

# $\mu$ PC251 / 1458

## General Purpose Dual Operational Amplifiers

### GENERAL DESCRIPTION

The  $\mu$ 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.

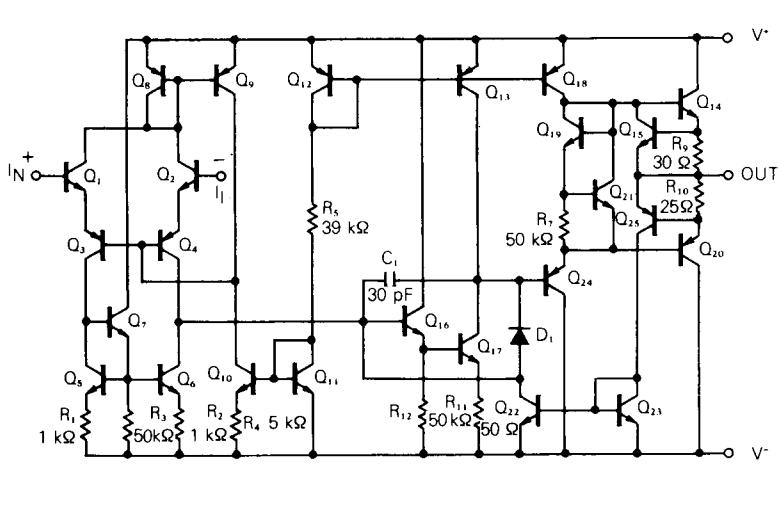
Two kinds of ICs are available according to reliability, the  $\mu$ PC251 for industry, the  $\mu$ PC1458 for commercial.

### FEATURES

- Dual  $\mu$ 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

1/2 CIRCUIT



### ORDERING INFORMATION

$\mu$ PC251D



8 pin Ceramic DIP  
(Dual In-Line Package)

$\mu$ PC251C/ $\mu$ PC1458C



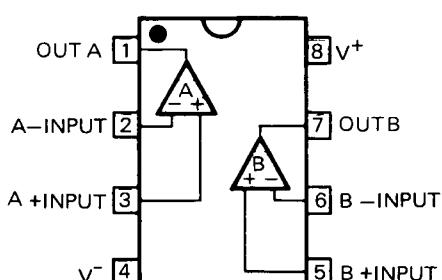
8 pin Plastic Molded DIP  
(Dual In-Line Package)

$\mu$ PC251G/ $\mu$ PC1458G



8 pin Plastic Molded Flat  
Package (MINI FLAT IC)

### CONNECTION DIAGRAM (Top View)



$\mu$ PC251D

$\mu$ PC251C/ $\mu$ PC251G

$\mu$ PC1458C/ $\mu$ PC1458G

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

PARAMETER		$\mu$ PC251	$\mu$ PC1458	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
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 (V<sup>±</sup> = ±15 V, Ta = 25°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	$\mu\text{V/V}$	$R_s \leq 10 \text{ k}\Omega$
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		MΩ	

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

