



Electrical characteristics at specified free-air temperature, $V_{CC} = 5V$
(unless otherwise noted)

PARAMETER	TEST CONDITIONS*		LM339			UNIT
			MIN	TYP	MAX	
V_{IO} Input offset voltage	$V_{CC}=5V$ to $30V$		25°C	2	5	mV
	$V_{IC}=V_{ICR}$ min, $V_o=1.4V$		Full range		9	
I_{IO} Input offset current	$V_o=1.4V$		25°C	5	50	nA
			Full range			
I_{IB} Input bias current	$V_o=1.4V$		25 °C	-25	-250	nA
			Full range		-400	
V_{ICR} Common-mode input voltage range**			25°C	0 to $V_{CC}-1.5$		V
			Full range	0 to $V_{CC}-2$		
A_{VD} Large-signal differential voltage amplification	$V_{CC}=15V$, $V_o=1.4V$ to $11.4V$, $R_L \geq 15K\Omega$ to V_{CC}		25°C	50	200	V/mV
I_{OH} High-level output voltage	$V_{OH}=5V$, $V_{ID}=1V$		25°C	0.1	50	nA
	$V_{OH}=30V$, $V_{ID}=1V$		Full range		1	
V_{OL} Low-level output voltage	$I_{OL}=4Ma$, $V_{ID}=-1V$		25°C	150	400	mA
			Full range		700	
I_{OL} Low-level output current	$V_{OL}=1.5V$, $V_{ID}=-1V$		25°C	6		mA
I_{CC} Supply current (four amplifiers)	$R_L = \infty$	$V_{CC}=5V$	25°C	08	2	mA
		$V_{CC}=30V$	Full range		2.5	

*Full range (MIN to MAX), for the LM339 is 0°C to 70°C. All characteristics are measured with zero common-mode input voltage unless otherwise specified.

**the voltage at ether input or common-mode should not ge allowed to go negative by more than 0.3V. the upper end of the common-mode voltage range is $V_{CC}-1.5V$, but either or both inputs can go to 30V without damage.

Switching characteristics, $V_{CC}=5V$, $T_A=25^\circ C$

PARAMETER	TEST CONDITIONS		MIN	TYP	MAX	UNIT
Response time	R_L connected to 5V through $5.1k\Omega$ $CL=15pF^*$ (See Note 1)	100-mV input step with 5-mV overdrive		1.3		μS
		TTL-level input step		0.3		

CL includes probe and jig capacitance .

NOTE 1: The response time specified is the interval between the input step function and the instant when the output crosses 1.4V.