

GENERAL DESCRIPTION

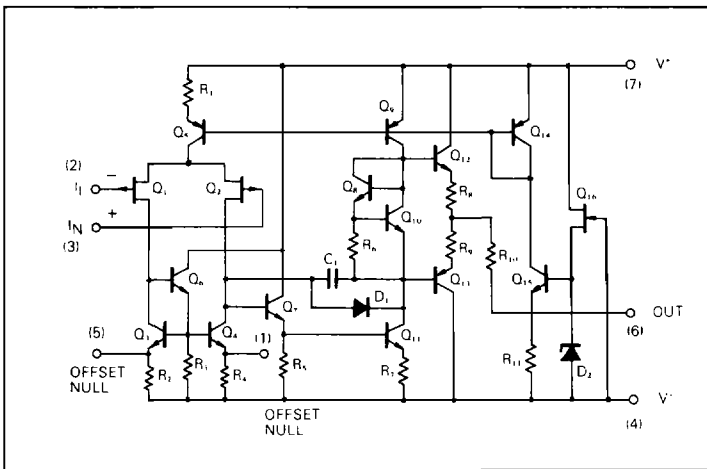
The μ PC801/4081, are single operational amplifiers incorporating well matched ion implant P-channel JFET or the same chip with standard bipolar transistors. The key feature of these op amps are very low input bias current and high slew rate ten times faster than conventional general purpose op amps. By these features μ PC801/4081 are excellent choice for wide variety of applications including integrator, active filter, pulse amp etc.

Two kinds of ICs are available according to reliability, the μ PC801 for industry, the μ PC4081 for commercial.

FEATURES

- Wide Common-Mode and Differential Input Voltage Range
- 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/ μ s Typ.
- Latch Up Free Operation
- TL081 Direct Replacement

EQUIVALENT CIRCUIT



ORDERING INFORMATION

μ PC801D



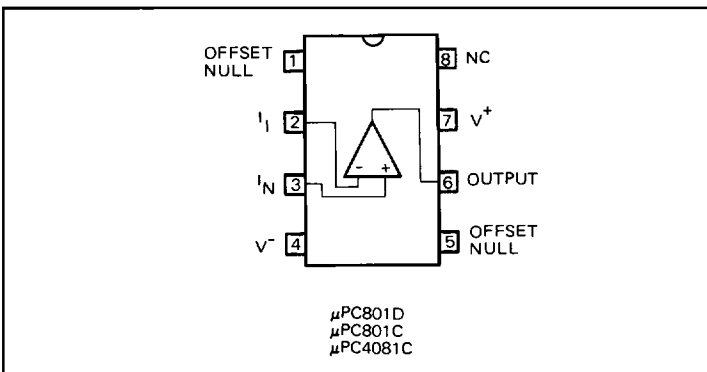
8 pin Ceramic DIP
(Dual In-Line Package)

μ PC801C/ μ PC4081C



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

CONNECTION DIAGRAM (Top View)



ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

PARAMETER			μPC801	μPC4081	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	

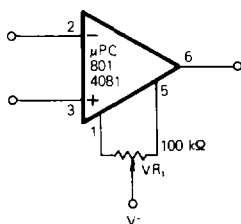
Note 1: For supply voltages less than ±15 V, the absolute maximum input voltage is equal to the supply voltage.

* See thermal information in chapter 11.

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

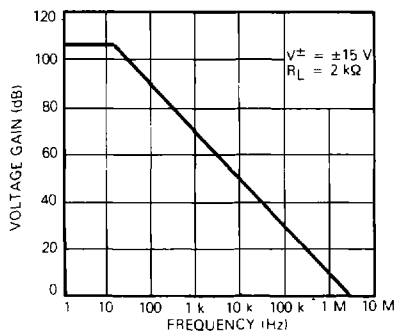
CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Input Offset Voltage		5.0	15.0	mV	R _s ≤ 50Ω
Input Offset Current		5	200	pA	
Input Bias Current		30	400	pA	
Large Signal Voltage gain	25	200		V/mV	R _L ≥ 2 kΩ, V _o = ±10 V
Supply Current		2.0	2.8	mA	
Common Mode Rejection Ratio	70	76		dB	
Supply Voltage Rejection Ratio	70	76		dB	
Output Voltage Swing	±12	±13.5		V	R _L ≥ 10 kΩ
Output Voltage Swing	±10	±12		V	R _L ≥ 2 kΩ
Common Mode Input Voltage Range	±10			V	
Slew Rate		11		V/μs	A _v = 1
Input Equivalent Noise Voltage		25		nV/√Hz	f = 1 kHz, R _s = 100Ω
Unity Gain Bandwidth		3		MHz	
Input Offset Voltage			20	mV	R _s ≤ 50 Ω, Ta = T _{opt}
Temperature Coefficient of Input Offset Voltage		10		μV/°C	Ta = T _{opt}
Input Bias Current			10	nA	Ta = T _{opt}
Input Offset Current			5	nA	Ta = T _{opt}
Channel Separation		120		dB	

Input Offset Voltage
Null Circuit

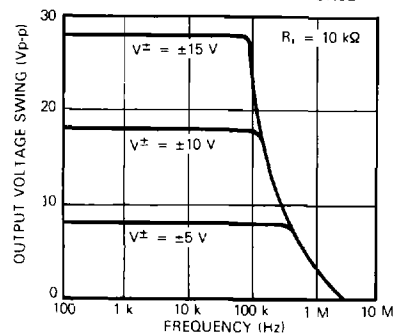


TYPICAL PERFORMANCE CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

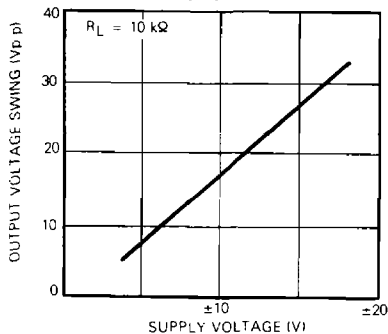
OPEN LOOP FREQUENCY RESPONSE



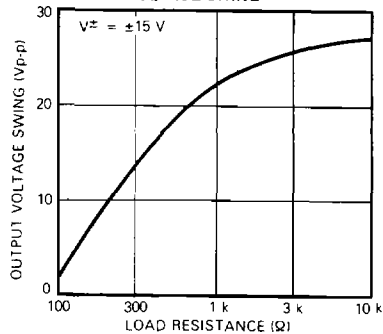
LARGE SIGNAL FREQUENCY RESPONSE



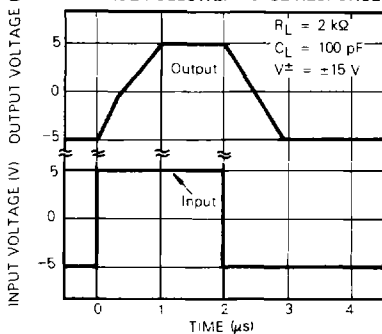
OUTPUT VOLTAGE SWING



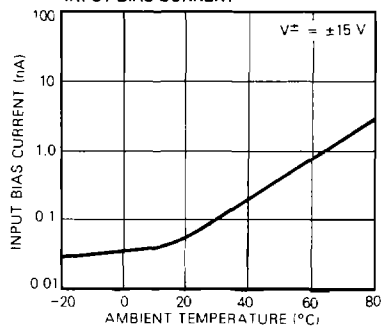
OUTPUT VOLTAGE SWING



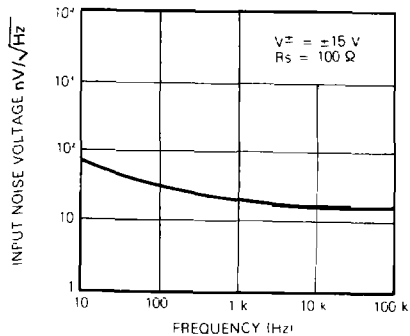
VOLTAGE FOLLOWER PULSE RESPONSE



INPUT BIAS CURRENT



INPUT EQUIVALENT NOISE VOLTAGE



SUPPLY CURRENT

