

μPC151 / 741

General Purpose Operational Amplifiers

GENERAL DESCRIPTION

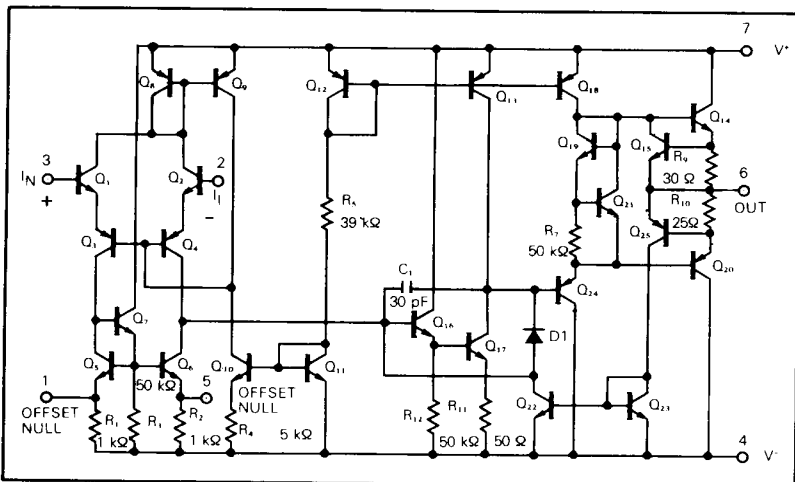
The μPC151 and 741 are general purpose operational amplifiers having internal frequency compensating circuits. It is intended for a wide range of analog applications. High common mode voltage range and no latch up tendencies make this amplifier ideal for use as a voltage follower.

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



ORDERING INFORMATION

μPC151A



8 pin Metal Can Package

μPC151D



8 pin Ceramic DIP
(Dual In-Line Package)

μPC151C/μPC741C



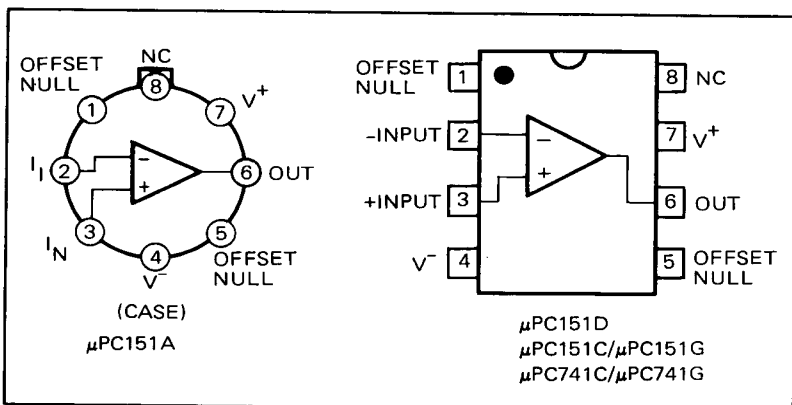
8 pin Plastic Molded DIP
(Dual In-Line Package)

μPC151G/μPC741G



8 pin Plastic Molded Flat Package
(MINI FLAT IC)

CONNECTION DIAGRAM (Top View)



ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

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

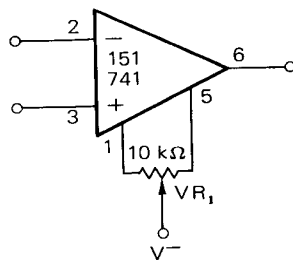
Note 1: For supply voltages less than ±15 V, the absolute maximum input voltage is equal to the supply voltage.

* See thermal information in chapter 11.

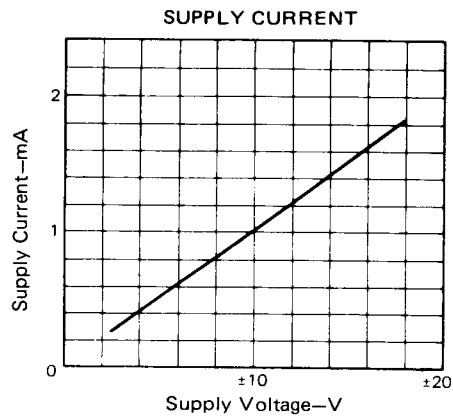
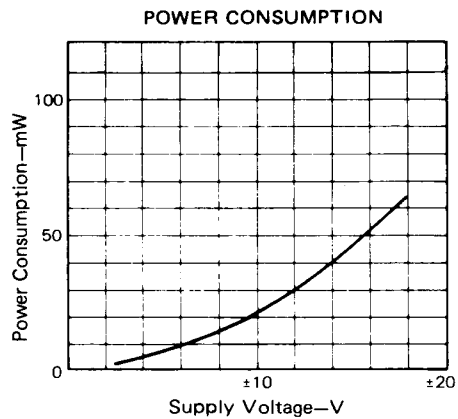
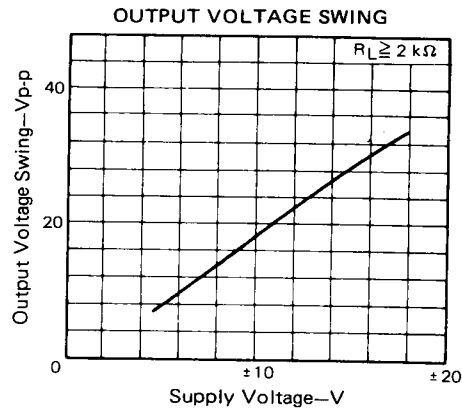
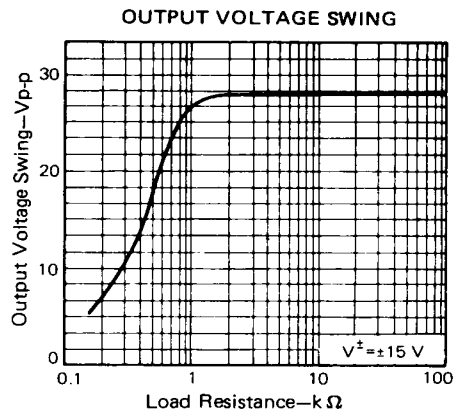
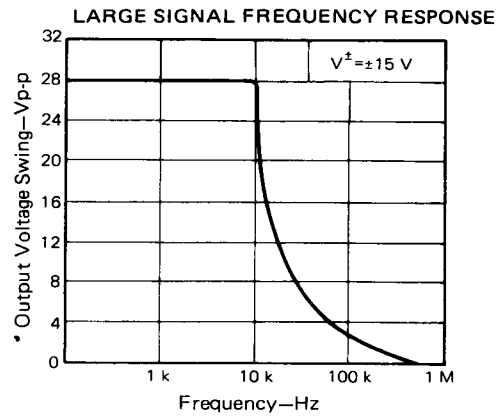
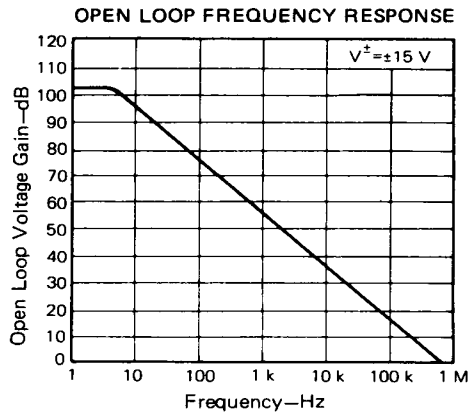
ELECTRICAL CHARACTERISTICS (Ta = 25°C, V[±] = ±15 V)

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

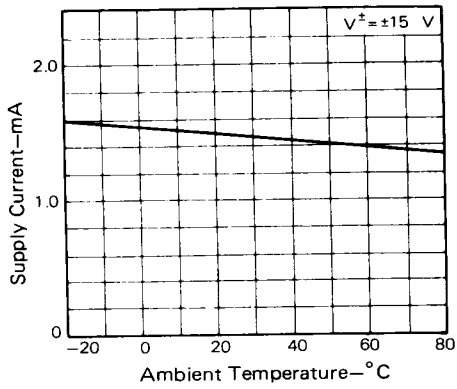
Offset Voltage Null Circuit



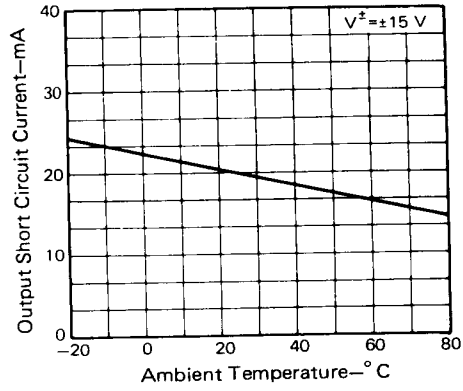
TYPICAL PERFORMANCE CHARACTERISTICS (Ta=25 °C)



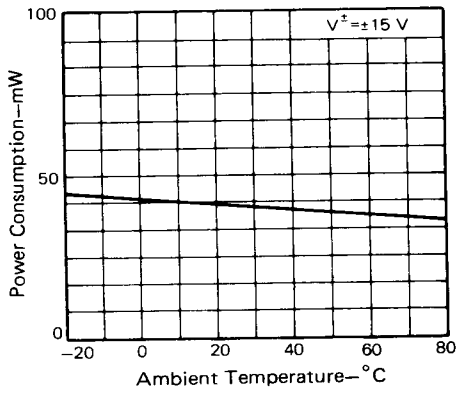
SUPPLY CURRENT



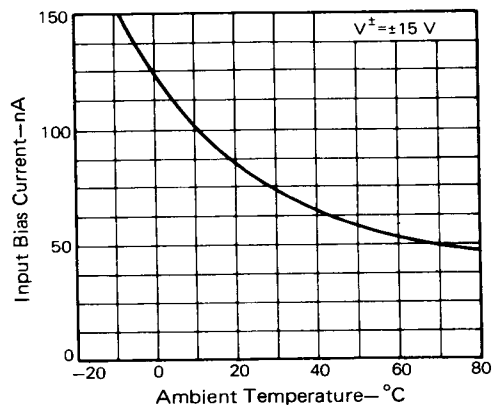
OUTPUT SHORT CIRCUIT CURRENT



POWER CONSUMPTION



INPUT BIAS CURRENT



INPUT OFFSET CURRENT

