

General Purpose Dual Operational Amplifiers

GENERAL DESCRIPTION

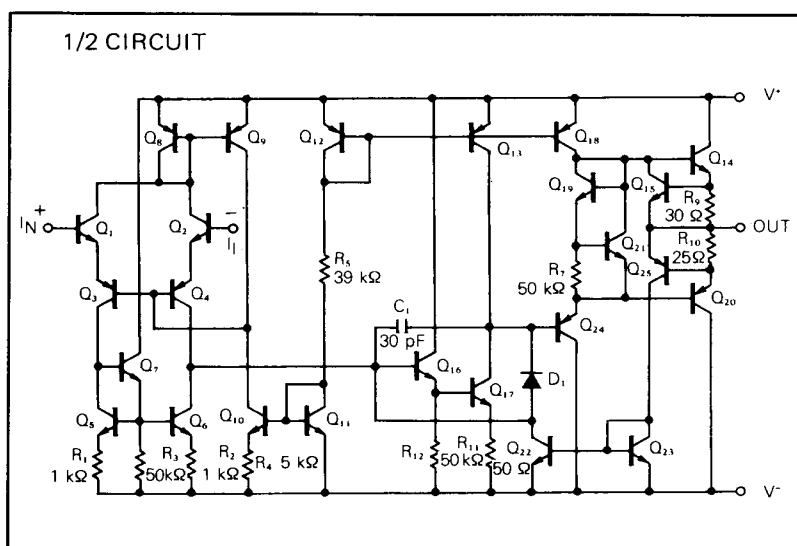
The μ PC251 and 1458 are dual general purpose operational amplifiers having internal frequency compensating circuits. It is intended for a wide range of analog applications. High common mode voltage range and no latch up tendencies make this amplifier ideal for use as a voltage follower.

Two kinds of ICs are available according to reliability, the μ PC251 for industry, the μ PC1458 for commercial.

FEATURES

- Dual μ PC151/741 Internally Frequency Compensated Operational Amplifier
- Short Circuit Protection
- Large Common Mode and Differential Input Voltage
- No Latch Up
- MC1458 Direct Replacement

EQUIVALENT CIRCUIT



ORDERING INFORMATION

μ PC251D



8 pin Ceramic DIP
(Dual In-Line Package)

μ PC251C/ μ PC1458C



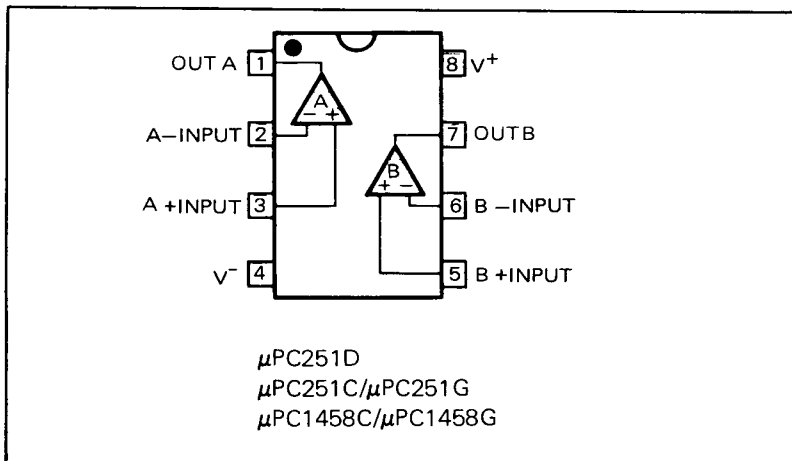
8 pin Plastic Molded DIP
(Dual In-Line Package)

μ PC251G/ μ PC1458G



8 pin Plastic Molded Flat
Package (MINI FLAT IC)

CONNECTION DIAGRAM (Top View)



ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

PARAMETER			μ PC251	μ PC1458	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
Operating Temperature Range	D	Package	-20 to $+80$	—	$^\circ\text{C}$
	C or G	Package	-20 to $+70$	0 to $+70$	
Storage Temperature Range	D	Package	-55 to $+150$	—	$^\circ\text{C}$
	C or G	Package	-55 to $+125$	-55 to $+125$	

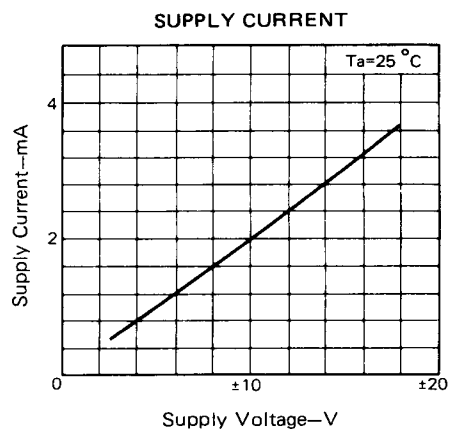
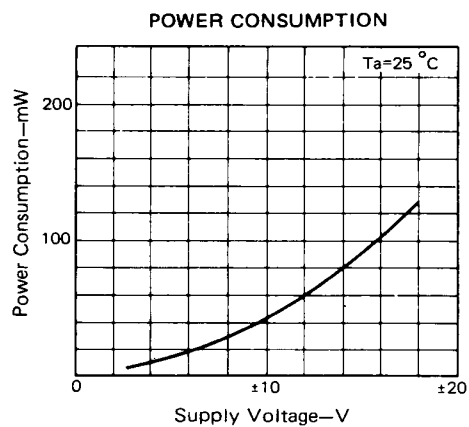
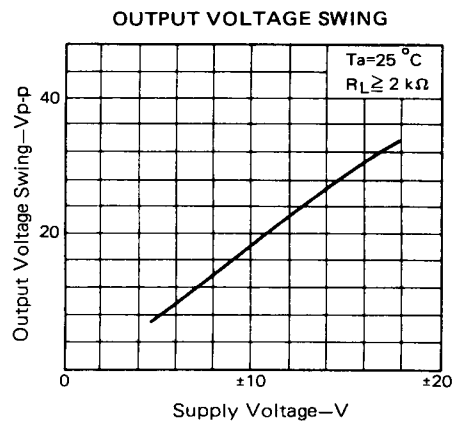
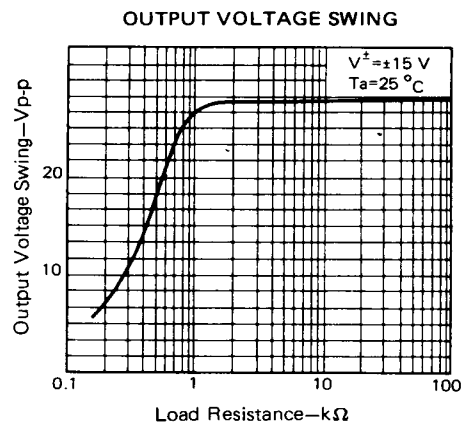
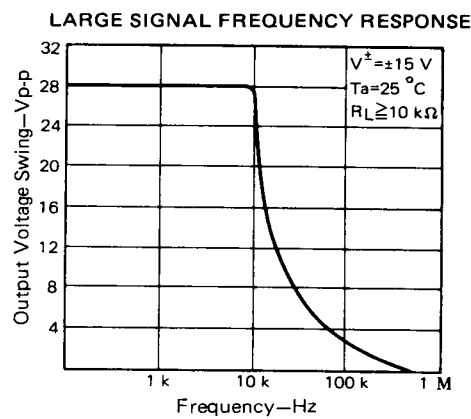
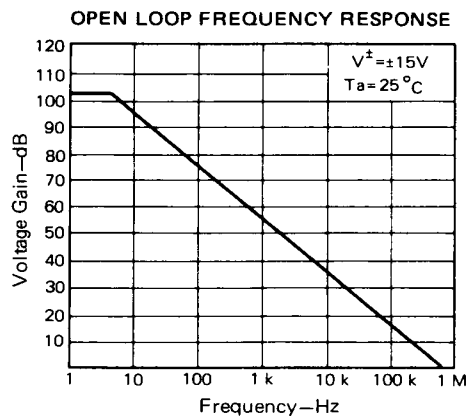
Note 1: For supply voltages less than ± 15 V, the absolute maximum input voltage is equal to the supply voltage.

* See thermal information in chapter 11.

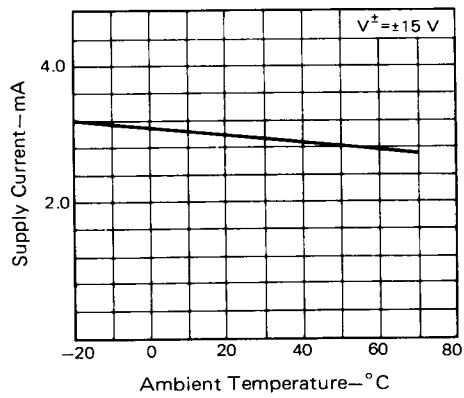
ELECTRICAL CHARACTERISTICS ($V^\pm = \pm 15$ V, $T_a = 25^\circ\text{C}$)

CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Input Offset Voltage		1.0	6.0	mV	$R_s \leq 10\text{ k}\Omega$
Average Input Offset Voltage Drift		3		$\mu\text{V}/^\circ\text{C}$	$R_s \leq 10\text{ k}\Omega$
Input Offset Current		20	200	nA	
Input Bias Current		80	500	nA	
Large Signal Voltage Gain	20,000	160,000			$R_L \geq 2\text{ k}\Omega$, $V_o = \pm 10\text{ V}$
Channel Separation		120		dB	$f = 10\text{ Hz}$, $R_L = 2\text{ k}\Omega$
Supply Current		3.0	5.6	mA	
Power Consumption		90	170	mW	
Common Mode Rejection Ratio	70	90		dB	$R_s \leq 10\text{ k}\Omega$
Supply Voltage Rejection Ratio		30	150	$\mu\text{V}/\text{V}$	$R_s \leq 10\text{ k}\Omega$
Output Voltage Swing	± 12	± 14		V	$R_L \geq 10\text{ k}\Omega$
Output Voltage Swing	± 10	± 13		V	$R_L \geq 2\text{ k}\Omega$
Input Impedance	0.3	1.0		M Ω	

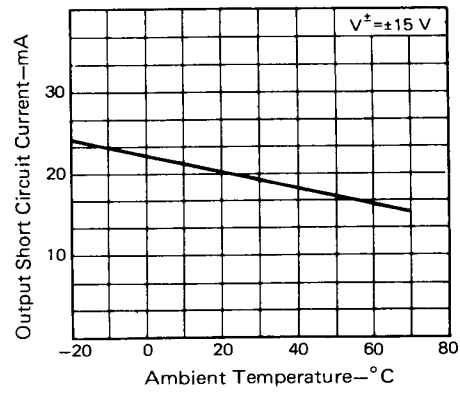
TYPICAL PERFORMANCE CHARACTERISTICS (Ta=25 °C)



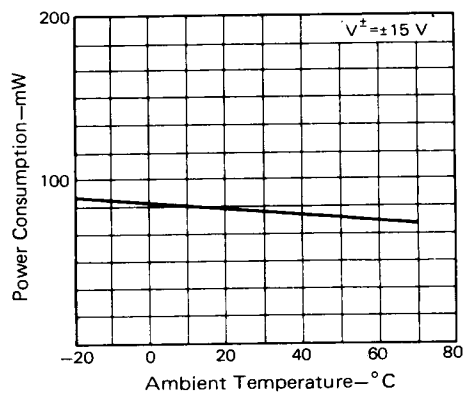
$T_{CC} - T_a$ CHARACTERISTICS



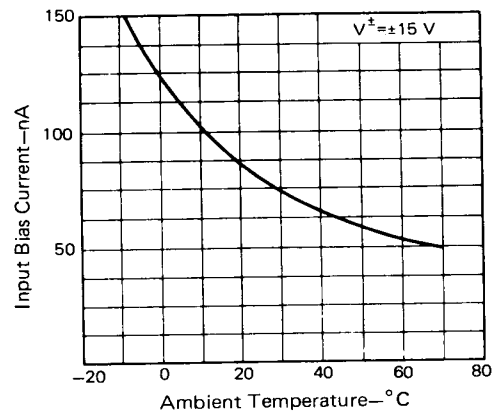
OUTPUT SHORT CIRCUIT CURRENT



POWER CONSUMPTION



INPUT BIAS CURRENT



INPUT OFFSET CURRENT

