



No.994D

LA6339

High-Performance Quad Comparator

The LA6339 is a high-performance quad comparator that is capable of operating from a single power supply over a wide range of 2V to 36V. Because of its excellent input characteristics and low power, it can be very conveniently applied to multisignal parallel comparator circuits that require high-density assembly.

Features

- Wide supply voltage range (Single supply: 2.0 to 36.0 V, dual supplies: ± 1.0 to ± 18.0 V).
- Wide common-mode input voltage range (0 to $V_{CC}-1.5$ V).
- Open collector output enabling wired OR.
- Small current dissipation ($0.8\text{mA}/V_{CC}=5\text{V}, R_L=\infty$) and low power.

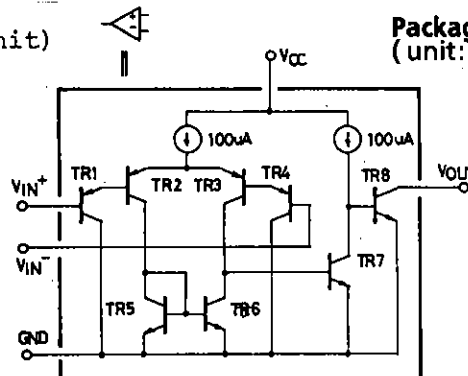
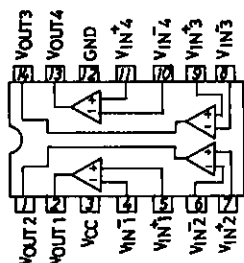
Maximum Ratings at $T_a=25^\circ\text{C}$

			unit
Maximum Supply Voltage	V_{CCmax}	36	V
Differential Input Voltage	V_{ID}	36	V
Common-mode Input Voltage	V_{ICM}	-0.3 to +36	V
Allowable Power Dissipation	P_{Dmax}	700	mW
Operating Temperature	T_{opr}	-30 to +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +125	$^\circ\text{C}$

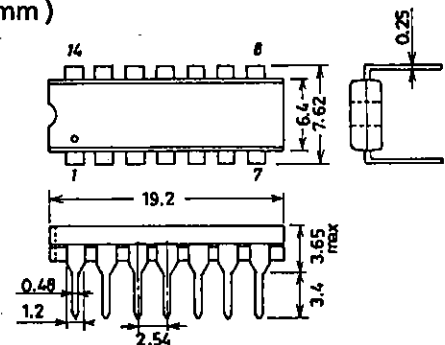
Operating Characteristics at $T_a=25^\circ\text{C}, V_{CC}=5\text{V}$

		Test circuit	min	typ	min	unit
Input Offset Voltage	V_{IO}	1		± 2	± 5	mV
Input Offset Current	I_{IO}	2		± 5	± 50	nA
Input Bias Current	I_B	3		25	250	nA
Common-mode Input Voltage	V_{ICM}		0		$V_{CC}-1.5$	V
Current Dissipation	I_{CC}	$R_L=\infty$	4	0.8	2	mA
Voltage Gain	V_G	$R_L=15\text{kohms}$	5	200		V/mV
Response Time		$V_{RL}=5\text{V}, R_L=5.1\text{kohms}$	6	1.3		μs
Output Sink Current	I_{SINK}	$V_{IN-}=1\text{V}, V_{IN+}=0\text{V}, V_O \leq 1.5\text{V}$	7	6	16	mA
Output Saturation Voltage	V_{OL}	$V_{IN-}=1\text{V}, V_{IN+}=0\text{V}, I_{SINK} \leq 3\text{mA}$	8	0.2	0.4	V
Output Leak Current	I_{LEAK}	$V_{IN-}=0\text{V}, V_{IN+}=1\text{V}, V_O=5\text{V}$	9	0.1		nA

Pin Assignment and Equivalent Circuit(1 unit)

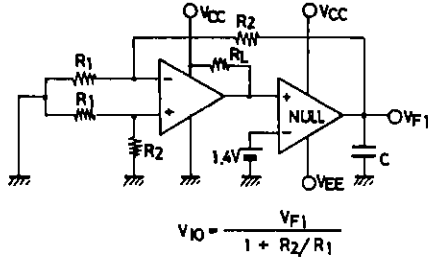


Package Dimensions 3003A-D14IC (unit: mm)

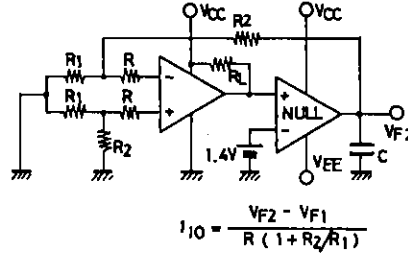


Test Circuits

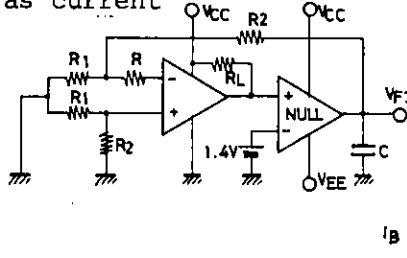
1. Input offset voltage



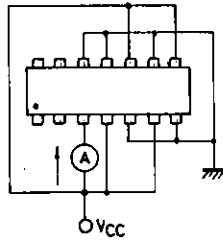
2. Input offset current



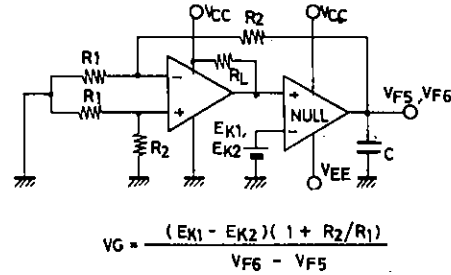
3. Input bias current



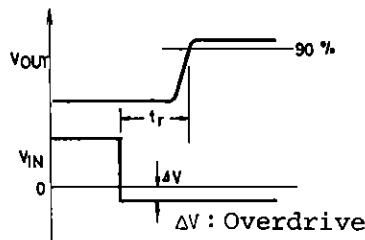
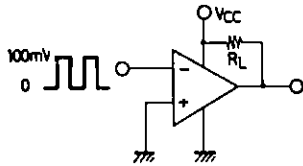
4. Current dissipation



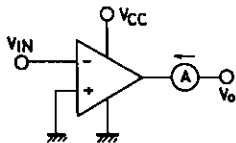
5. Voltage gain



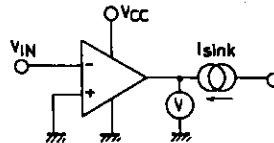
6. Response time



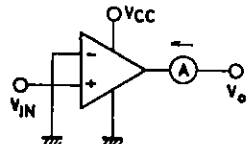
7. Output sink current

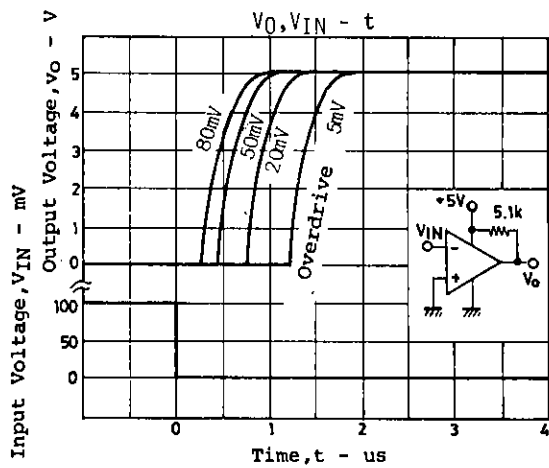
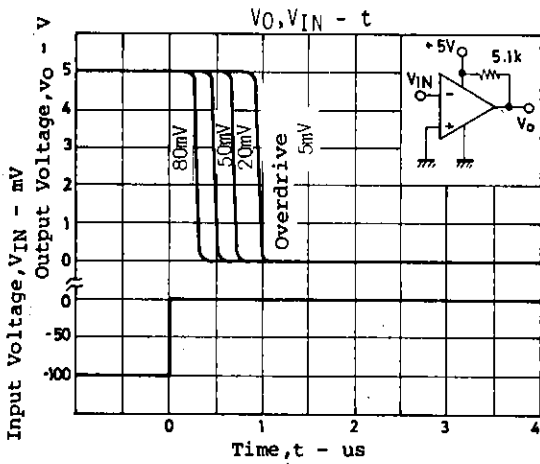
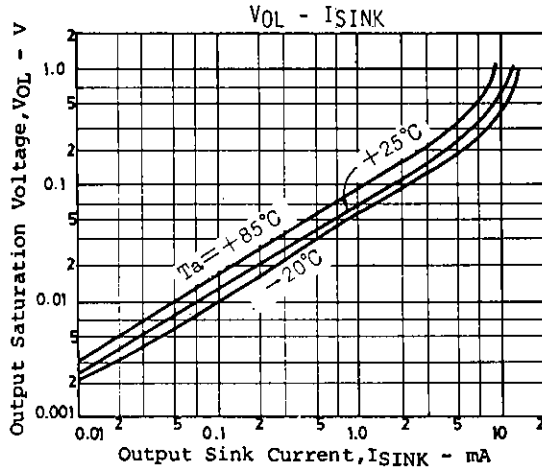
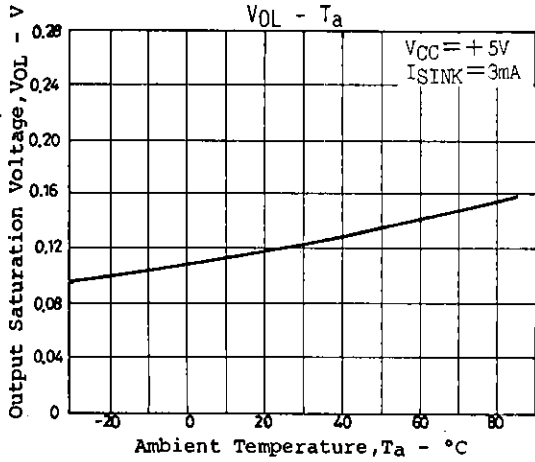
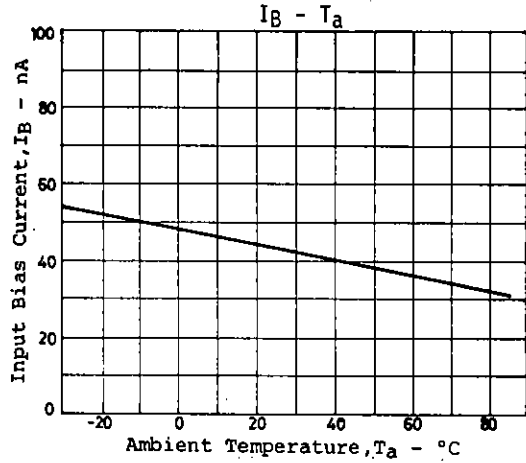
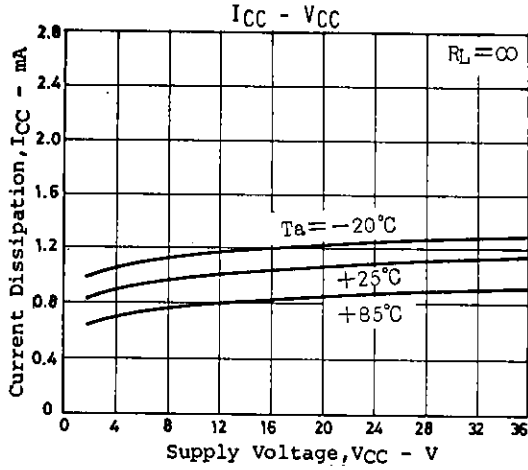


8. Output saturation voltage



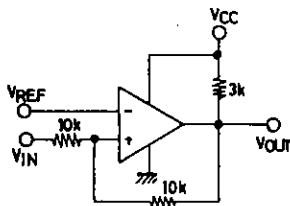
9. Output leak current



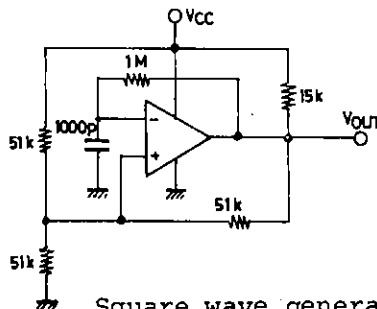


Sample Application Circuits

Unit (resistance: Ω , capacitance: F)



Voltage comparator (with hysteresis)



Square wave generator

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