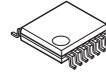


SINGLE-SUPPLY QUAD COMPARATOR

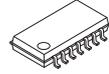
■ FEATURES

- Operating Temperature $T_a = -40^{\circ}\text{C}$ to $+125^{\circ}\text{C}$
- Operating Voltage $+2\text{V}$ to $+36\text{V}$
- Single Supply Operation
- Open Collector Output
- Package Outline
SSOP14 (NJM2901V-T1 / NJM2901V-Z)
DMP (NJM2901M-T1)
- Bipolar Technology

■ PACKAGE OUTLINE

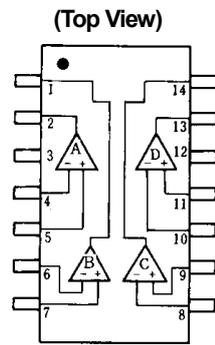


NJM2901V-T1
NJM2901V-Z



NJM2901M-T1

■ PIN CONFIGURATION

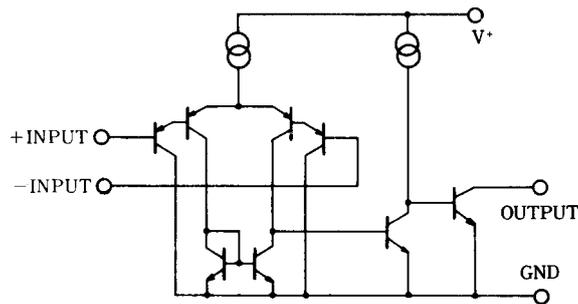


NJM2901V-T1 / NJM2901V-Z
NJM2901M-T1

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

■ EQUIVALENT CIRCUIT (1/4 Shown)



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■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺	36 (± 18)	V
Differential Input Voltage	V _{ID}	36	V
Input Voltage	V _{IN}	-0.3 to +36	V
Power Dissipation	P _D	SSOP 555 (*1) DMP 620 (*1)	mW
Operating Temperature Range	T _{opr}	-40 to +125	°C
Storage Temperature Range	T _{stg}	-50 to +150	°C

(*1) P_D: Mounted on glass epoxy board based on EIA/JEDEC STANDARD.

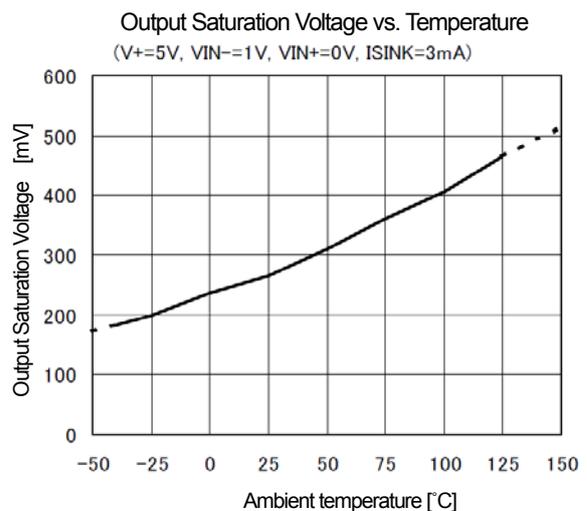
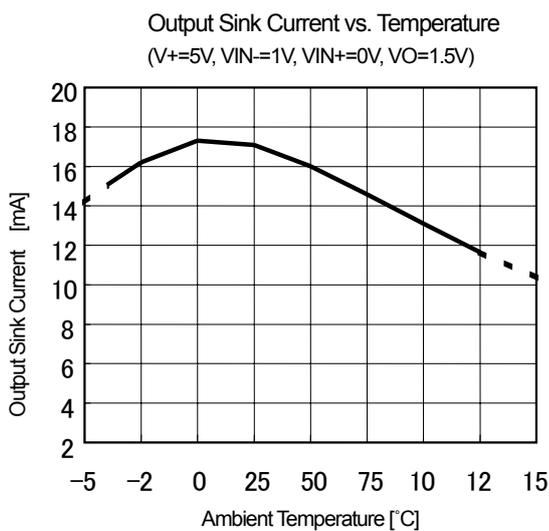
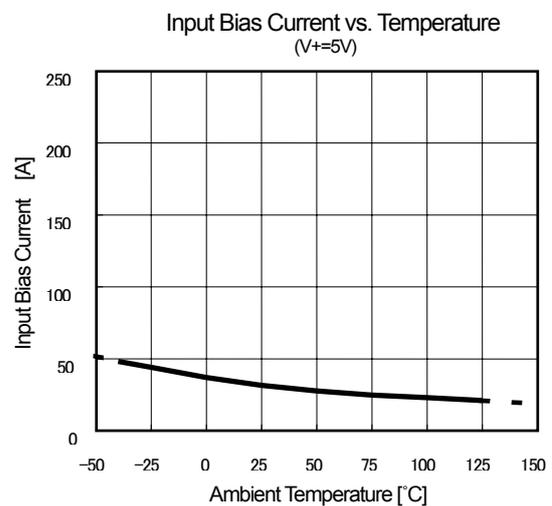
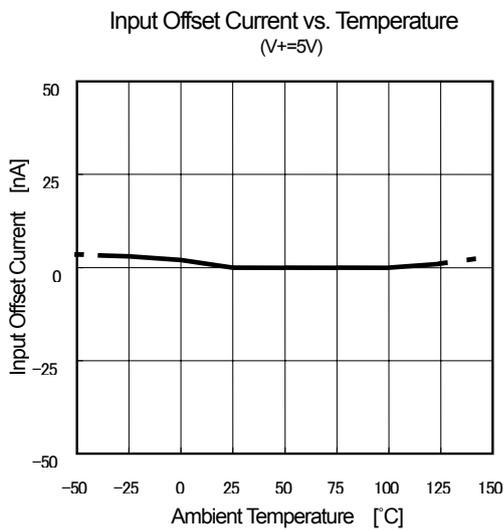
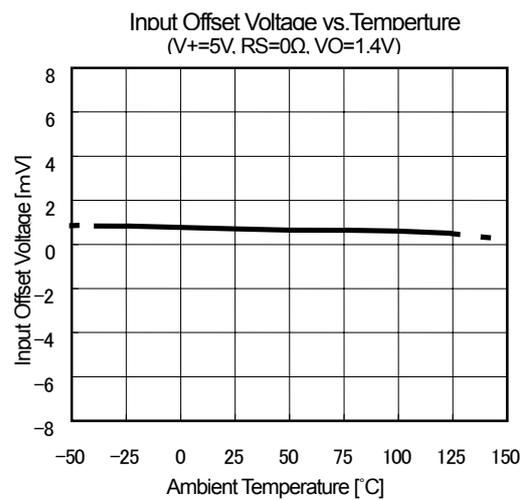
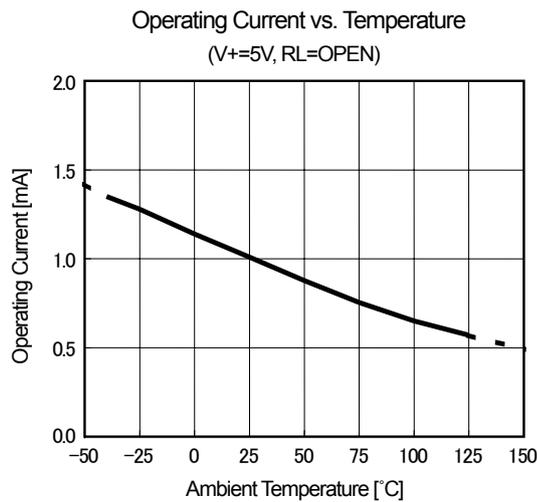
(76.2 × 114.3 × 1.6mm: FR4 2Layers)

■ ELECTRICAL CHARACTERISTICS

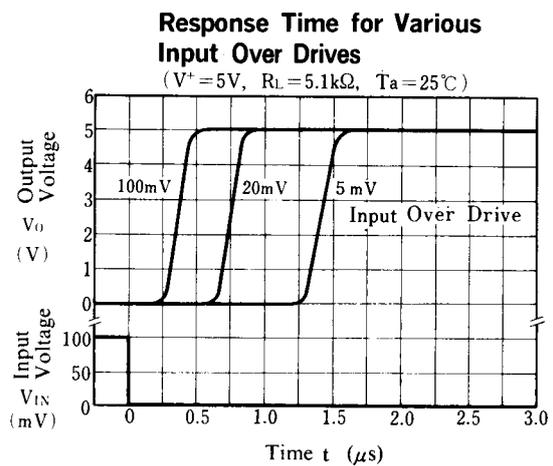
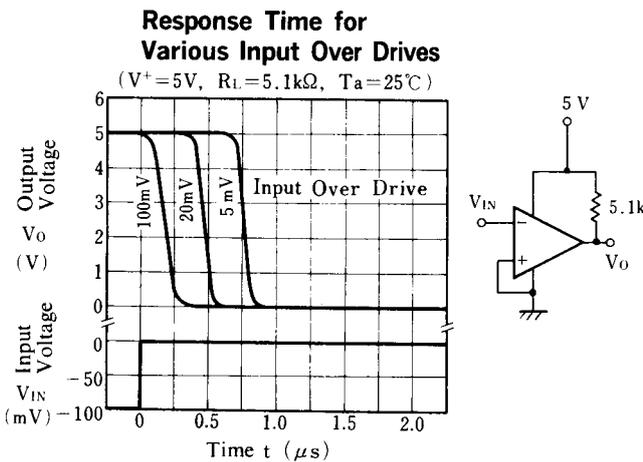
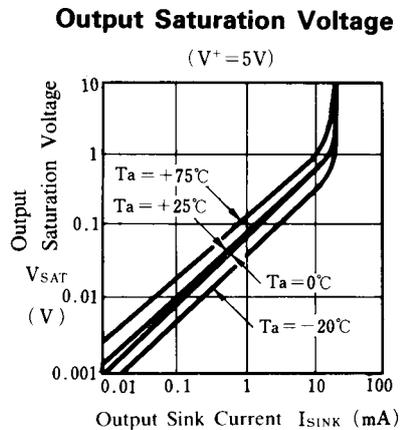
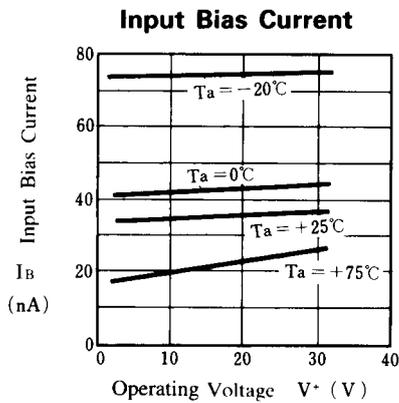
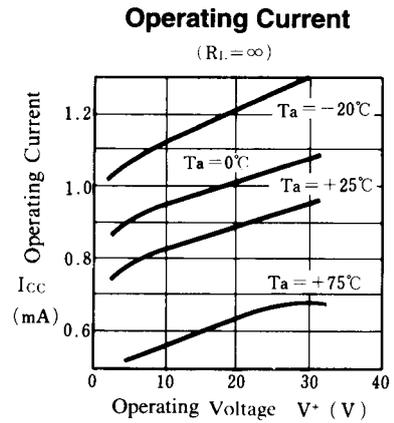
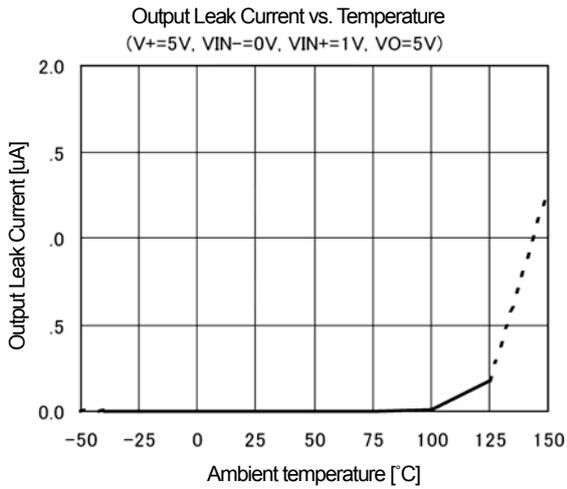
(V⁺=5V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V _{IO}	V _O =1.4V	-	2	7	mV
		V _O =1.4V, Ta= -40°C to +125°C	-	-	14	
Input Offset Current	I _{IO}	I _{IN} ⁺ =I _{IN} ⁻	-	5	50	nA
		I _{IN} ⁺ =I _{IN} ⁻ , Ta= -40°C to +125°C	-	-	50	
Input Bias Current	I _B		-	30	250	nA
		Ta= -40°C to +125°C	-	-	275	
Input Common Mode Voltage Range	V _{ICM}		0	-	3.5	V
		Ta= -40°C to +125°C	0.5	-	3.0	
Large Signal Voltage Gain	A _V	R _L =15kΩ	-	106	-	dB
Response Time	t _R	R _L =5.1kΩ	-	1.3	-	μs
Output Sink Current	I _{SINK}	V _{IN} ⁻ =1V, V _{IN} ⁺ =0V, V _O =1.5V	6	16	-	mA
		V _{IN} ⁻ =1V, V _{IN} ⁺ =0V, V _O =1.5V, Ta= -40°C to +125°C	3	-	-	
Output Saturation Voltage	V _{SAT}	V _{IN} ⁻ =1V, V _{IN} ⁺ =0V, I _{SINK} =3mA	-	200	400	mV
		V _{IN} ⁻ =1V, V _{IN} ⁺ =0V, I _{SINK} =3mA, Ta= -40°C to +125°C	-	-	1000	
Output Leakage Current	I _{LEAK}	V _{IN} ⁻ =0V, V _{IN} ⁺ =1V, V _O =5V, Ta= -40°C to +125°C	-	0.1	1	μA
		V _{IN} ⁻ =0V, V _{IN} ⁺ =1V, V _O =5V	-	-	10	
Operating Current	I _{CC}	R _L =∞	-	0.8	2	mA
		R _L =∞, Ta= -40°C to +125°C	-	-	4	

TYPICAL CHARACTERISTICS

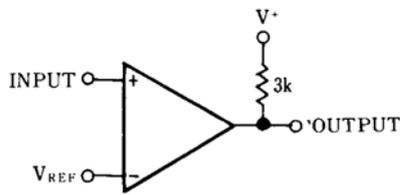


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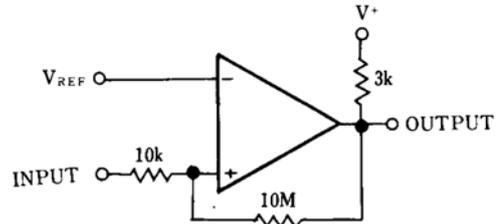


TYPICAL APPLICATIONS

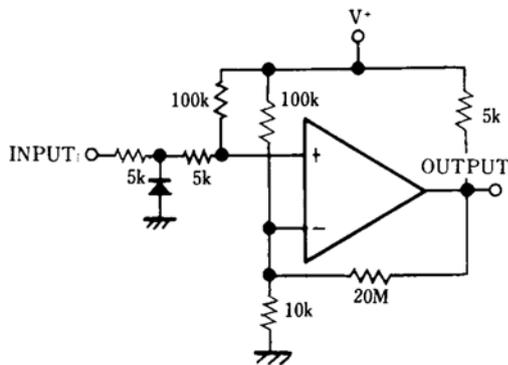
Basic Comparator



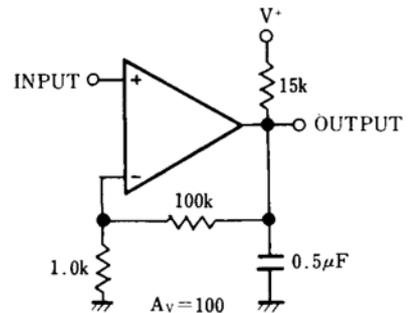
Comparator With Hysteresis



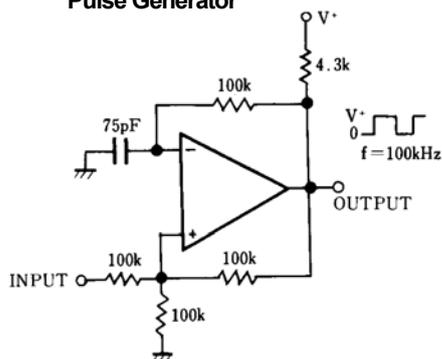
Zero Crossing Detector



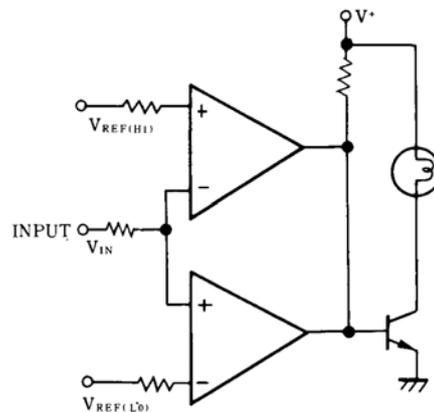
Low Frequency Op Amp.



Pulse Generator



Limit Comparator



[CAUTION]

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