

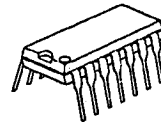
## SINGLE SUPPLY QUAD COMPARATOR

### ■ GENERAL DESCRIPTION

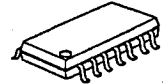
The NJM12901 is single-supply quad voltage comparator, which can operate from 2V supply. The features are input offset voltage, input bias current and low current consumption. The NJM12901 compare the input signal to 0V(ground) due to the Darlington PNP input stage.

The package lineup is DIP, DMP and others compact, which is SON, so that the NJM12901 is suitable for any kind of signal comparator.

### ■ PACKAGE OUTLINE



NJM12901D1



NJM12901M



NJM12901E



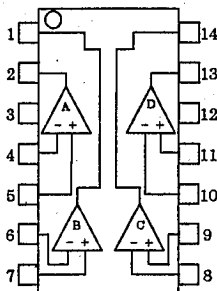
NJM12901V

### ■ FEATURES

- Operating Voltage (+2V~+14V)
- Open Collector Output
- Bipolar Technology
- Package Outline

DIP14,DMP14,EMP14,SSOP14,SON14(PRELIMINARY)

### ■ PIN CONFIGURATION

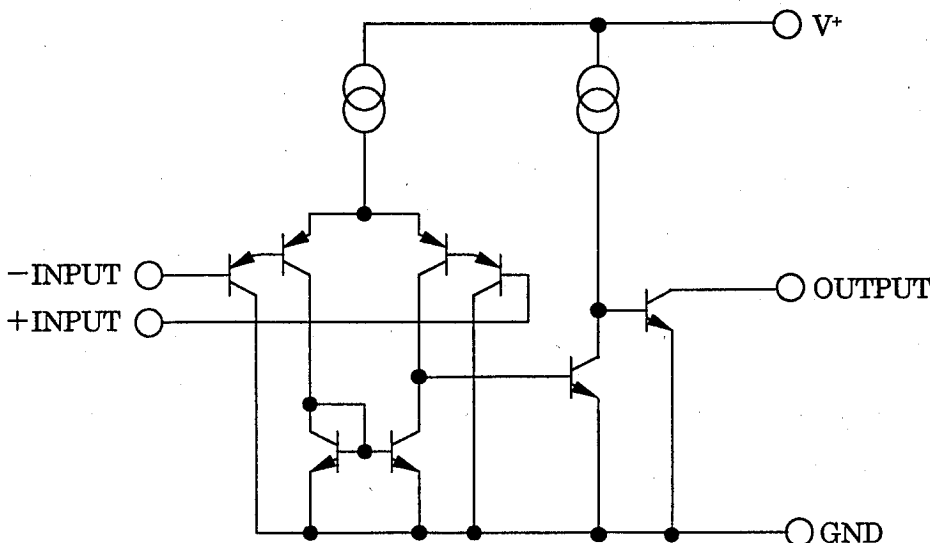


#### PIN FUNCTION

- |                   |              |
|-------------------|--------------|
| 1. B OUTPUT       | 8. C-INPUT   |
| 2. A OUTPUT       | 9. C +INPUT  |
| 3. V <sup>+</sup> | 10. D-INPUT  |
| 4. A-INPUT        | 11. D +INPUT |
| 5. A +INPUT       | 12. GND      |
| 6. B-INPUT        | 13. D OUTPUT |
| 7. B +INPUT       | 14. C OUTPUT |

NJM12901D1/12901M  
 NJM12901E/12901V  
 NJM12901x(PRELIMINARY)

### ■ EQUIVALENT CIRCUIT (1/4Shown)



*New Japan Radio Co., Ltd.*

**■ ABSOLUTE MAXIMUM RATING**

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V <sup>+</sup>	15	V
Differential Input Voltage	V <sub>ID</sub>	14	V
Input Voltage	V <sub>IC</sub>	-0.3~+14	V
Power Dissipation	P <sub>D</sub>	(DIP14) 700 (DMP14) 300 (EMP14) 300 (SSOP14) 300 (SON14) U.D.	mW
Operating Temperature Range	T <sub>opr</sub>	-40~+85	°C
Storage Temperature Range	T <sub>stg</sub>	-50~+125	°C

**■ ELECTRICAL CHARACTERISTICS (V<sup>+</sup>=5V, Ta=25°C)**

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT.
Operating Voltage	V <sub>opr</sub>		2	—	14	V
Input Offset Voltage	V <sub>IO</sub>	R <sub>S</sub> =0Ω, V <sub>O</sub> ≐1.4V	—	1	4	mV
Input Offset Voltage	I <sub>IO</sub>		—	5	50	nA
Input Bias Current	I <sub>B</sub>		—	30	200	nA
Input Common Mode Voltage Range	V <sub>ICM</sub>		0~3.5	—	—	V
Large Signal Voltage Range	A <sub>V</sub>	R <sub>L</sub> =15kΩ	—	106	—	dB
Response Time	t <sub>R</sub>	R <sub>L</sub> =5.1kΩ	—	0.5	—	μs
Output Sink Current	I <sub>SINK</sub>	V <sub>IN</sub> <sup>+</sup> =0V, V <sub>IN</sub> <sup>-</sup> =1V, V <sub>O</sub> =1.5V	6	10	—	mA
Output Saturation Voltage	V <sub>SAT</sub>	V <sub>IN</sub> <sup>+</sup> =0V, V <sub>IN</sub> <sup>-</sup> =1V, I <sub>SINK</sub> =3mA	—	80	300	mV
Leakage Current	I <sub>LEAK</sub>	V <sub>IN</sub> <sup>+</sup> =1V, V <sub>IN</sub> <sup>-</sup> =0V, V <sub>O</sub> =5V	—	0.1	1.0	μA
Operating Current	I <sub>CC</sub>	R <sub>L</sub> =∞	—	0.8	1.8	mA

## MEMO

[CAUTION]

The specifications on this databook are only given for information, without any guarantee as regards either mistakes or omissions. The application circuits in this databook are described only to show representative usages of the product and not intended for the guarantee or permission of any right including the industrial rights.