

μPC151 / 741

General Purpose Operational Amplifiers

GENERAL DESCRIPTION

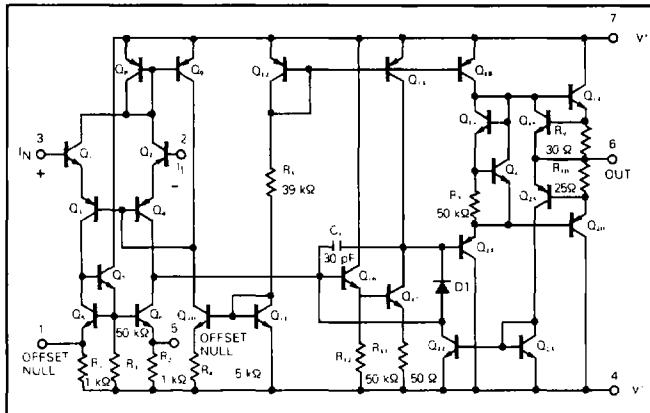
The μPC151 and 741 are general purpose operational amplifiers having internal frequency compensating circuits. It is intended for a wide range of analog applications. High common mode voltage range and no latch up tendencies make this amplifier ideal for use as a voltage follower.

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

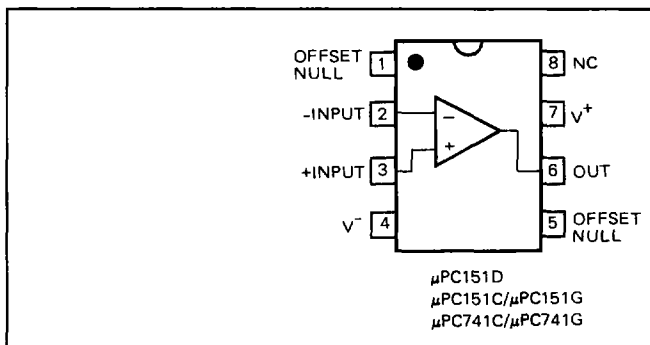
FEATURES

- 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



CONNECTION DIAGRAM (Top View)



ORDERING INFORMATION

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

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

PARAMETER			μPC151	μPC741	UNIT
Voltage between V ⁺ and V ⁻			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 ⁻			±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.

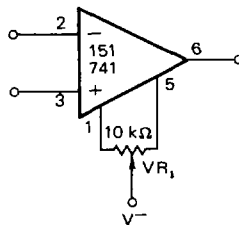
* See thermal information in chapter 11.

ELECTRICAL CHARACTERISTICS (Ta = 25°C, V[±] = ±15 V)

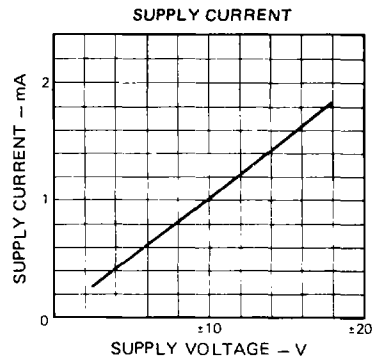
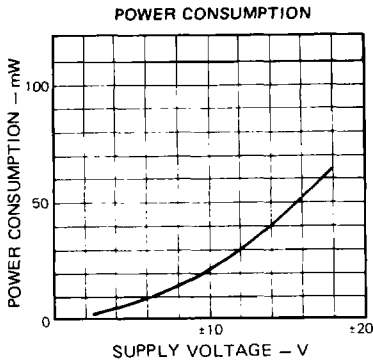
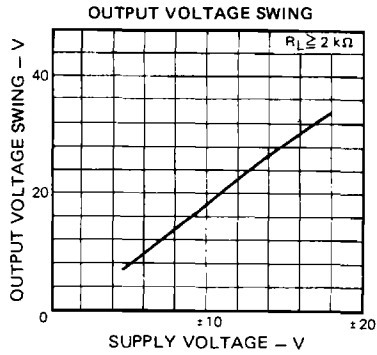
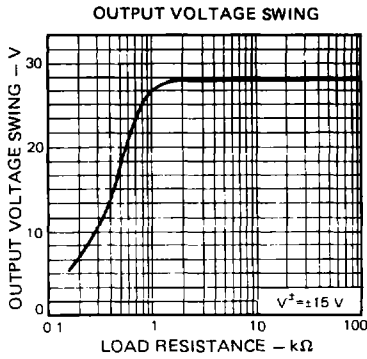
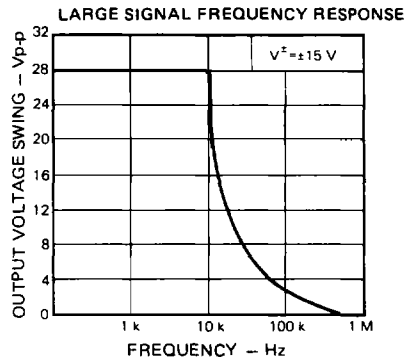
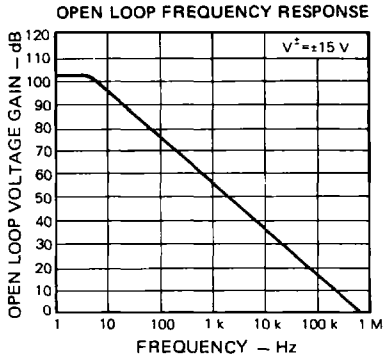
CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Input Offset Voltage		1.0	6.0	mV	R _S ≤ 10 kΩ
Input Offset Current		20	200	nA	
Input Bias Current		80	500	nA	
Large Signal Voltage Gain	25,000	200,000			R _L ≥ 2 kΩ, V _O = ±10 V
Offset Voltage Adjustable Range		±15		mV	V _{R1} = 10 kΩ
Supply Current		1.5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

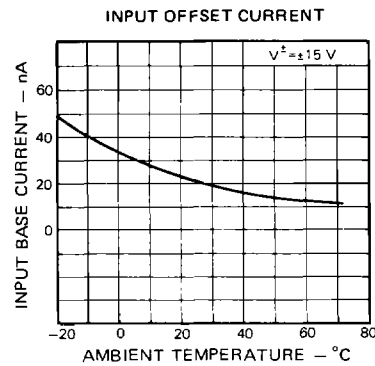
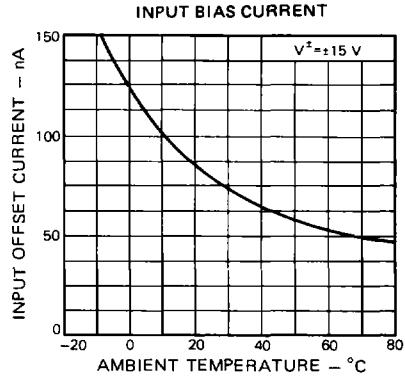
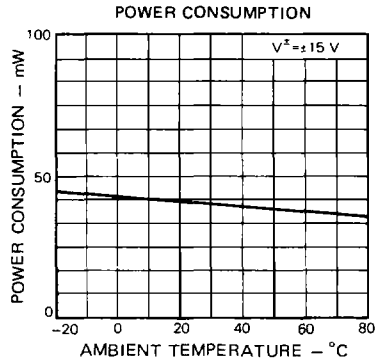
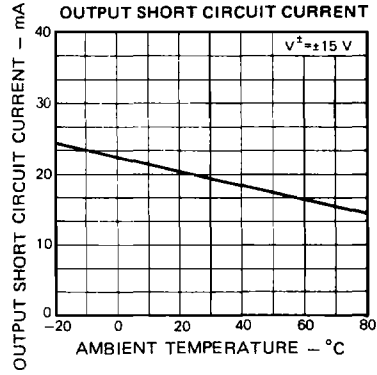
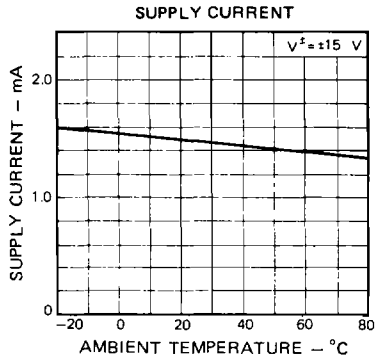
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Offset Voltage Null Circuit



TYPICAL PERFORMANCE CHARACTERISTICS (Ta=25 °C)





5