

GENERAL DESCRIPTION

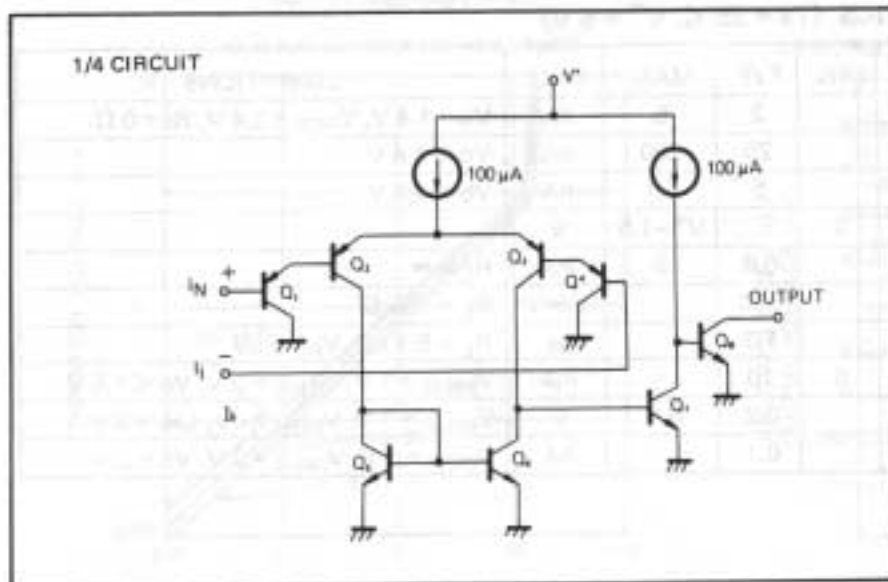
The μPC177/339 are quad comparators which are designed to operate from a single power supply over a wide range of voltages. Operation from split power supplies, is also possible and the power supply current drain is very low. Further advantage, the input common-mode voltage includes ground, even though operated from a single power supply voltage.

Two kinds of ICs are available according to reliability, the μPC177 for industry, the μPC339 for commercial.

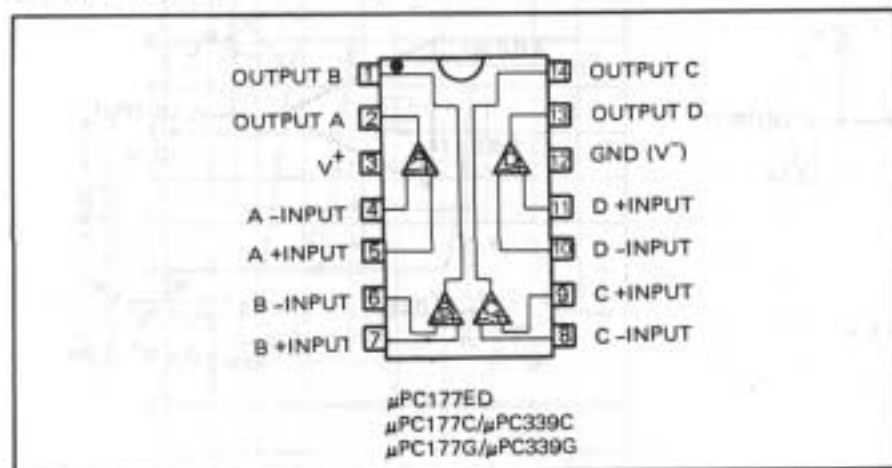
FEATURES

- Input Common-Mode Voltage Range Includes Ground
- Wide Power Supply Range
Single Supply 2 V to 36 V DC
Dual Supplies ±1 V to ±18 V DC
- Low Power Consumption
- Compatible with All Forms Logic
- Open Collector Output
- LM339 Direct Replacement

EQUIVALENT CIRCUIT



CONNECTION DIAGRAM (Top View)



ORDERING INFORMATION

μPC177ED



14 pin Ceramic DIP
(Dual In-Line Package)

μPC177C/μPC339C



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

μPC177G/μPC339G



14 pin Plastic Molded Flat Package
(MINI FLAT IC)

ABSOLUTE MAXIMUM RATINGS (T_a = 25°C)

PARAMETER		μPC177	μPC339	UNIT
Voltage between V ⁺ and V ⁻		36	36	V
Differential Input Voltage		36	36	V
Common Mode Input Voltage		-0.3 to +36	-0.3 to +36	V
Power Dissipation*	D Package	900	-	mW
	C Package	570	570	
	G Package	550	550	
Output Short Circuit to Ground		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	-20 to +80	-	°C
	C or G Package	-55 to +125	-55 to +125	

* See thermal information in chapter 11.

ELECTRICAL CHARACTERISTICS (T_a = 25°C, V⁺ = 5 V)

CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Input Offset Voltage		2	5	mV	V _o = 1.4 V, V _{REF} = 1.4 V, R _s = 0 Ω
Input Bias Current		25	250	nA	V _o ≈ 1.4 V
Input Offset Current		5	50	nA	V _o ≈ 1.4 V
Common Mode Input Voltage Range	0		V ⁺ - 1.5	V	
Supply Current		0.8	2	mA	R _L = ∞
Voltage Gain		200		V/mV	R _L = 15 kΩ
Large Signal Response Time		1.3		μs	R _L = 5.1 kΩ, V _{RL} = 5V
Output Sink Current	6	16		mA	V _{IN(-)}} = 1 V, V _{IN(+)} = 0 V, V _o ≤ 1.5 V
Saturation Voltage		0.2	0.4	V	V _{IN(-)}} = 1 V, V _{IN(+)} = 0V, I _{sink} = 3 mA
Output Leakage Current		0.1		nA	V _{IN(+)} = 1 V, V _{IN(-)} = 0 V, V _o = 5 V

TYPICAL APPLICATIONS

