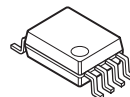


SINGLE-SUPPLY DUAL COMPARATOR

■ FEATURES

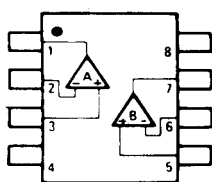
- Operating Temperature $-40^{\circ}\text{C} \leq T_a \leq +125^{\circ}\text{C}$
- Operating Voltage $(+2\text{V} \sim +36\text{V})$
- Single Supply Operation
- Open Collector Output
- High Output Sink Current
- Package Outline VSP8
- Bipolar Technology

■ PACKAGE OUTLINE



NJM2903R

■ PIN CONFIGURATION

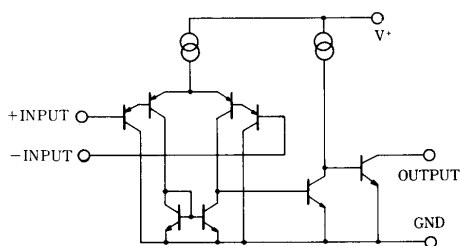


NJM2903R

PIN FUNCTION

- 1.A OUTPUT
- 2.A -INPUT
- 3.A +INPUT
- 4.GND
- 5.B +INPUT
- 6.B -INPUT
- 7.B OUTPUT
- 8.V⁺

■ EQUIVALENT CIRCUIT (1/2 Shown)



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■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺	36 (or ±18)	V
Differential Input Voltage	V _{ID}	36	V
Input Voltage	V _{IN}	-0.3~+36	V
Power Dissipation	P _D	495	mW
Operating Temperature Range	T _{opr}	-40~+125	°C
Storage Temperature Range	T _{stg}	-50~+150	°C

P_D : Mounted on glass epoxy board based on EIA/JEDEC STANDARD.

(76.2 × 114.3 × 1.6mm: FR4 2Layers)

■ ELECTRICAL CHARACTERISTICS

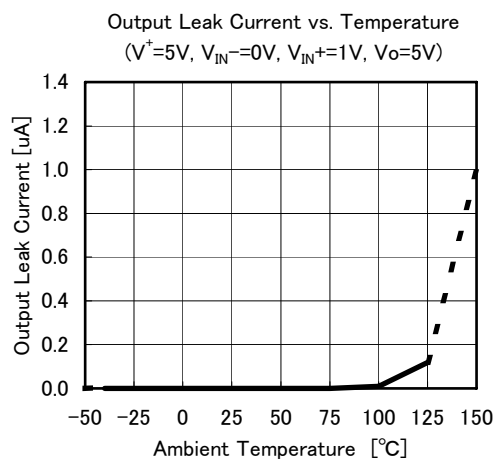
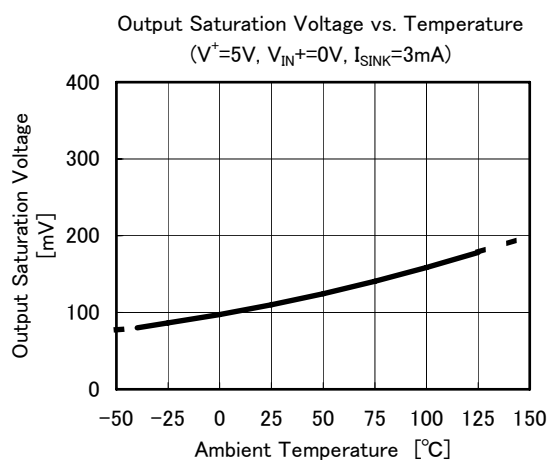
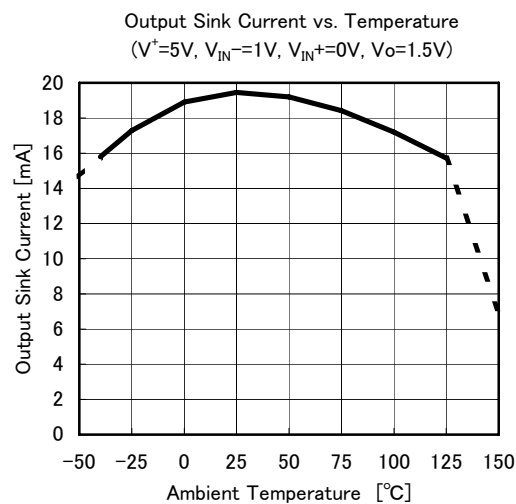
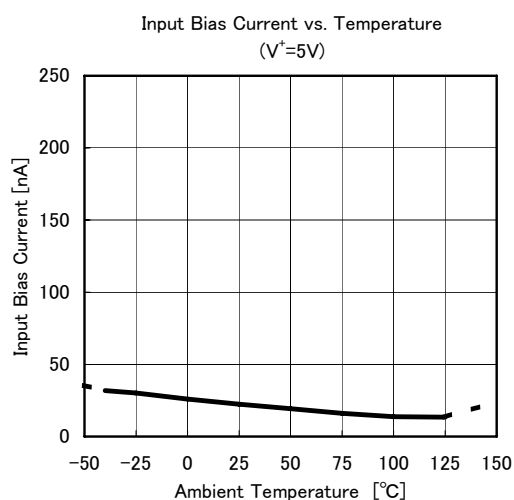
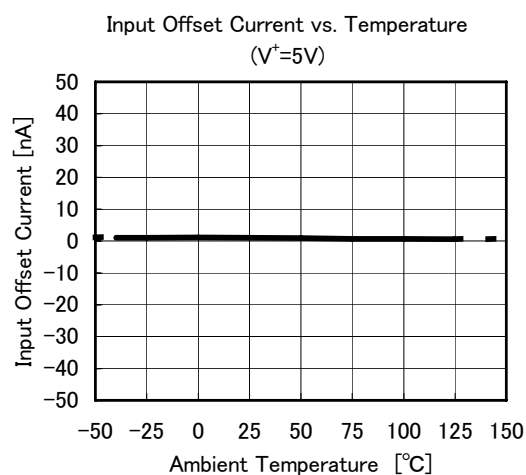
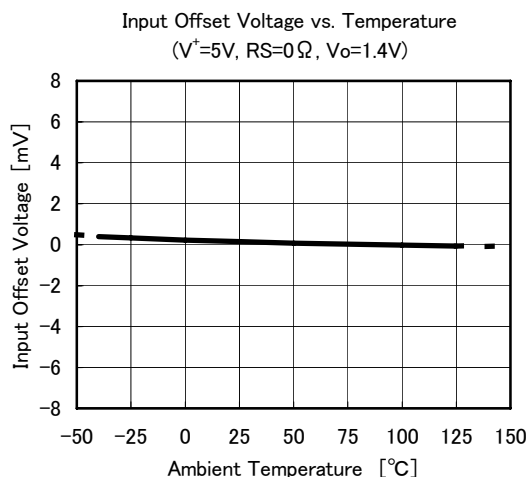
(V⁺=5V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V _{IO}	R _S =0Ω, V _O =1.4V	-	-	7	mV
Input Offset Current	I _{IO}		-	-	50	nA
Input Bias Current	I _B		-	30	250	nA
Input Common Mode Voltage Range	V _{ICM}		0	-	3.5	V
Large Signal Voltage Gain	A _V	R _L =15kΩ	-	106	-	dB
Response Time	t _R	R _L =5.1kΩ	-	1.5	-	μs
Output Sink Current	I _{SINK}	V _{IN} ⁻ =1V, V _{IN} ⁺ =0V, V _O =1.5V	6	-	-	mA
Output Saturation Voltage	V _{SAT}	V _{IN} ⁻ =1V, V _{IN} ⁺ =0V, I _{SINK} =3mA	-	200	400	mV
Output Leakage Current	I _{LEAK}	V _{IN} ⁻ =0V, V _{IN} ⁺ =1V, V _O =5V	-	-	1.0	μA
Operating Current	I _{CC}		-	0.4	1.0	mA

(V⁺=5V, Ta= -40°C ≤ Ta ≤ +125°C)

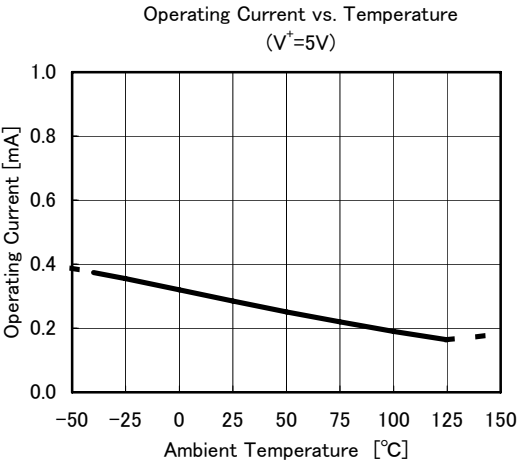
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V _{IO}	R _S =0Ω, V _O =1.4V	-	-	14	mV
Input Offset Current	I _{IO}		-	-	50	nA
Input Bias Current	I _B		-	-	275	nA
Input Common Mode Voltage Range	V _{ICM}		0.5	-	3.0	V
Output Sink Current	I _{SINK}	V _{IN} ⁻ =1V, V _{IN} ⁺ =0V, V _O =1.5V	3	-	-	mA
Output Saturation Voltage	V _{SAT}	V _{IN} ⁻ =1V, V _{IN} ⁺ =0V, I _{SINK} =3mA	-	-	800	mV
Output Leakage Current	I _{LEAK}	V _{IN} ⁻ =0V, V _{IN} ⁺ =1V, V _O =5V	-	-	10	μA
Operating Current	I _{CC}		-	-	2.0	mA

■ TYPICAL CHARACTERISTICS



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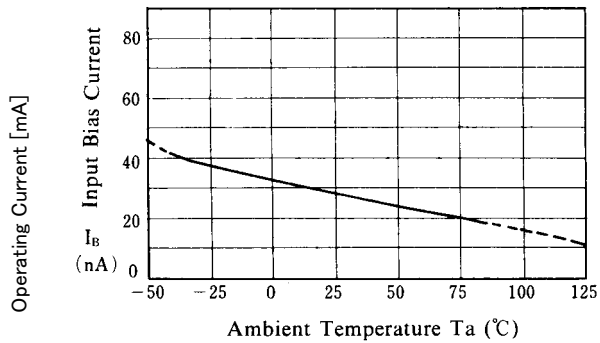
■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS

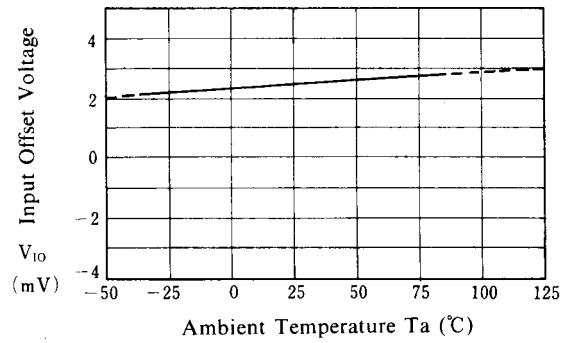
Input Bias Current vs. Temperature

($V^+ = 5\text{ V}$)



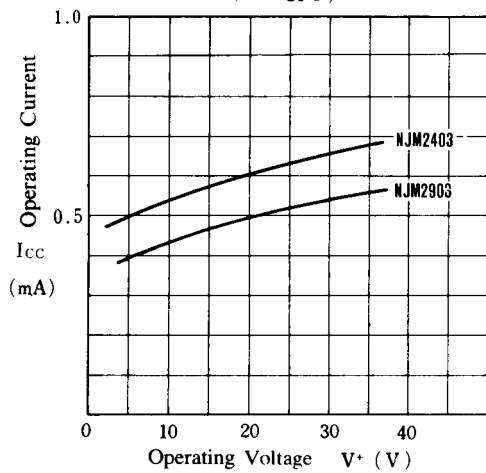
Input Offset Voltage vs. Temperature

($V^+ = 5\text{ V}$)



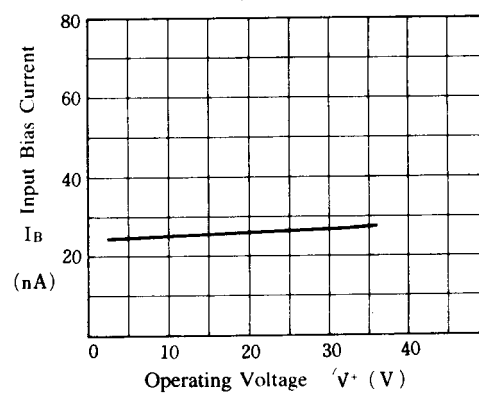
Operating Current vs. Operating Voltage

($T_a = 25^\circ\text{C}$)



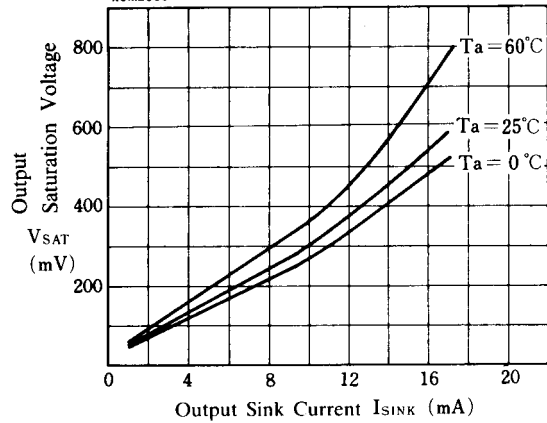
Input Bias Current vs. Operating Voltage

($T_a = 25^\circ\text{C}$)



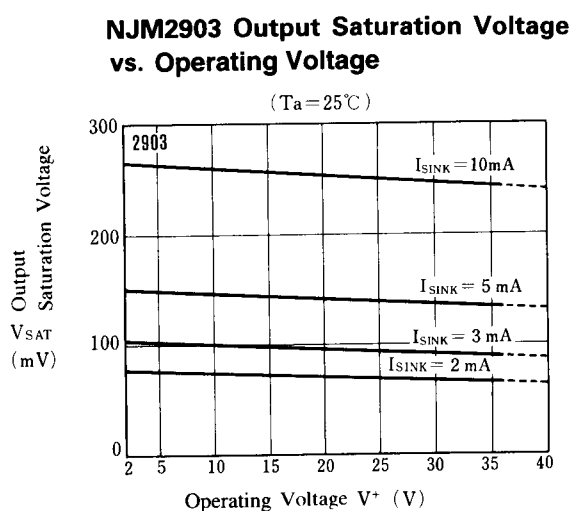
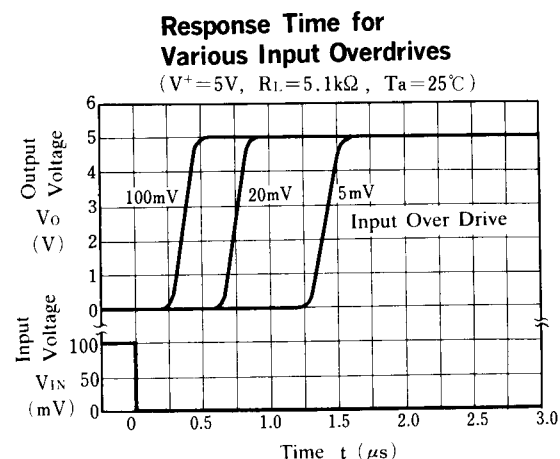
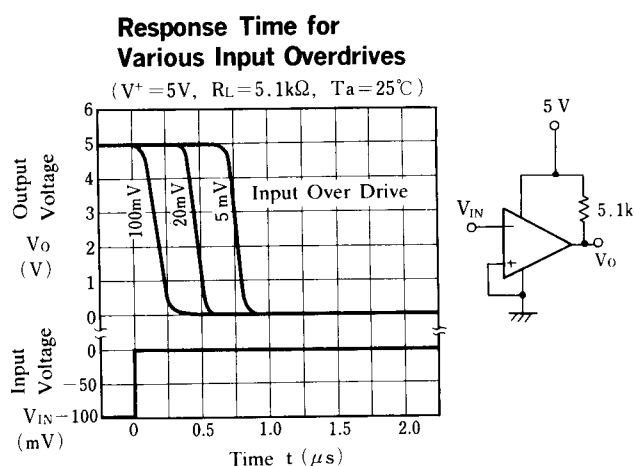
NJM2903 Output Saturation Voltage vs. Output Sink Current

NJM2903 ($V^+ = 5\text{ V}$)



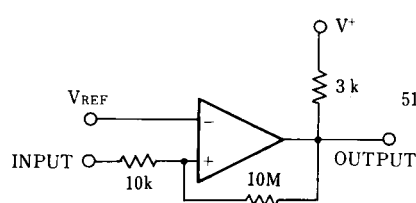
Automotive NJM2903

■ TYPICAL CHARACTERISTICS

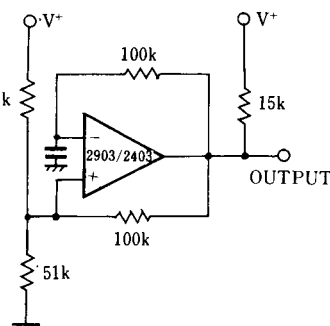


■ TYPICAL APPLICATIONS

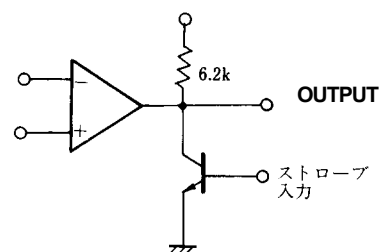
Comparator With Hysteresis



Pulse Generator

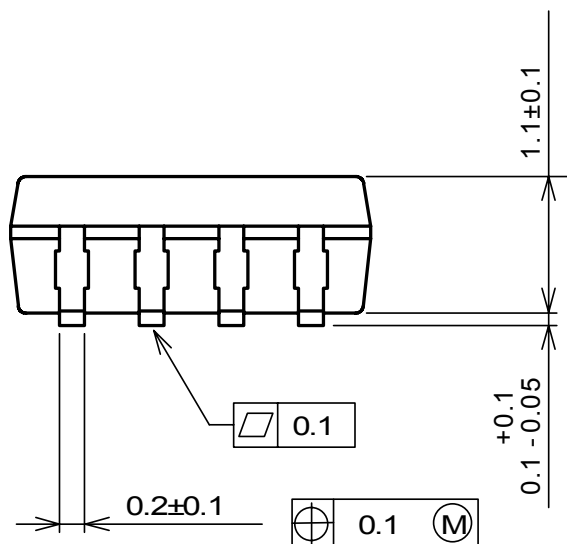
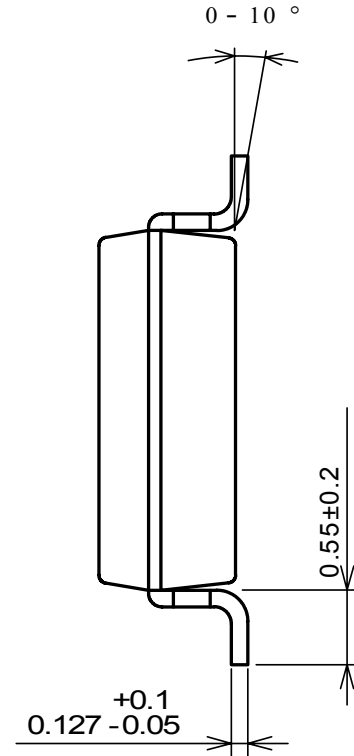
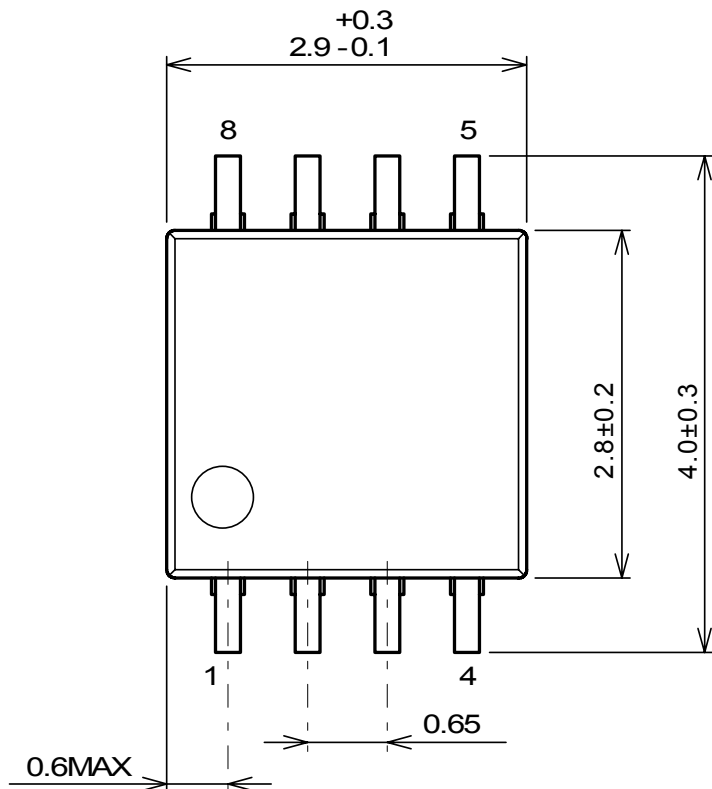


Output Strobing Circuit



■ Package Dimensions

VSP8



Unit : mm

[CAUTION]

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