NJM339

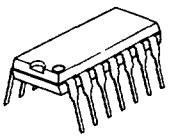
PRELIMINARY

These devices offer higher frequency operation and faster switching than internally compensated quad op amps. For single-supply applications, the Darlington PNP input stage allows them to compare voltages that include ground. The two-stage common-emitter output circuit provides gain and output sink capacity of 6mA at an output level of 400mV. The output collector is left open, permitting the designer to drive devices in the range of 2V to 36V.

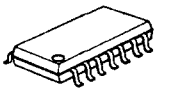
■ Absolute Maximum Ratings (Ta=25°C)

Supply Voltage	V^+/V^-	36 V
Input Voltage	V_I	-0.3 ~ +36 V
Differential Input Voltage	V_{ID}	36 V
Power Dissipation	P_D	570 mW
Operating Temperature Range	T_{OPR}	0 ~ 70 °C
Storage Temperature Range	T_{STG}	-50 ~ 125 °C

■ Package Outline



NJM339D



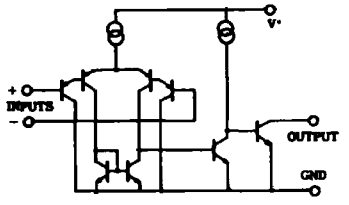
NJM339E

NJM339M

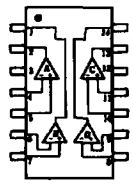
■ Electrical Characteristics (Ta=25 °C, V^+=5V)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Input Offset Voltage	V_{IO}	R_S=0Ω, V_O=1.4V			±5	mV
Input Offset Current	I_{IO}				±50	nA
Input Bias Current	I_B				250	nA
Input Common-Mode Voltage Range	V_{ICM}		0		3.5	V
Supply Current	I_{CC}	R_L=Infinity, V^+=5V			2.0	mA
	I_{CC}	R_L=infinity, V^+=30V			2.5	mA
Voltage Gain	A_V	R_L=15kΩ		106		dB
Output Sink Current	I_{SINK}	V_{IN-}=1.0V, V_{IN+}=0V, V_O=1.5V	6			mA
Saturation Voltage	V_{SAT}	V_{IN-}=1.0V, V_{IN+}=0V, I_{SINK}=3mA			400	mV
Output Leakage Current	I_{LEAK}	V_{IN-}=0V , V_{IN+}=1.0V, V_O=5V			1	μA

■ Equivalent Circuit



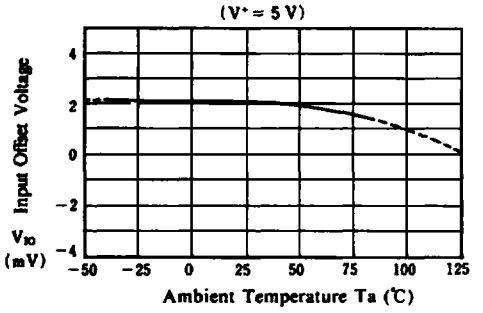
■ Connection Diagram



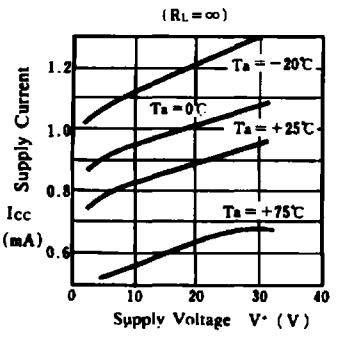
PIN	FUNCTION
1	B OUTPUT
2	A OUTPUT
3	V+
4	A- INPUT
5	A+ INPUT
6	B- INPUT
7	B+ INPUT
8	C- INPUT
9	C+ INPUT
10	D- INPUT
11	D+ INPUT
12	GND
13	D OUTPUT
14	C OUTPUT

■ Typical Characteristics

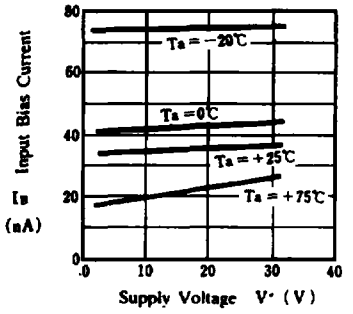
Input Offset Voltage vs. Temperature



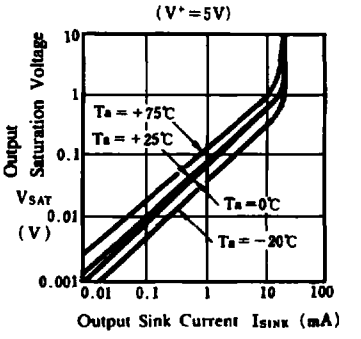
Supply Current



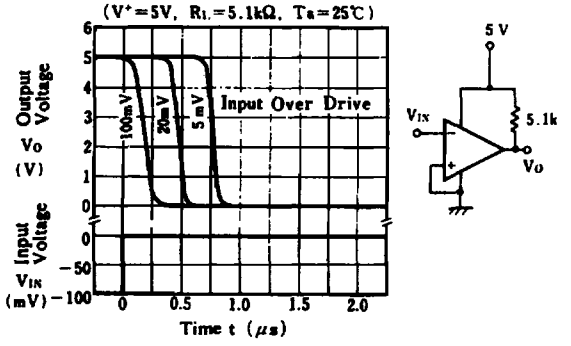
Input Bias Current



Output Saturation Voltage



Response Time for Various Input Over Drives



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