter 11.

**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

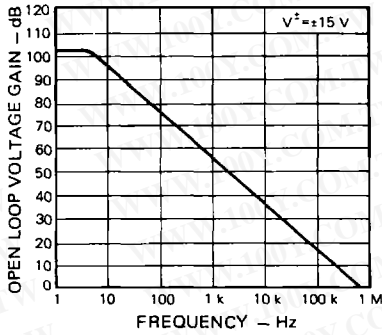
5

Offset Voltage Null Circuit

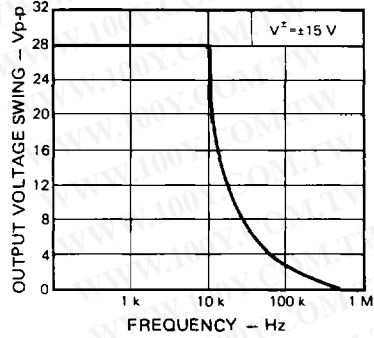


TYPICAL PERFORMANCE CHARACTERISTICS ( $T_a=25^\circ\text{C}$ )

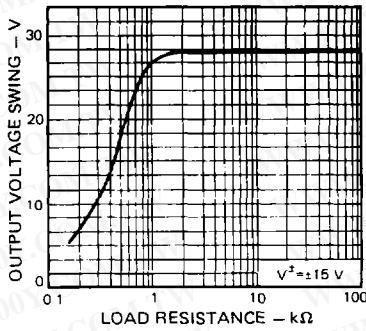
OPEN LOOP FREQUENCY RESPONSE



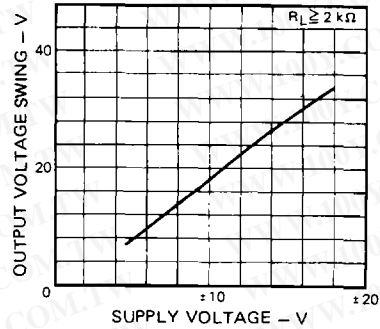
LARGE SIGNAL FREQUENCY RESPONSE



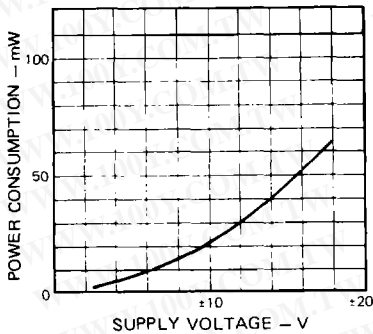
OUTPUT VOLTAGE SWING



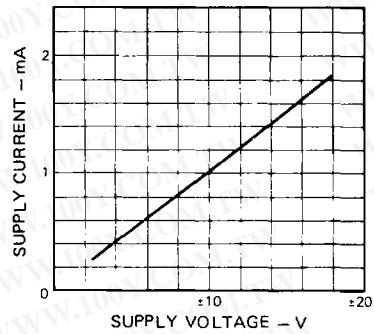
OUTPUT VOLTAGE SWING

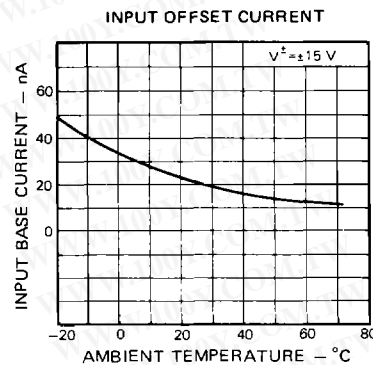
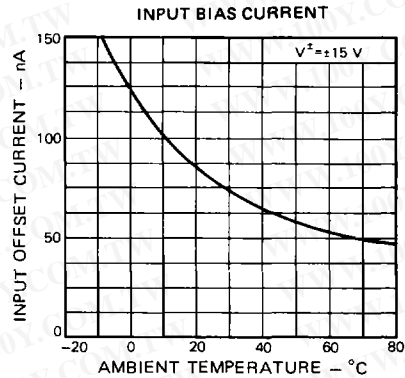
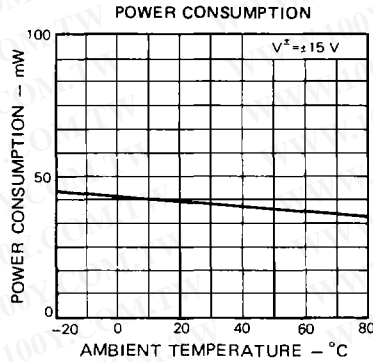
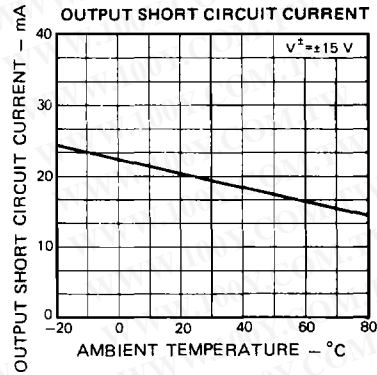
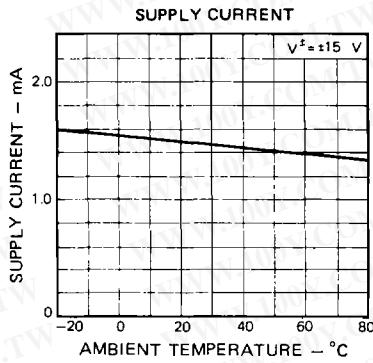


POWER CONSUMPTION



SUPPLY CURRENT





5

勝特力材料 886-3-5753170  
勝特力电子(上海) 86-21-34970699  
勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)