

SANYO

No.1156B

LA6339M

High-Performance Quad Comparator

The LA6339M 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 36.0V, 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
- Mini flat package enabling compactness of sets

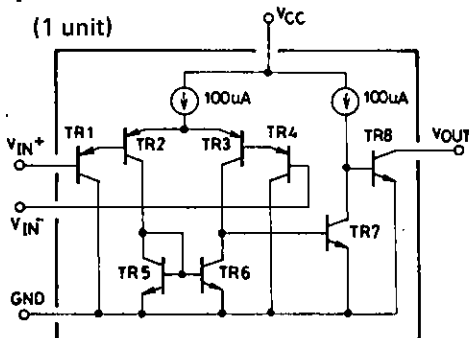
Maximum Ratings/ $T_a=25^\circ\text{C}$

			unit
Maximum power supply voltage	V_{CC} max	36	V
Differential input voltage	V_{ID}	36	V
Common-Mode input voltage range	V_{ICM}	-0.3~+36	V
Allowable power dissipation	P_d max	330	mW
Operating temperature	T_{opr}	-30~+85	$^\circ\text{C}$
Storage temperature	T_{stg}	-55~+125	$^\circ\text{C}$

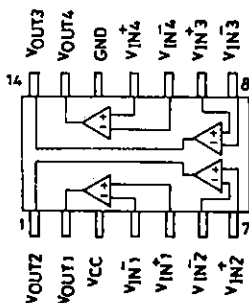
Operating Characteristics/ $T_a=25^\circ\text{C}$, $V_{CC}=5\text{V}$

		Test circuit	Test			unit
			min	typ	max	
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 range	V_{ICM}		0	$V_{CC}-1.5$		V
Current dissipation	I_{CC}	4		0.8	2	mA
Voltage gain	V_G	5		200		V/mV
Response time		6		1.3		μs
Output sink current	I_{SINK}	7	6	16		mA
Output saturation voltage	V_{OL}	8		0.2	0.4	V
Output leak current	I_{LEAK}	9		0.1		nA

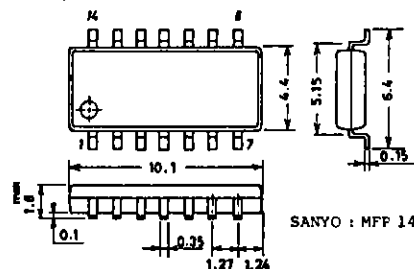
Equivalent Circuit



Pin Assignment

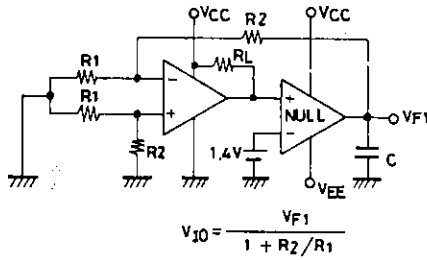


Package Dimensions 3034A-M14IC (unit: mm)

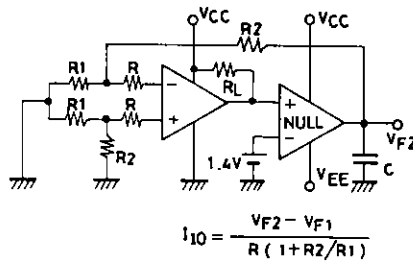


Test Circuits

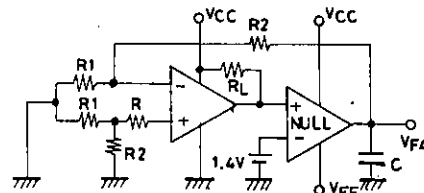
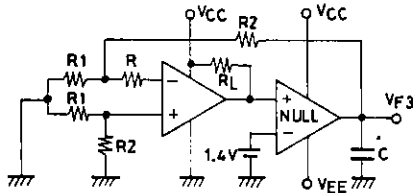
1. Input offset voltage



2. Input offset current

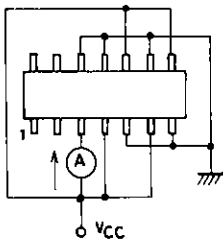


3. Input bias current

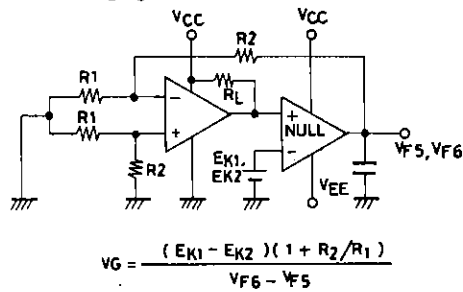


$$I_B = \frac{|VF3 - VF4|}{2R(1 + R2/R1)}$$

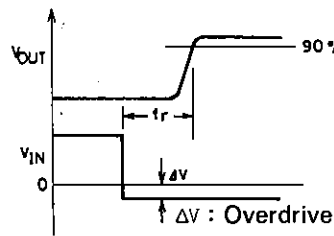
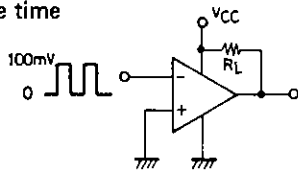
4. Current dissipation



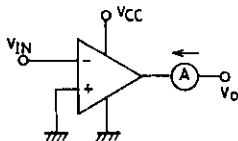
5. Voltage gain



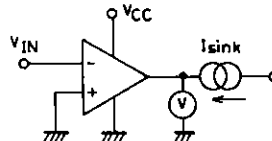
6. Response time



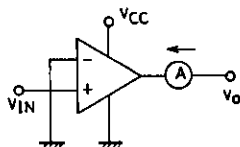
7. Output sink current

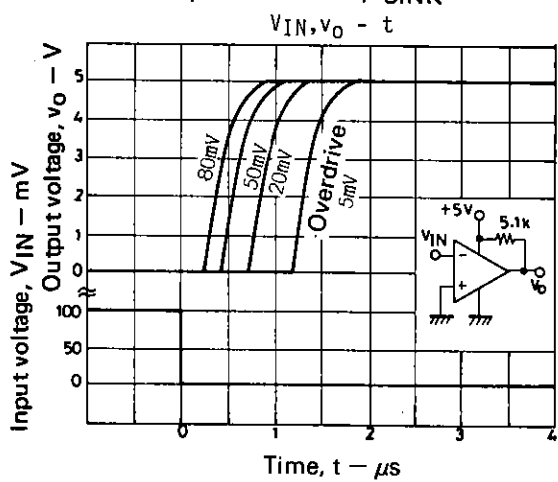
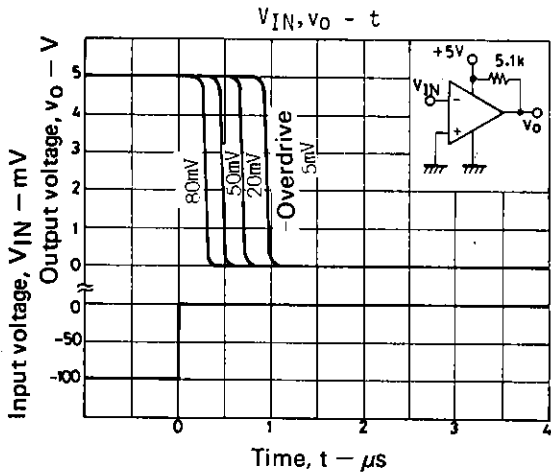
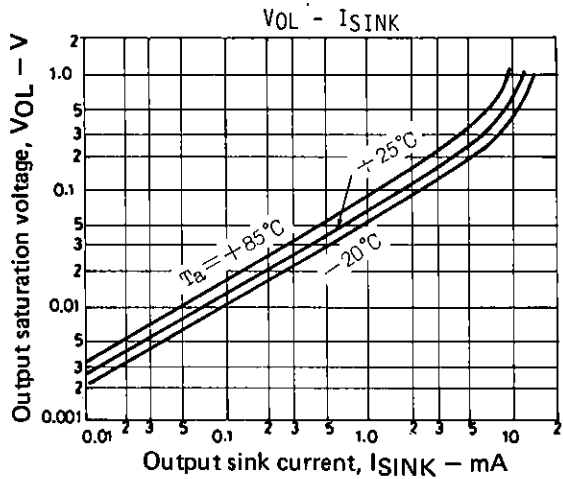
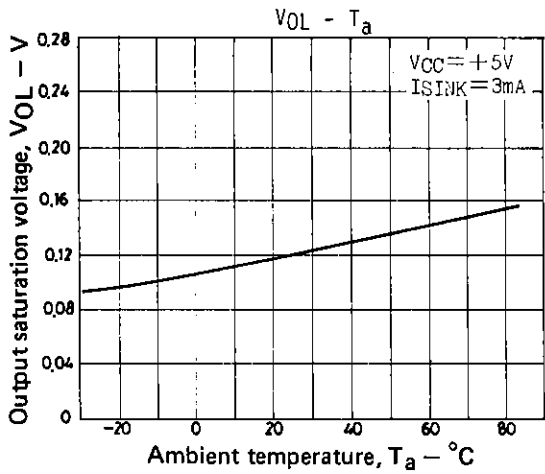
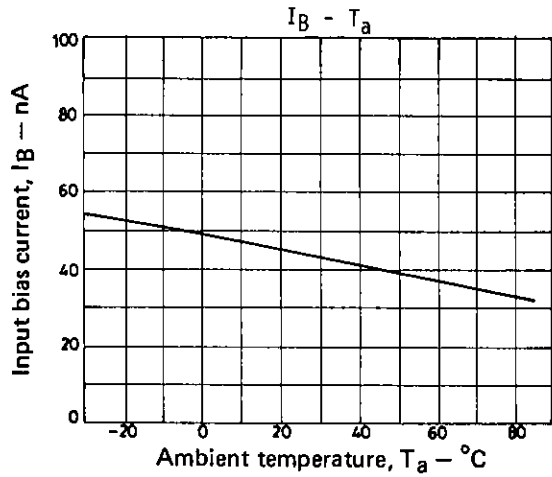
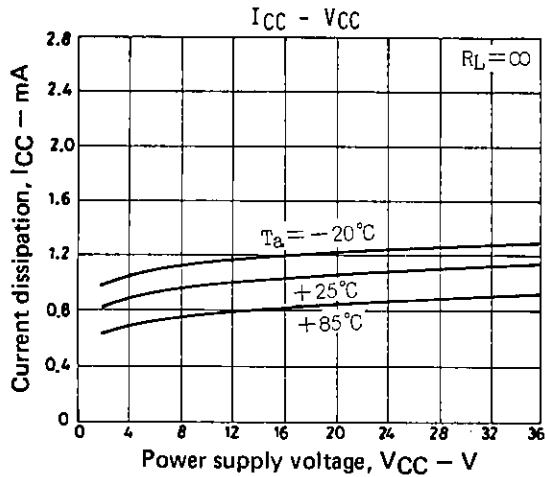


8. Output saturation voltage

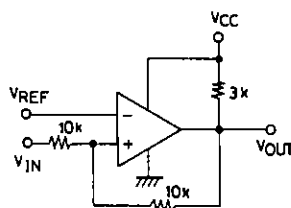


9. Output leak current

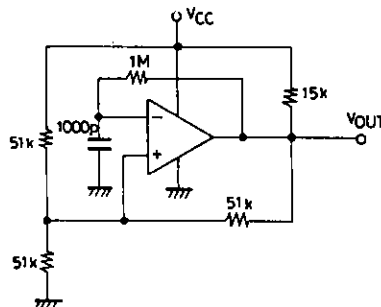




■ Sample Application Circuits



Voltage comparator
(with hysteresis)



Square wave generator

Unit (resistance: Ω , capacitance: F)

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