

μPC803 / 4082

J-FET Input Dual Operational Amplifiers

GENERAL DESCRIPTION

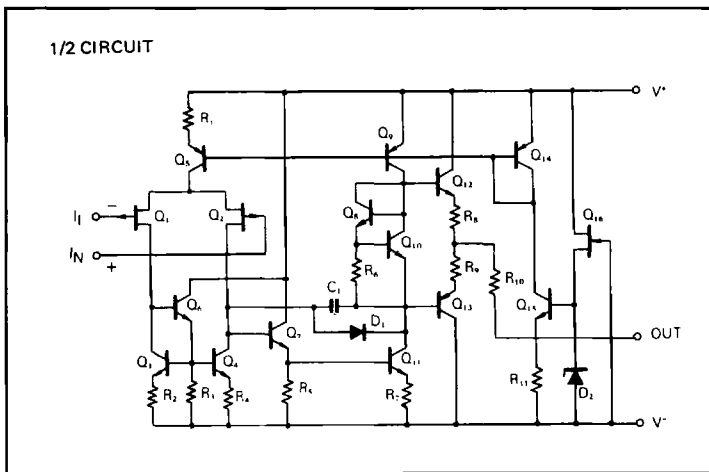
The μPC803, 4082, are dual operational amplifiers incorporating well matched ion implant P-channel JFET on the same chip with standard bipolar transistors. The key feature of these op amps are very low input bias current and high slew rate for 10 times faster than conventional general purpose op amps. By these features the μPC803, 4082 are excellent choice for wide variety of applications including integrator, active filter, pulse amp etc.

The kinds of ICs are available according to reliability, the μPC803 for industry, the μPC4082 for commercial.

FEATURES

- Wide Common-Mode and Differential Input Voltage Ranges
- Low Input Bias and Offset Currents
- Output Short-Circuit Protection
- High Input Impedance J-FET INPUT Stage
- Internal Frequency Compensation
- High Slew Rate 11 V/μs Typ.
- Latch Up Free Operation
- TL082 Direct Replacement

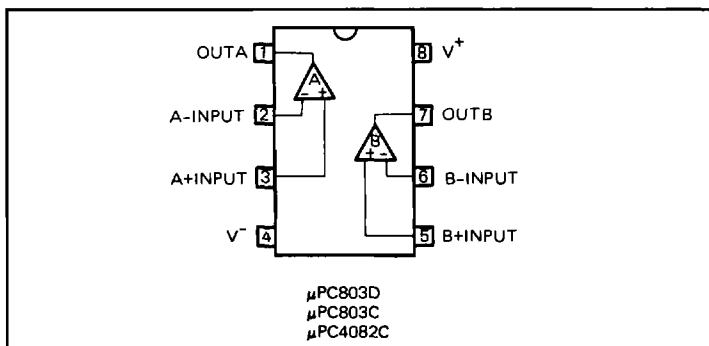
EQUIVALENT CIRCUIT



ORDERING INFORMATION

<p>μPC803D</p> <p>8 pin Ceramic DIP (Dual In-Line Package)</p>
<p>μPC803C/μPC4082C</p> <p>8 pin Plastic Molded DIP (Dual In-Line Package)</p>

CONNECTION DIAGRAM (Top View)



ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

PARAMETER		μPC803	μPC4082	UNIT
Voltage between V ⁺ and V ⁻		36	36	V
Power Dissipation*	D Package	500	—	mW
	C Package	350	350	
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 Package	-20 to +70	0 to +70	
Storage Temperature Range	D Package	-55 to +150	—	°C
	C 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 package information in chapter 11.

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

CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Input Offset Voltage		5.0	15.0	mV	Rs ≤ 50
Input Offset Current		5	200	μA	
Input Bias Current		30	400	μA	
Large Signal Voltage gain	25	200		V/mA	RL ≥ 2 kΩ, Vo = ±10 V
Supply Current		4.0	5.6	mA	Both Amplifiers
Common Mode Rejection Ratio	70	76		dB	
Supply Voltage Rejection Ratio	70	76		dB	
Output Voltage Swing	±12	±13.5		V	RL ≥ 10 kΩ
Output Voltage Swing	±10	±12		V	RL ≥ 2 kΩ
Common Mode Input Voltage Range	±10			V	
Slew Rate		11		V/μs	Av = 1
Input Equivalent Noise Voltage		25		nV/√Hz	f = 1 kHz, Rs = 100 Ω
Unity Gain Bandwidth		3		MHz	
Input Offset Voltage			20	mV	Rs ≤ 50 Ω, Ta = Topt
Temperature Coefficient of Input Offset Voltage		10		μV/°C	Ta = Topt
Input Bias Current			10	nA	Ta = Topt
Input Offset Current			5	nA	Ta = Topt
Channel Separation		120		dB	

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

